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Regular Meeting of the
California Regional Water Quality Control Board
Los Angeles Region

2nd Public Workshop on the draft Enhanced Watershed Management Programs (EWMPs) submitted pursuant to Part Vl.C of the Los Angeles County Municipal Separate Storm Sewer System (MS4) NPDES Permit (Order No. R4-2012-0175). (Staff will make a presentation on the review of the draft EWMPs. Permittees will be invited to give brief presentations on their EWMPs

Item 11

ITEM SUMMARY

2nd Workshop on the
Draft Enhanced Watershed Management Programs Submitted
Pursuant to the Los Angeles County Municipal Separate Storm Sewer System Permit
(Order No. R4-2012-0175; NPDES Permit No. CAS004001)

November 5, 2015

Item: 11

Subject: Second Board workshop on the twelve (12) draft Enhanced Watershed Management Programs (EWMPs) submitted in June 2015, pursuant to the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit.

Purpose: The purpose of this item is to provide the Board with an update on the status of review of the 12 draft EWMPs, and to discuss Board staff and stakeholder comments on the EWMPs, arising from the review process.

Background: Part VI.C of the Los Angeles County MS4 Permit allows Permittees the flexibility to develop either Watershed Management Programs (WMPs) or Enhanced Watershed Management Programs (EWMPs) to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and BMPs. The overarching purpose of WMPs and EWMPs is the same: to allow Permittees to identify and implement strategies, control measures and BMPs, on a watershed basis, to achieve required water quality outcomes, including receiving water limitations and TMDLs. However, EWMPs include additional requirements to prioritize stormwater retention, including infiltration, as a preferred compliance strategy.

Most notably, Permittees participating in an EWMP are required to comprehensively evaluate opportunities, within the participating Permittees' collective jurisdictional area in a Watershed Management Area, for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain (i) all non-stormwater runoff and (ii) all stormwater runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits. Additionally, EWMPs must:

- Maximize the effectiveness of funds through analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance;
- Incorporate effective innovative technologies, approaches and practices, including green infrastructure;
- In drainage areas where retention of the stormwater volume from the 85th percentile, 24-hour event is not technically feasible, include other watershed control measures to ensure that MS4 discharges achieve compliance with all interim and final WQBELs set forth in Part VI.E. with compliance deadlines

occurring after approval of a EWMP and to ensure that MS4 discharges do not cause or contribute to exceedances of receiving water limitations in Part V.A;

- Ensure that existing requirements to comply with technology-based effluent limitations and core requirements (e.g., including elimination of non-storm water discharges of pollutants through the MS4, and controls to reduce the discharge of pollutants in storm water to the maximum extent practicable) are not delayed; and
- Ensure that a financial strategy is in place.

Finally, the EWMPs submitted to the Board must also be consistent with the general Watershed Management Program principles listed in Part VI.C.1.a.-f and must include all required elements of a Watershed Management Program as set forth in Part VI.C.5-C.8 of the Los Angeles County MS4 Permit. These elements address what every EWMP must include such as a water quality prioritization, reasonable assurance analysis, watershed control measures, and compliance schedules as well as addressing requirements related to implementation, monitoring and assessment, and adaptive management of the EWMP.

For pollutants addressed by a TMDL, milestones for the implementation of control measures must be included in the EWMP and must be consistent with compliance schedules in the permit. For pollutants not addressed by a TMDL, and which the Permittees elect to address in their EWMPs, the EWMPs must include enforceable requirements and milestones and dates for their achievement to control MS4 discharges such that they do not cause or contribute to exceedances of receiving water limitations. Final compliance with receiving water limitations must be achieved within a timeframe(s) that is as short as possible, taking into account the technological, operation, and economic factors that affect the design, development, and implementation of the control measures.

Discussion:

Pursuant to requirements in the Los Angeles County MS4 Permit, Permittees electing to develop an EWMP were required to notify the Los Angeles Water Board of their intent by June 28, 2013. EWMP Workplans were due by June 30, 2014 to demonstrate progress toward EWMP development, and complete draft EWMPs were due by June 29, 2015. Twelve EWMPs have been developed collaboratively by 51 out of the 86 Permittees subject to the LA County MS4 Permit. EWMPs are being implemented in five (5) of the six (6) major watershed management areas within Los Angeles County, including the Santa Clara River, Los Angeles River, San Gabriel River, Santa Monica Bay, and Dominguez Channel Watersheds. The EWMPs encompass 81% of the area covered by the LA County MS4 Permit.

The 12 EWMPs are:

- Upper Santa Clara River Watershed
- North Santa Monica Bay Coastal Watershed Management Area
- Malibu Creek Watershed
- Santa Monica Bay Jurisdictional Groups 2 and 3 Subwatersheds
- Marina del Rey Watershed
- Ballona Creek Watershed

- Beach Cities Watershed Management Area
- Palos Verdes Peninsula Watershed
- Upper Los Angeles River Watershed
- Upper San Gabriel River Watershed
- Rio Hondo/San Gabriel River Watershed Management Area
- Dominguez Channel Watershed

Current Status: Board staff has completed their review of the draft EWMPs and have submitted comments to all 12 EWMP groups. The Los Angeles County MS4 Permit requires that comments be provided to Permittees on their draft EWMPs within four (4) months of receipt of the draft EWMP. Board staff's review consisted of evaluating the content of the draft EWMPs to ensure they address all the requirements of the Los Angeles County MS4 Permit, including but not limited to whether the EWMP:

- Identifies and prioritizes water quality issues related to MS4 discharges;

- Incorporates strategies, control measures & BMPs to achieve water quality outcomes, including:
  - A comprehensive evaluation of opportunities to implement multi-benefit regional stormwater retention projects that retain the 85th percentile, 24-hour event storm volume;
  - Innovative technologies, approaches & practices, including green infrastructure;

- Includes a Reasonable Assurance Analysis where the requisite stormwater retention volume cannot be achieved;

- Incorporates appropriate compliance schedules to achieve water quality outcomes (i.e. water quality based effluent limitations [WQBELs] and receiving water limitations [RWLs]);

- Specifies measurable milestones (specific actions and/or outcomes) and deadlines that allow an evaluation of progress and compliance at least every two years; and

- Includes a financial strategy to support implementation.

The draft EWMPs were made available for public review, which included a separate notice to State elected officials. Board staff considered all written comments received during the public review when preparing comments to the Permittees on their draft EWMPs. Some of the comments that were common to multiple EWMPs included:

- The need for additional detail regarding financing strategies, particularly to support BMPs scheduled for this permit term.
- The need for additional discussion of the feasibility of implementing regional BMPs identified in the draft EWMPs, particularly on private property.

- The need to articulate in more detail the multiple benefits anticipated from the regional BMPs.
- The need for additional information and discussion of approaches to the Reasonable Assurance Analysis.
- The need for additional support for some proposed interim and final milestones to meet Receiving Water Limitations not addressed by a TMDL.

Permittees have three (3) months after receiving comments on their draft EWMPs to make modifications and submit a revised EWMP to the Board. The Board has a final 3 months to review the revised EWMPs and make final decisions regarding approval/disapproval.

Recommendation: Though no voting or action is taking place, Board staff welcomes feedback and comments from the Board regarding the review of the draft EWMPs and will use the feedback from the Board to guide its continuing review of the EWMPs.

Attachments: July 2015 Board Workshop Presentations by EWMP Groups
Draft Enhanced Watershed Management Programs (DVD)
Public Comments on Draft EWMPs
Board Staff Comments on Draft EWMPs

EWMP Presentations from July 9, 2015

Regional Board Meeting

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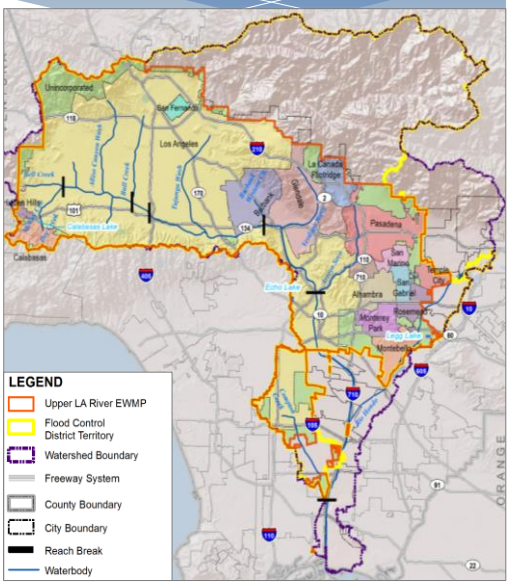
Upper LA River Stormwater Compliance:
Enhanced Watershed Management Program

July 9, 2015

Upper Los Angeles River Watershed

- Alhambra
- Burbank
- Calabasas
- County of LA Flood Control District
- Glendale
- Hidden Hills
- Temple City
- La Canada Flintridge
- Los Angeles
- Montebello
- Monterey Park
- Pasadena
- Rosemead
- San Fernando
- San Gabriel
- San Marino
- South Pasadena
- South El Monte



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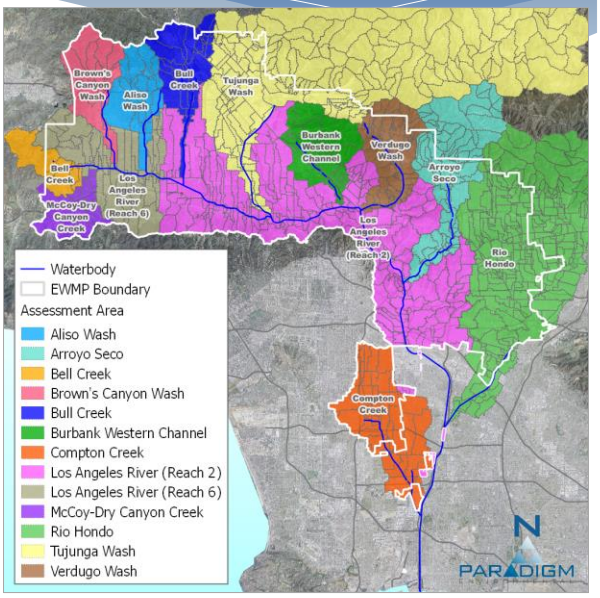
RB-AR 3093

Upper LA River Assessment Areas

- LA River mainstem
- Compton Creek
- Rio Hondo
- Arroyo Seco
- Verdugo Wash
- Burbank W. Ch.
- Tujunga Wash
- Bull Creek
- Aliso Wash
- Brown's Canyon Wash
- Bell Creek
- McCoy-Dry Canyon

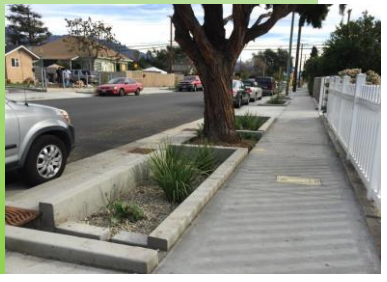


Early Action Project: Brandon and Green Street


SUBSURFACE INFILTRATION BASIN

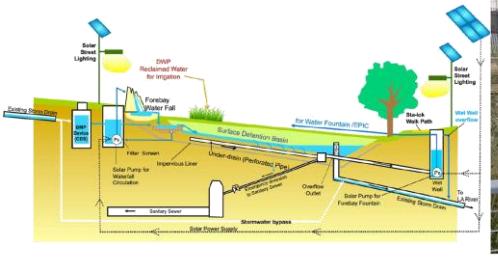

STORMTANK MODULES


BASIN INSTALLATION



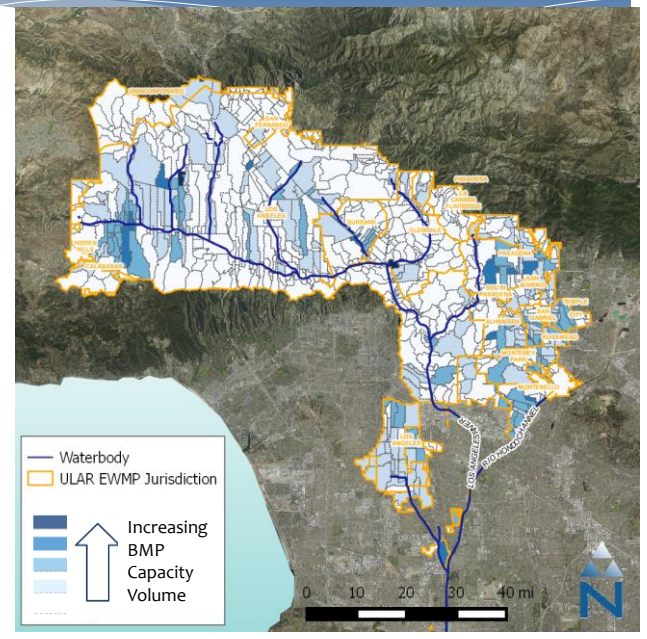
Early Action Project: Humboldt Greenway

Cost: $4.5 M
Completed: Jan. 22, 2014

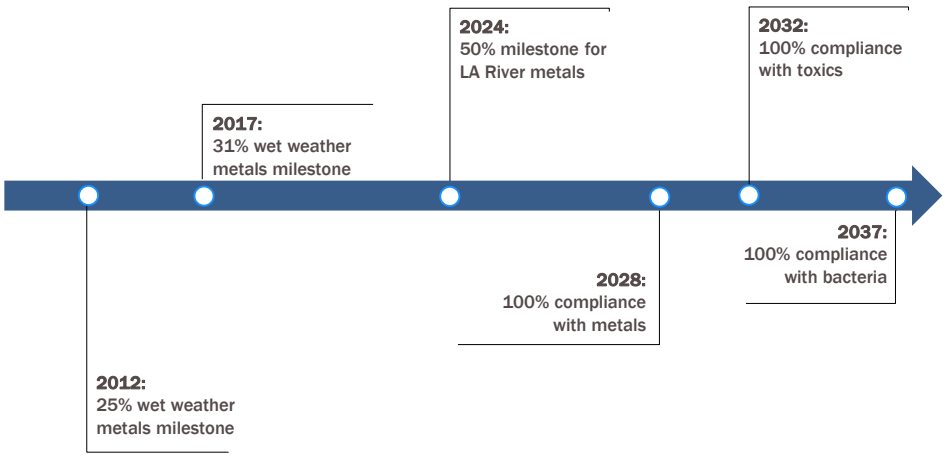


Reasonable Assurance Analysis

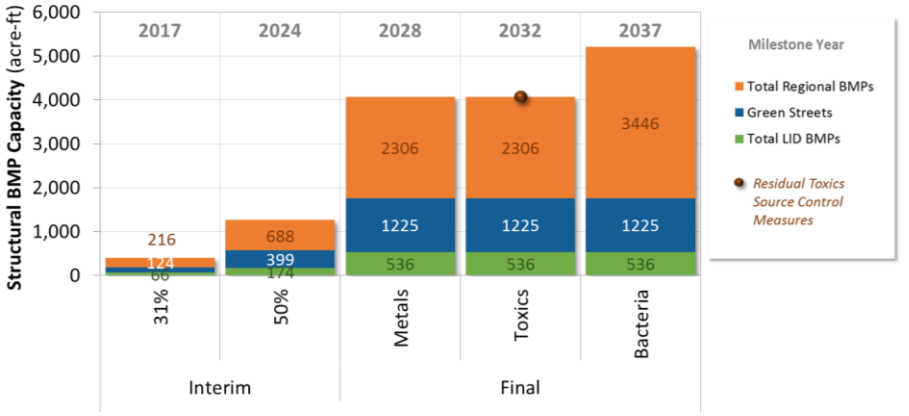
- RAA is quantitative demonstration that projects will result in compliance
- Watershed Management Modeling System (WMMS) also supports control measure selection based on cost effectiveness
- Model approved by Regional Board and methods are consistent with RAA Guidelines



Governing Compliance Schedules



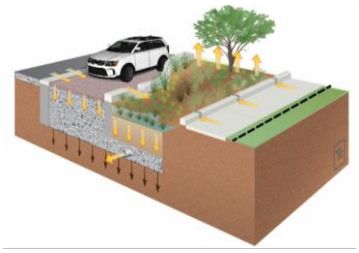
Scheduling for Compliance



Comply by Implementing Control Measures

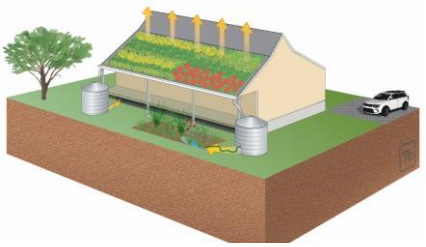
- Four primary categories of control measures:

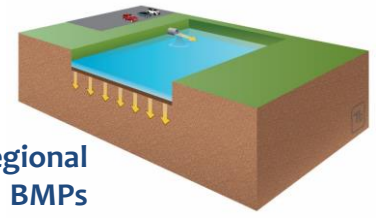
(1) **Institutional BMPs**
e.g., Enhanced sweeping



(2) **Green Streets**

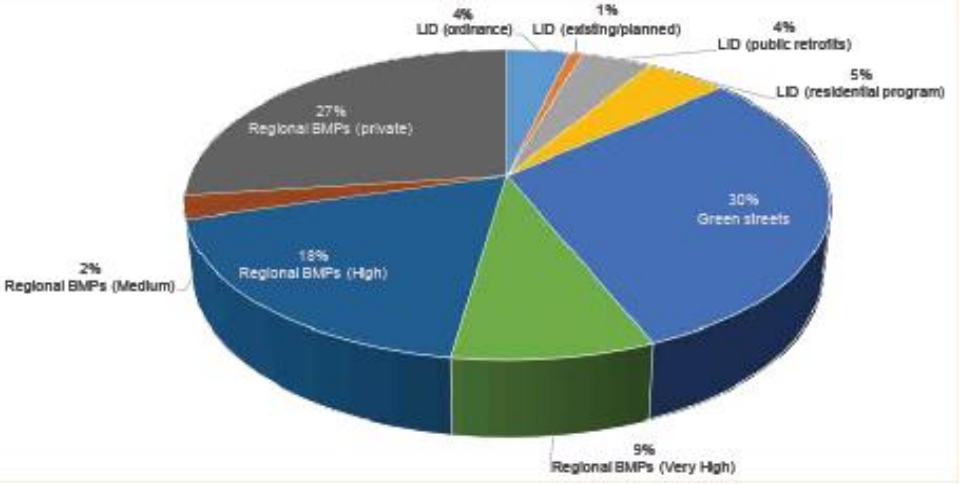
(3) **Low Impact Development**





(4) **Regional BMPs**

EMWP Compliance Strategy



Relative BMP Capacities

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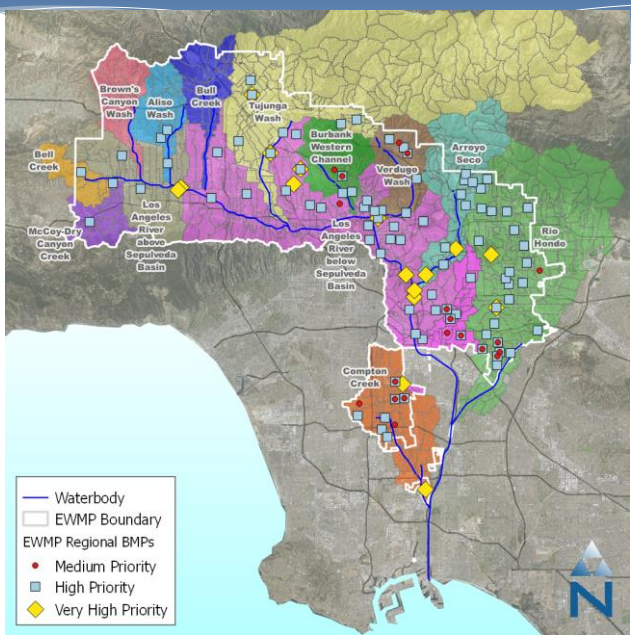
RB-AR 3097

Regional Projects

695 Regional Projects:

- 16 Very High
  - 8 Signature Projects
- 70 High
- 593 Medium

Detailed process that screened over 12,000 public parcels



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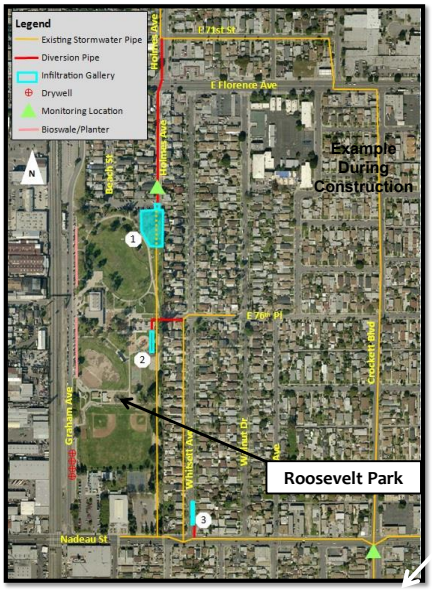
Franklin D. Roosevelt Regional BMP Project



- Major Physical Benefits:
  - ✓ Improve water quality
  - ✓ Increase Local Water Supplies
- Priority:
  - ✓ Capture 85th Percentile 24-hour storm
  - ✓ Multi-use Benefits to the communities
- Current Status:
  - ✓ Seeking Grant Funding
  - ✓ 30% Design Plan

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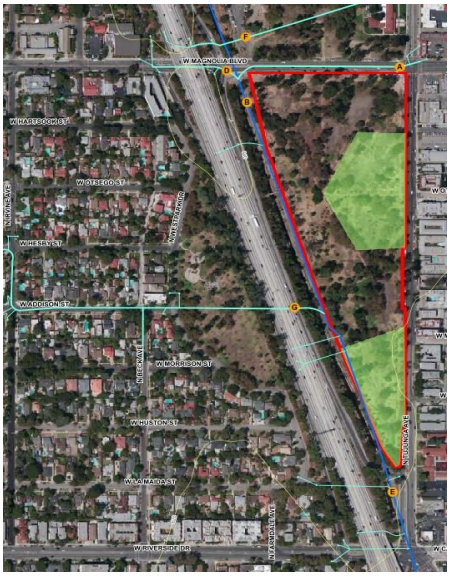
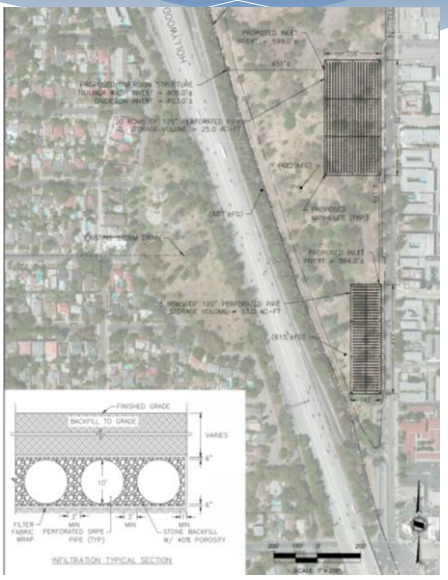
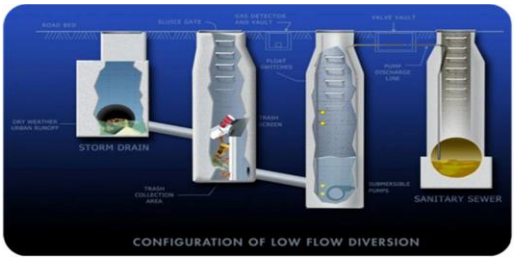
North Hollywood Park

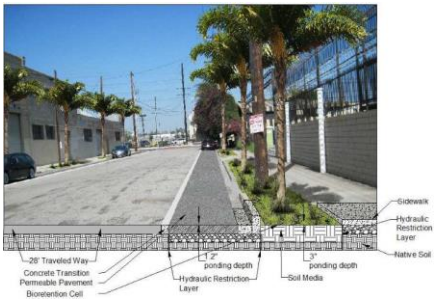




Load Reduction Strategies (dry weather)



Segment B LAR: submit June 2015
Rio Hondo: submit March 2016
Arroyo Seco: submit March 2016
Segment E LAR: submit Sept. 2017
Compton Creek: submit March 2018



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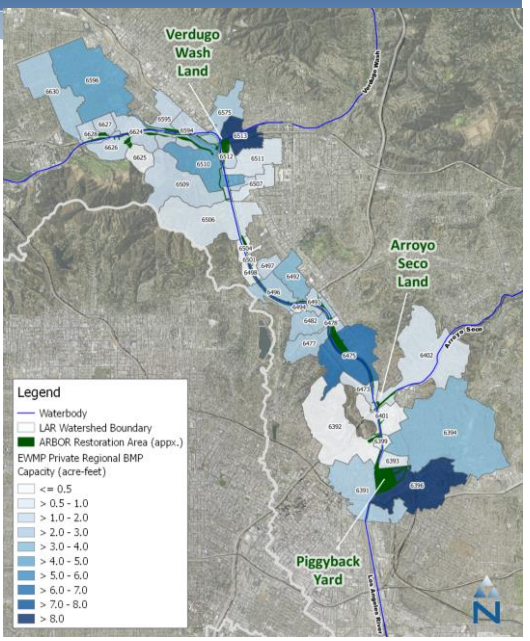
RB-AR 3099

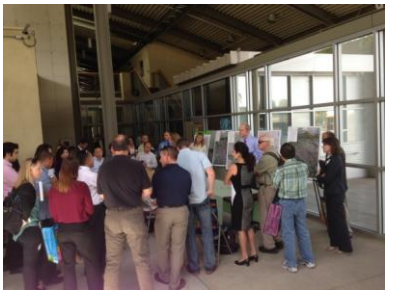
Linkage to Restoration and Revitalization Efforts

- Important to integrate EWMP with restoration and revitalization efforts
- ***Example:*** regional BMPs on private land are large component of EWMP
  - Land acquisition could provides multiple benefits including habitat restoration, increasing public access to River, floodplain buyback, etc.
- ***Illustration:*** Map to right highlights key LA River restoration areas with nearby subwatersheds where regional BMPs on private land are required by RAA.



Stakeholder Outreach

- Three Stakeholder meetings at the LA Zoo
  - April 2014
  - November 2014
  - March 2015
- Six Public Meetings for the Program Environmental Impact Report
- Websites
  - www.LACoH2Osheds.com
  - www.LAStormwater.com



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RB-AR 3100

Financial Strategy

- Water Bond
- Grants
- Loans
- Other Bonds
- Continue to outreach for public support of stormwater projects
- Coordinate with other regional projects
- Work with others on their planning efforts
- Seek public-private partnerships
- Work with Water agencies
- Evaluate the feasibility of Assessments or Stormwater fees

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City Council Meetings

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11-14

RB-AR 3101

Upper Los Angeles River Watershed

Thank you

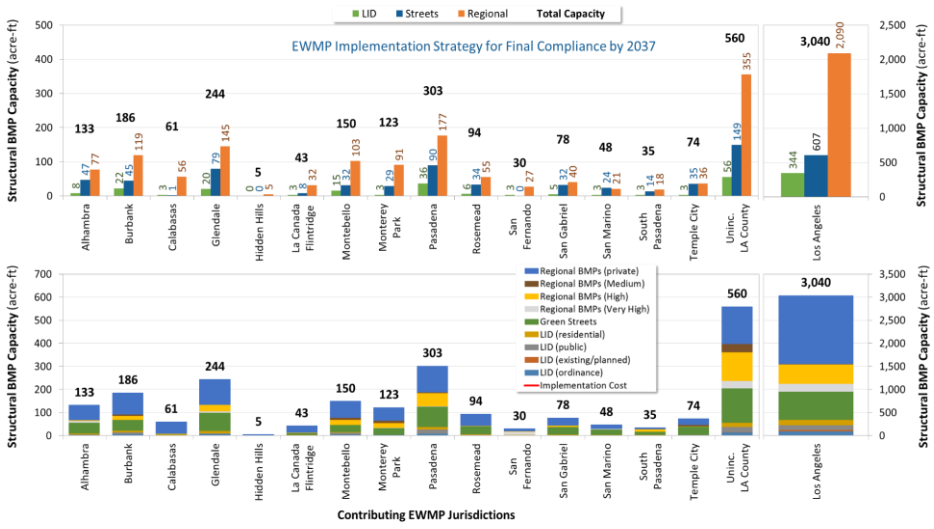
Upper Los Angeles River Watershed Management Group

11-15

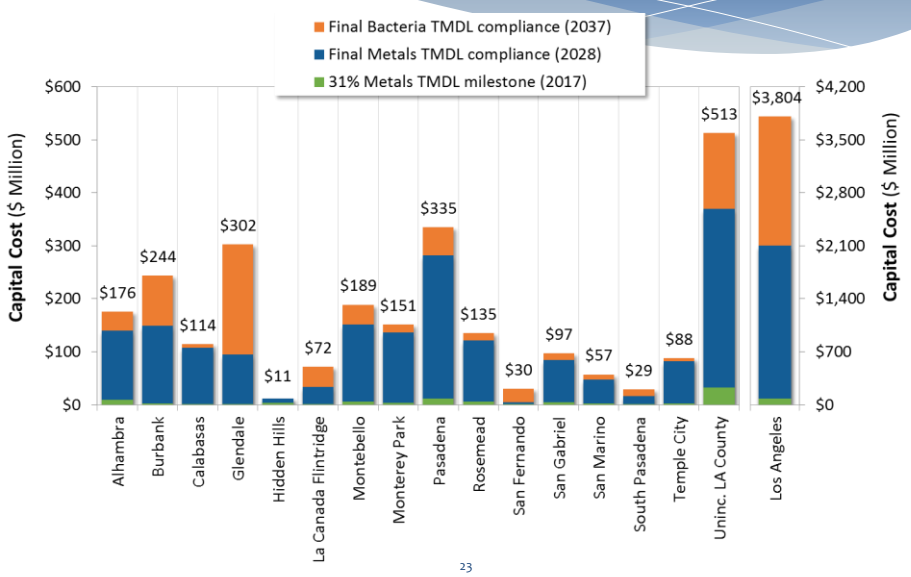
RB-AR 3102

Extra Slides

EWMP Implementation Strategy (Bacteria, thru 2037)



Compliance Cost



Recipe for Compliance

Subwatershed ID	COMPLIANCE TARGETS: MEASURABLE AND ENFORCEABLE BMP GOAL		EWMP IMPLEMENTATION STRATEGY: APPROACH TO ACHIEVE COMPLIANCE TARGETS, SUBJECT TO ADAPTIVE MANAGEMENT (BMP capacity expressed in units of acre-feet)												
	For Metals by 2028	For Bacteria by 2037	For Metals Attainment by 2028											For Bacteria Attainment by 2037	
				Low-Impact Development				Streets	Regional BMPs						
	24-hour Volume Managed (acre-ft)	Additional 24-hour Volume to be Managed (acre-ft)	% Load Reduction Critical Condition	Ordinance	Planned LID	Public LID	Residential LID	Green Streets	Very High (public, owned)	High (public, owned)	Medium (public, non-owned)	Private	Total BMP Capacity (acre-ft)	Regional BMPs (private)	Total BMP Capacity (acre-ft)
616102	11.80	0.00	90%	0.15	---	0.09	0.25	3.68	0.00	0.17	0.00	3.38	**7.7**	0.00	**7.7**
616202	0.94	0.47	47%	0.02	---	---	0.05	0.54	0.00	0.00	0.00	0.00	**0.6**	0.47	**1.1**
616602	0.20	0.71	11%	0.02	---	---	0.10	0.00	0.00	0.00	0.00	0.00	**0.1**	0.71	**0.8**
Total	**123.3**	**8.1**	**75%**	**2.1**	**0.0**	**0.9**	**2.6**	**44.2**	**7.3**	**3.3**	**0.0**	**39.2**	**99.6**	**8.1**	**107.7**

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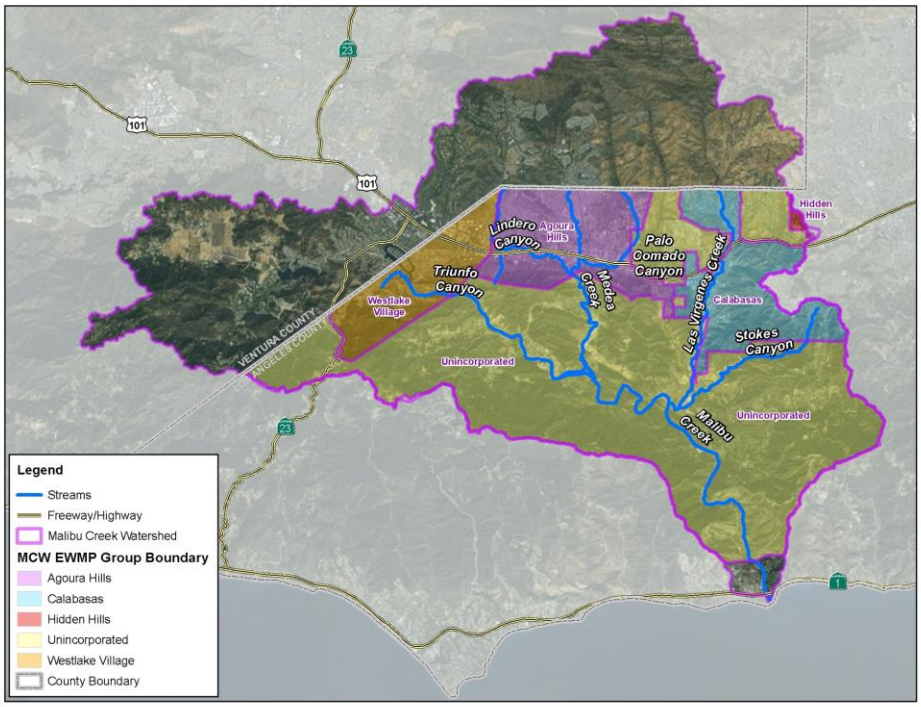
RB-AR 3104

Malibu Creek Watershed Enhanced Watershed Management Program

J. Michael Trapp, Ph.D.

Michael Baker Intl.
on behalf of the Malibu Creek EWMP Agencies



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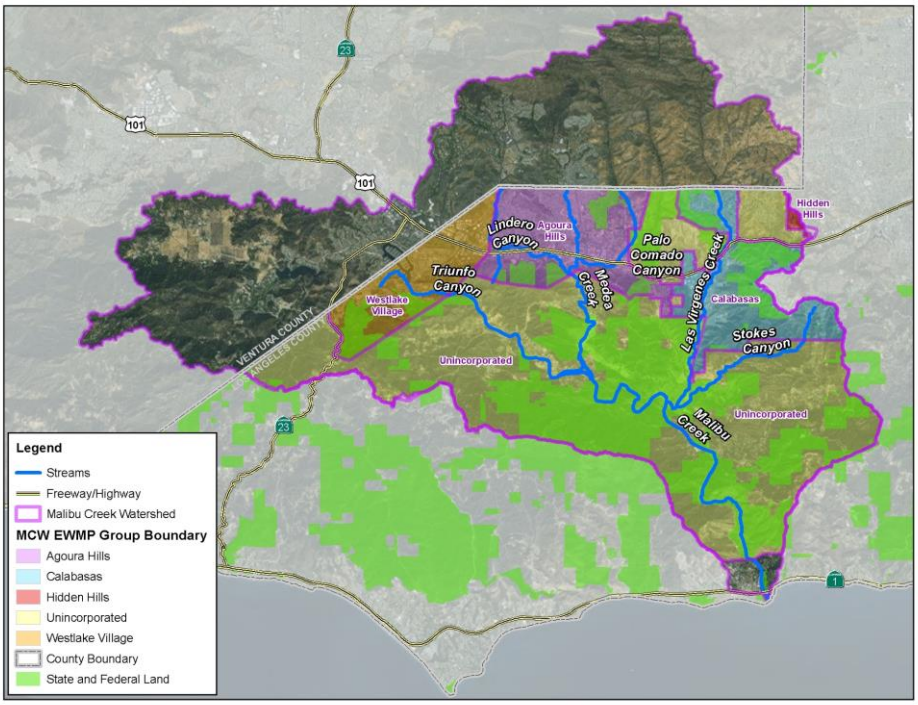
RB-AR 3105


Legend
Streams
Freeway/Highway
Malibu Creek Watershed
MCW EWMP Group Boundary
Agoura Hills
Calabasas
Hidden Hills
Unincorporated
Westlake Village
County Boundary
State and Federal Land
Lindero Canyon
Agoura Hills
Palo Comado Canyon
Hidden Hills
Triunfo Canyon
Medea Creek
Las Virgenes Creek
Westlake Village
Calabasas
Stokes Canyon
Unincorporated
Malibu Creek
Unincorporated
VENTURA COUNTY
LOS ANGELES COUNTY
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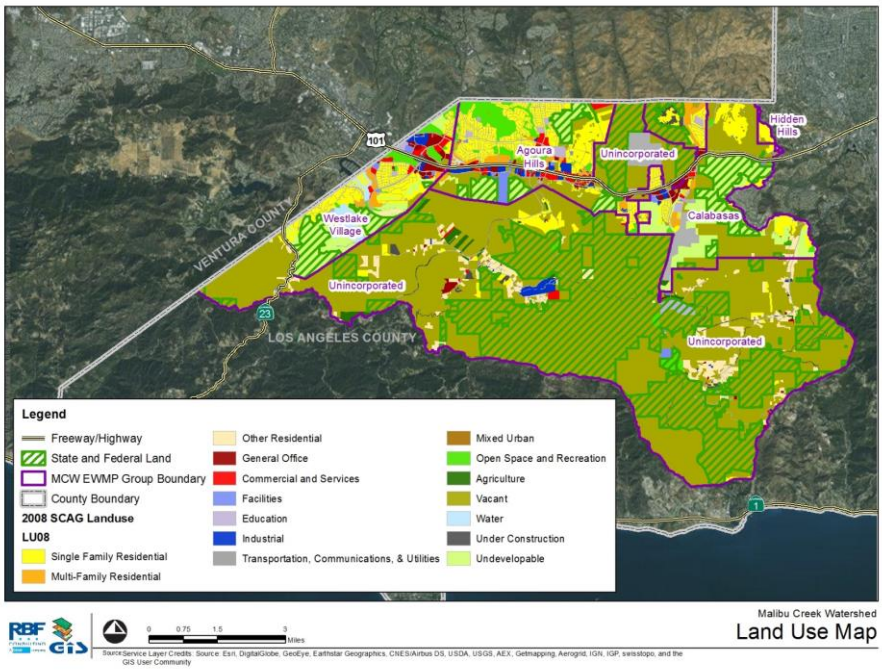
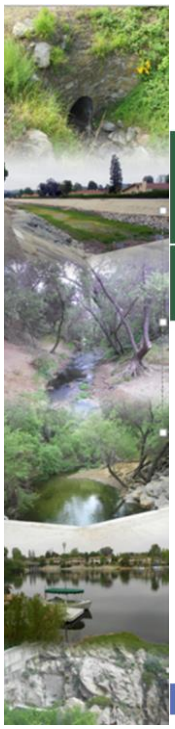
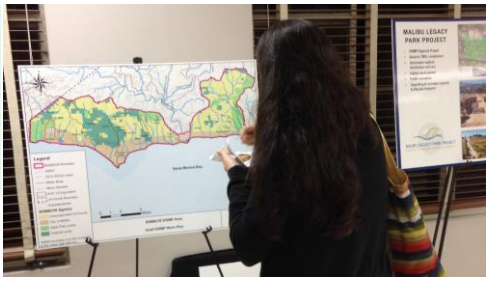

Legend
Freeway/Highway
State and Federal Land
MCW EWMP Group Boundary
County Boundary
2008 SCAG Landuse
LU08
Single Family Residential
Multi-Family Residential
Other Residential
General Office
Commercial and Services
Facilities
Education
Industrial
Transportation, Communications, & Utilities
Mixed Urban
Open Space and Recreation
Agriculture
Vacant
Water
Under Construction
Undevelopable
Hidden Hills
Agoura Hills
Unincorporated
Westlake Village
Calabasas
Unincorporated
Unincorporated
VENTURA COUNTY
LOS ANGELES COUNTY
101
23
1
0 0.75 1.5 3 Miles
Source: Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
Malibu Creek Watershed
Land Use Map



EWMP Stakeholder Coordination



Watershed Priorities

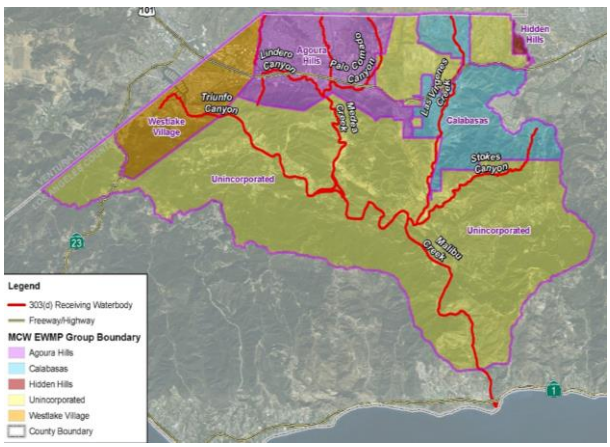
-TMDLs

- Nutrients (2017)
- Bacteria (2021)
- Benthic Communities (2032)

-303(d) Listed Impairments

- Metals
- Sulfate
- Sediment/Siltation

-Other water Quality Objective Exceedances



EWMP Strategy

- Wet Weather

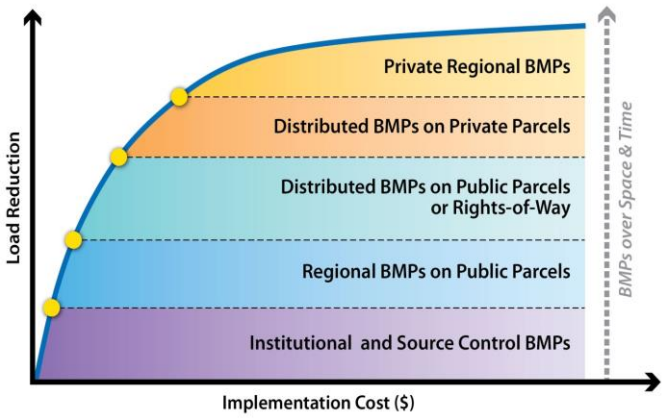
Achieve compliance though volume reductions (Bacteria limiting pollutant)

- 90th percentile, 16th wettest day

- Dry Weather

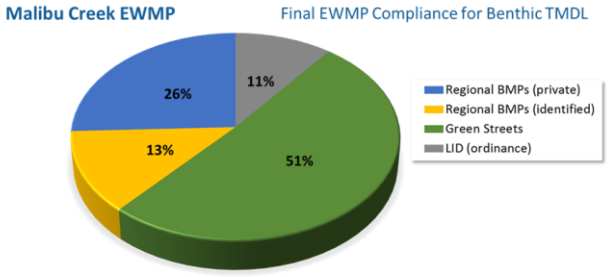
Achieve compliance though CIMP IDDE activities (Nutrient limiting pollutant)

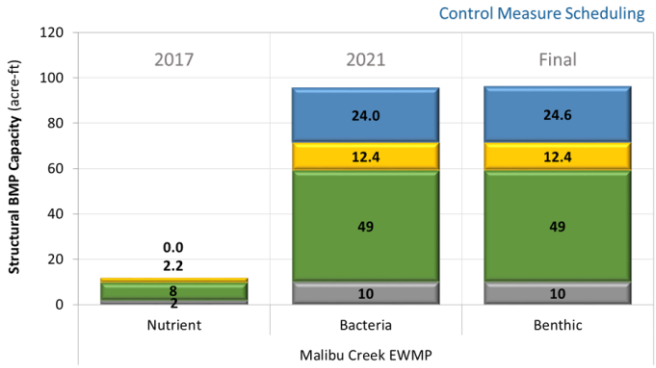
MCW EWMP BMP Approach



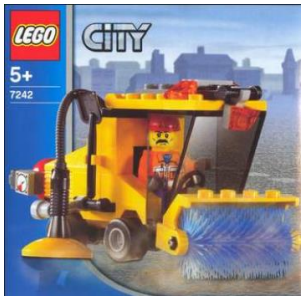
- Identification of Enhanced Control Measures
- Reasonable Assurance Analysis & Schedule
- Cost Estimates

Reasonable Assurance Analysis





Source Control BMPs

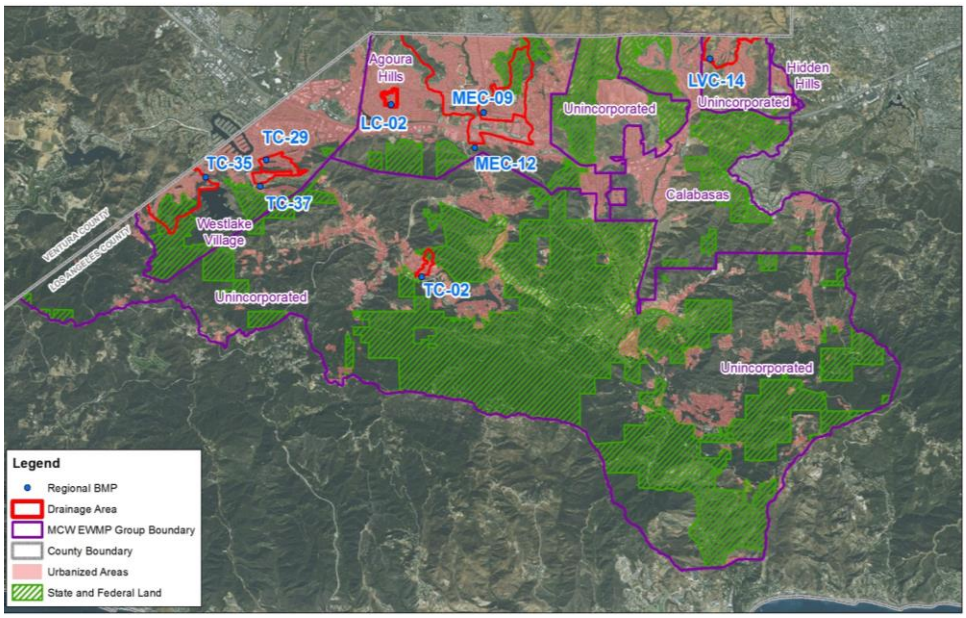


11-22

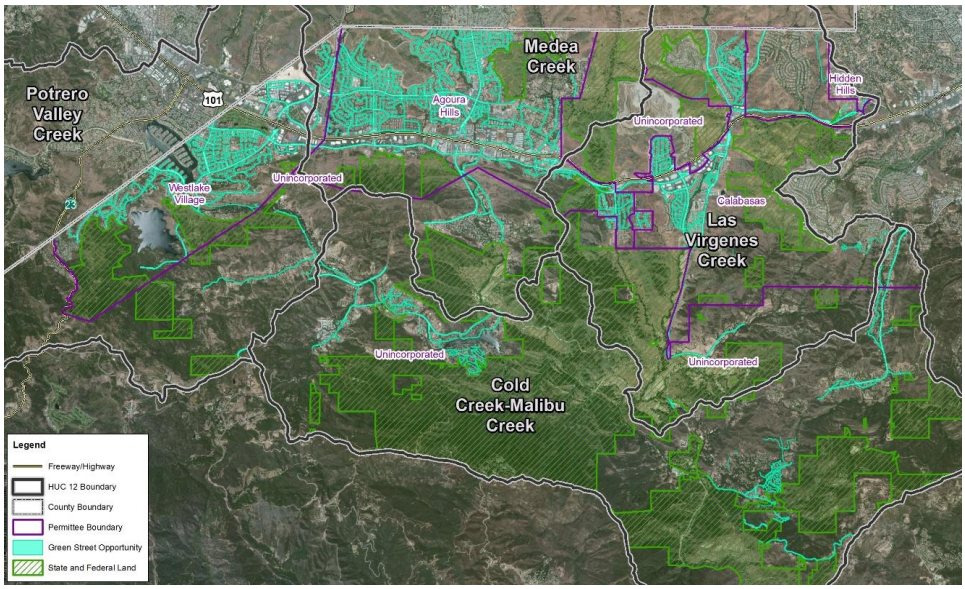
RB-AR 3109

Early Action Projects

Regional BMP Projects

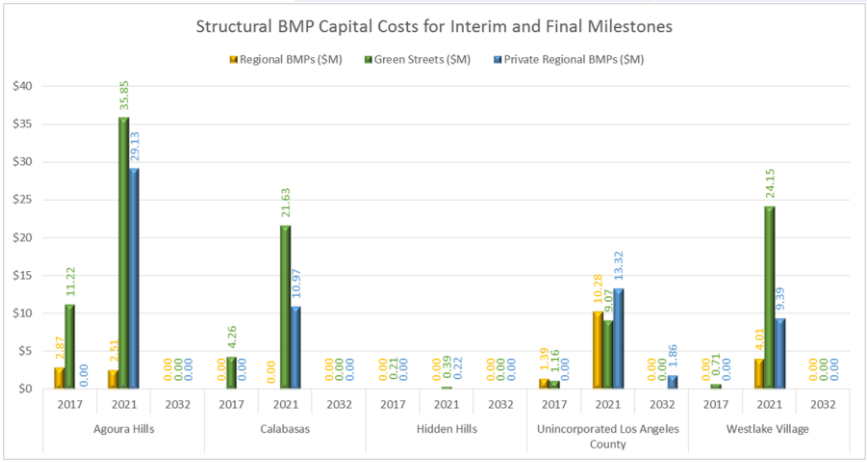


Green Streets



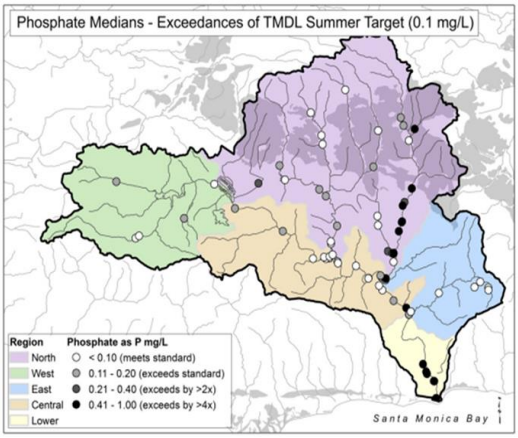
Estimated Costs

Watershed Control	Cost Estimate
Public Regional BMPs	$21.1M
Green Streets	$108.6M
Private Regional BMPs	$64.9M
Total	$194.6M



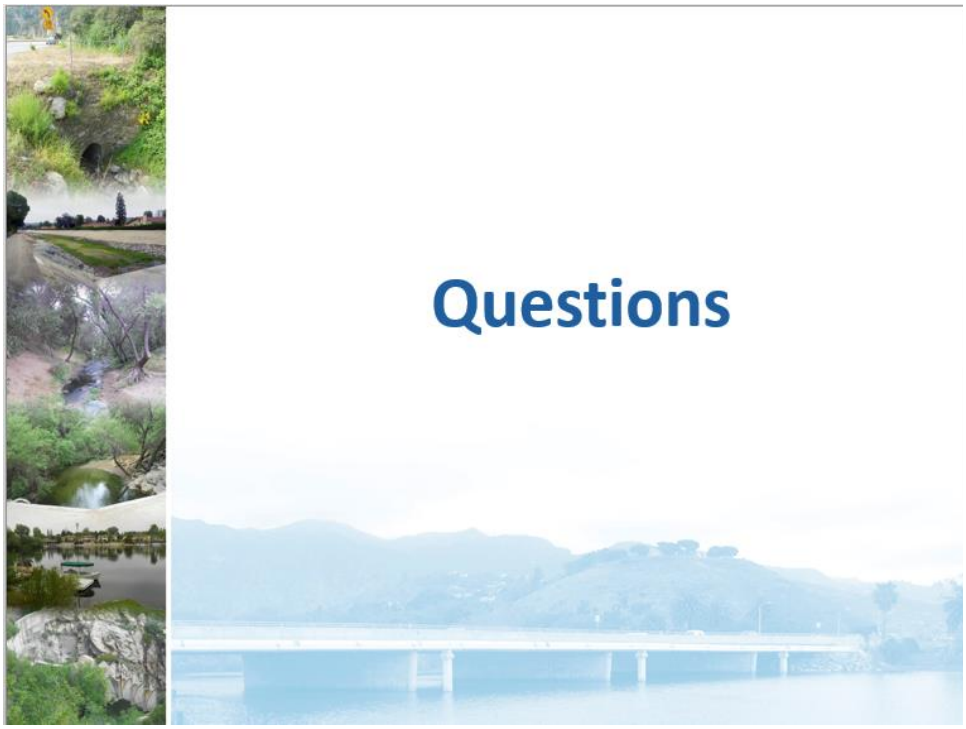
Adaptive Management

- Use of CIMP data to evaluate EWMP performance
- BMP implementation
- Regulatory changes
- Special studies



Funding Strategy

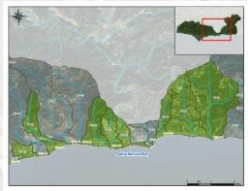
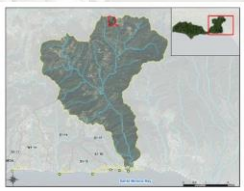
- **Grants**
  - Prop 1 Water Bond
  - IRWMP
  - USEPA 319 Grants
  - Clean Beaches Initiative
- **Fees**
  - Local Stormwater Fees
  - Sales Tax
- **Legislative**
  - Amend Prop 218
  - Source Control (i.e. SB 346)
- **General Funds**


Questions

NORTH SANTA MONICA BAY COASTAL WATERSHEDS (NSMBCW)

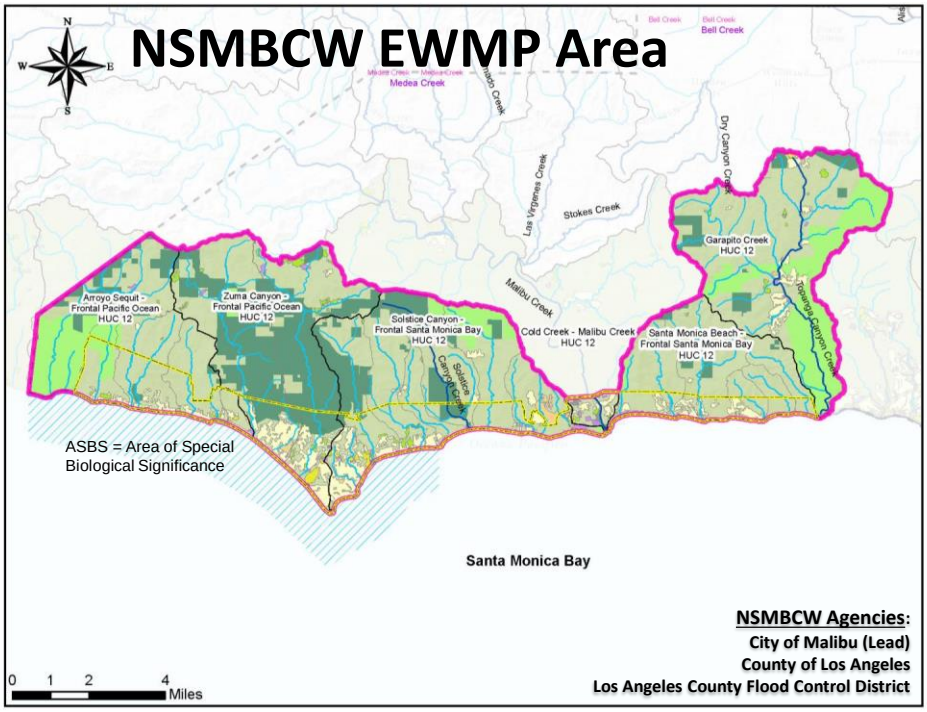
ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP)

Los Angeles Regional Water Quality Control Board
Informational Workshop
July 9, 2015


Agenda

- Watershed introduction
- Stakeholder outreach
- EWMP overview, including early action and future BMPs
- Status of ordinances and policies
- Financial strategy
- Adaptive management



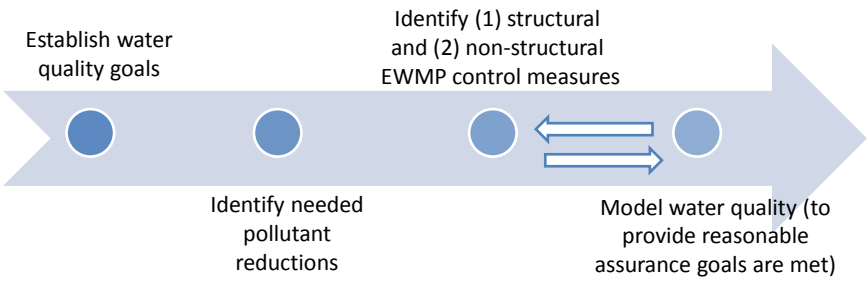
NSMBCW is Unique

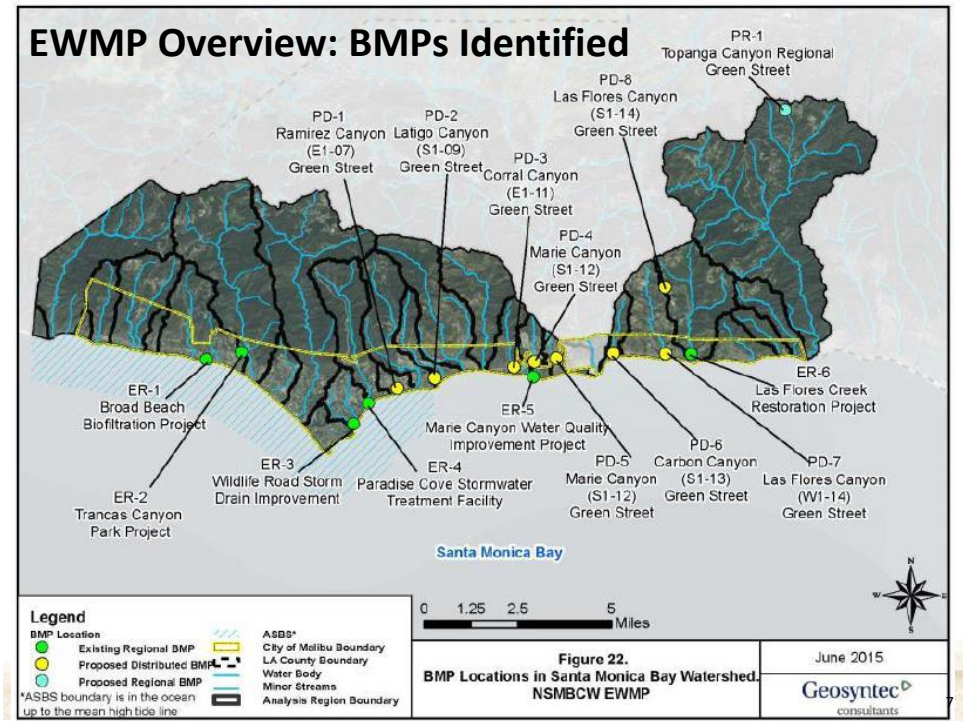
- Minimally (7%) developed
- Substantial State Park and federal land
- Only nine “major” MS4 outfalls
- Bacteria is the primary watershed-wide controlling pollutant

Stakeholder Outreach

- **Public Workshops:** informational presentations and Q&A
- **Website:** information and documents posted at www.malibucity.org/EWMP
- **Technical Advisory Committee:** active participation in the TAC and RAA subcommittee
- **Outreach to City and County Departments as well as elected officials**

EWMP Overview: Reasonable Assurance Analysis

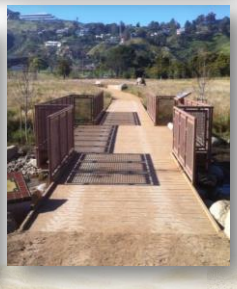




Non-Structural and Institutional BMPs

MALIBU LEGACY PARK PROJECT
FULFILL A DREAM, LEAVE A LEGACY

- Regional EWMP Project
- 306 acre Civic Center area
- Stormwater capture, disinfection and use
- Multi-benefit: habitat, public education, neighborhood greening, and recreation
- Upgrading to increase capacity/area

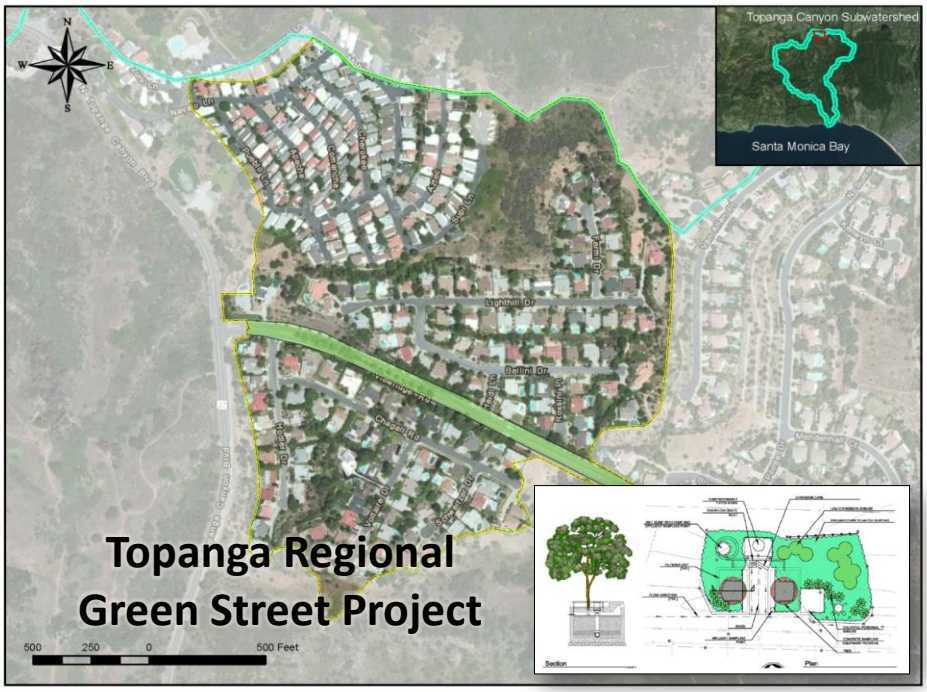


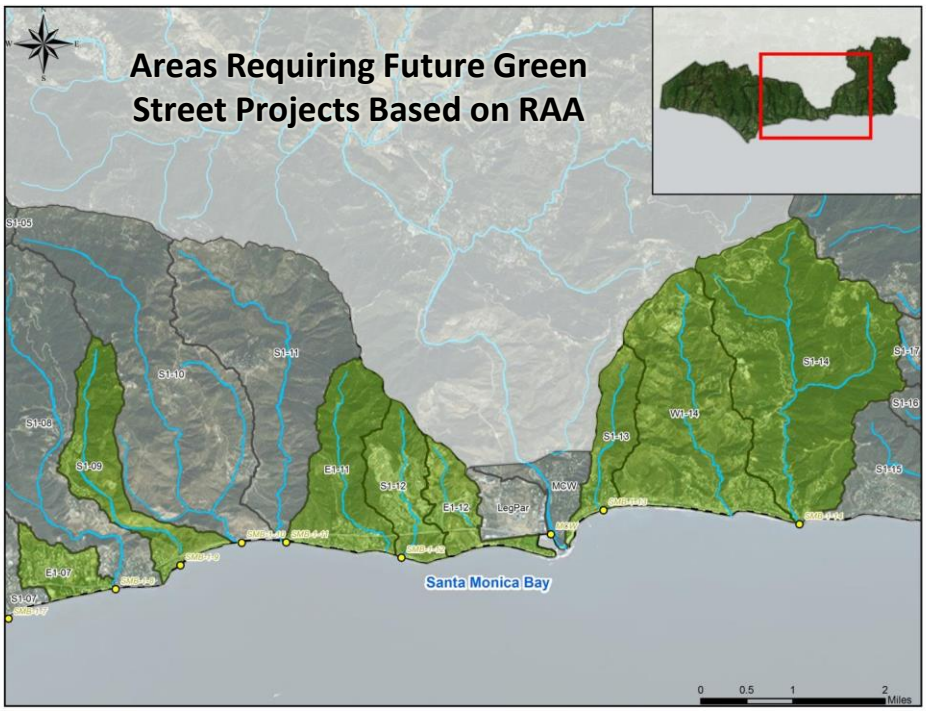
North Santa Monica Bay Coastal Watersheds
July 9, 2015 Regional Board Workshop

Early Action Projects Being Completed This Year (2015)

North Santa Monica Bay Coastal Watersheds
July 9, 2015 Regional Board Workshop

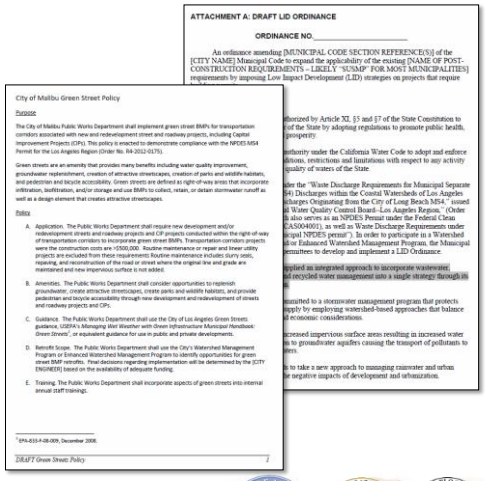
10


Topanga Canyon Subwatershed
Santa Monica Bay
Topanga Regional
Green Street Project
500 250 0 500 Feet


Areas Requiring Future Green
Street Projects Based on RAA
S1-05
S1-10
S1-11
S1-06
S1-09
E1-11
S1-12
E1-12
LeoPar
MCW
W1-14
S1-13
S1-14
S1-17
S1-16
S1-15
E1-07
S1-07
Santa Monica Bay
0 0.5 1 2
Miles

LID Ordinance and Green Streets Policy

City and County have both adopted theirs

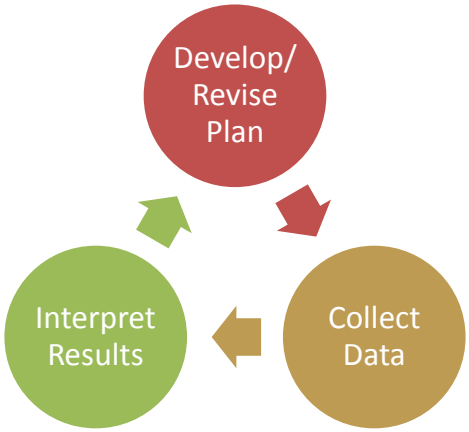


Financial Strategy

Potential funding strategies identified:

- Enhanced Infrastructure Financing Districts
- State Revolving Fund Loans
- Traditional Infrastructure Bonds
- Proposition 1 Grants
- IRWM Grants
- Climate Change/Greenhouse Gas Emission Funding
- Stormwater Fees
- Collaborative Opportunities with Other Agencies
- Public/Private Partnerships

Adaptive Management

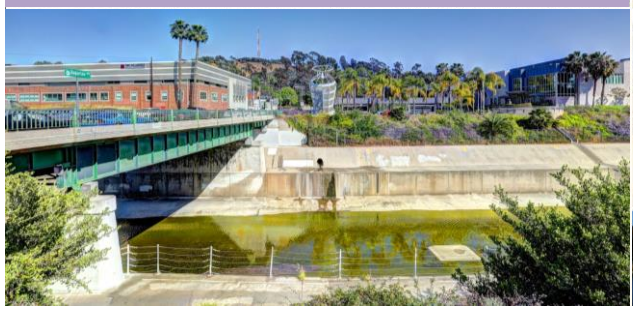


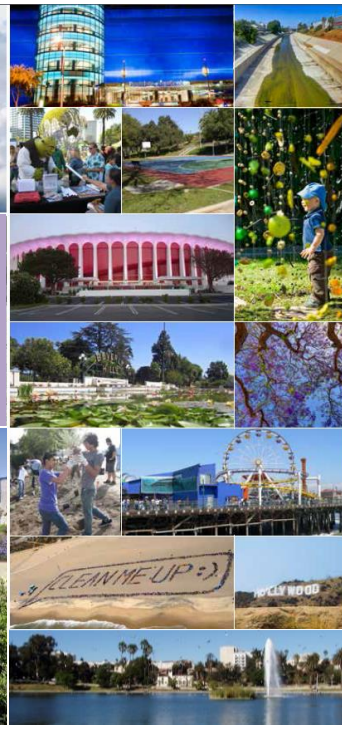
THANK YOU

Questions/Comments

Ballona Creek Watershed Enhanced Watershed Management Program

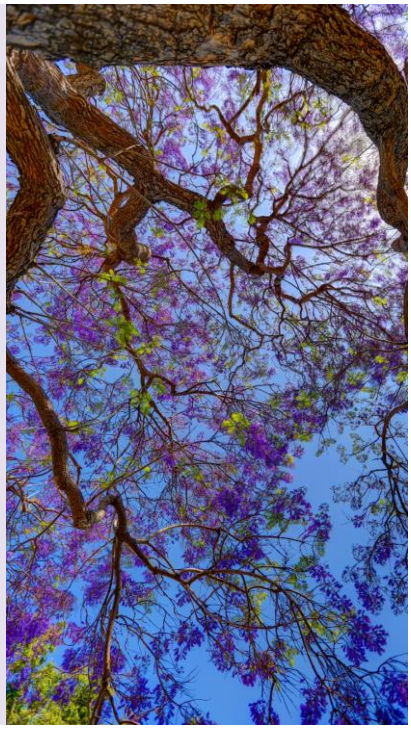
City of Los Angeles
City of Beverly Hills
City of Culver City
City of Santa Monica
County of Los Angeles
City of Inglewood
City of West Hollywood
Los Angeles County Flood Control District





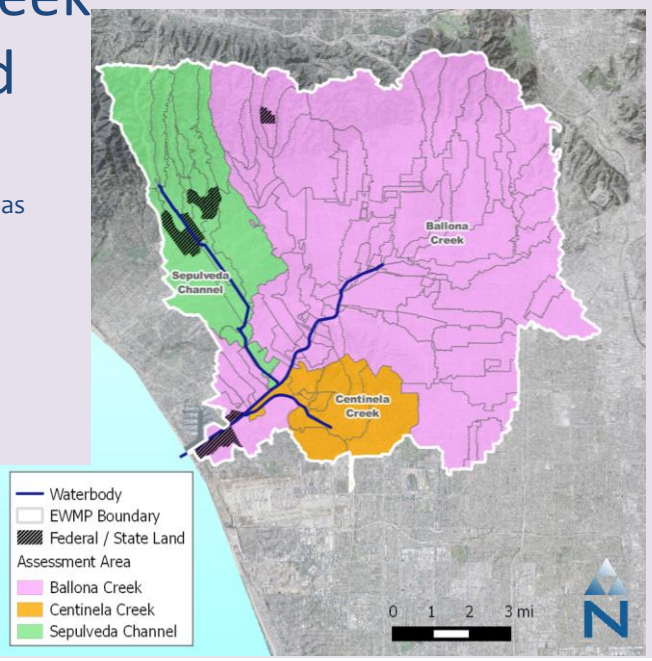
Presentation Overview

- EWMP Overview
- Early action project, LID Ordinances, and Green Street Policies
- Financial Strategy
- Stakeholder Outreach
- Environmental Review
- Briefing of Elected Officials

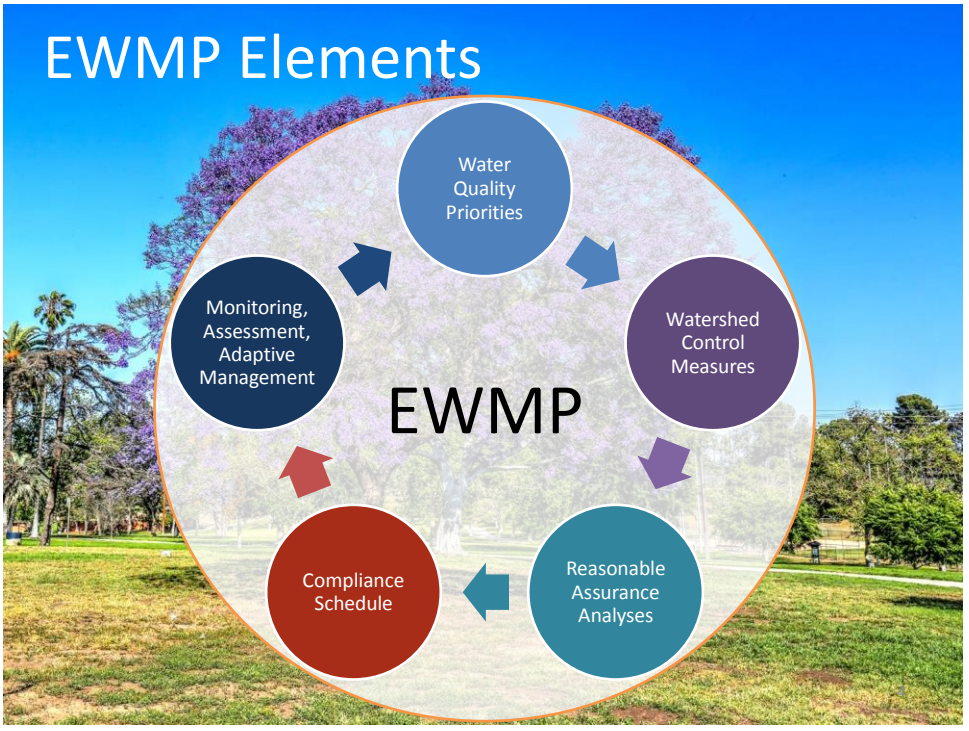


Ballona Creek Watershed

- 128 sq. miles
- Three Assessment Areas
  - Ballona Creek
  - Centinela Creek
  - Sepulveda Channel
- 115 subwatersheds
- Unique "recipe for compliance" for each subwatershed
- Standalone recipe for each jurisdiction



EWMP Elements



Water Quality Priorities

Highest

- **Total Maximum Daily Loads (TMDLs)**
  - *Metals, Toxics, Bacteria, Trash, etc.*

High

- **Impaired: on 303 (d) List**
  - *Mercury , Silver and other metals, Shellfish Harvesting Advisory, Organic compounds, etc.*

Medium

- **Other pollutants**

5

Watershed Control Measures

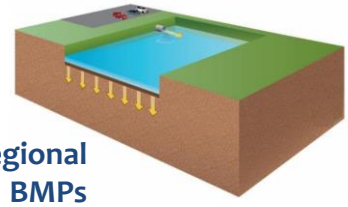
- *Four primary categories of control measures:*

(1) **Institutional BMPs**

e.g., Enhanced sweeping

(2) **Green Streets**

(3) **Low Impact Development**



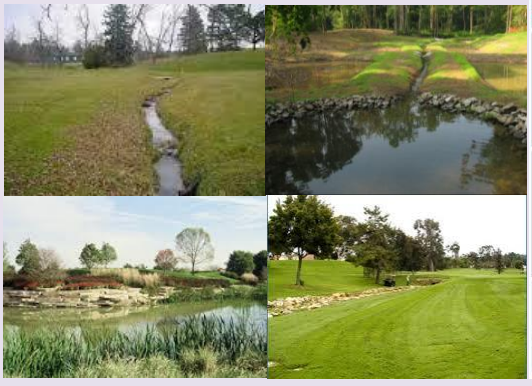
(4) **Regional BMPs**

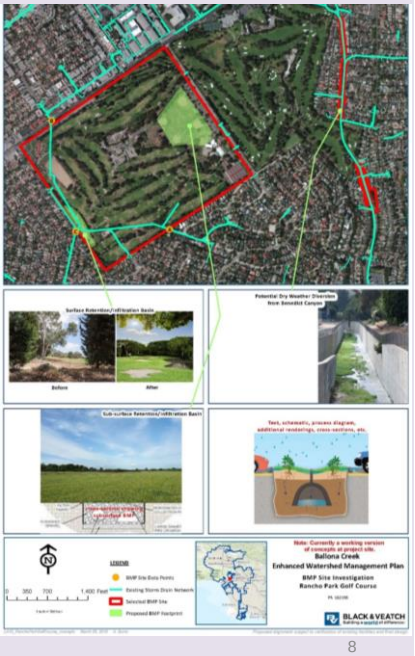
Regional BMPs

- Regional projects on public land are one of the most cost-effective options
- Over 400 parcels selected out of ~3500 screened
  - 26 very high
  - 42 high
  - 341 medium
- 68 regional projects selected
- Scheduling based on categories of Very High, High and Medium and on Compliance dates

10 Regional "Signature" Projects

Example: Rancho Park Golf Course & Cheviot Hills Recreation Center

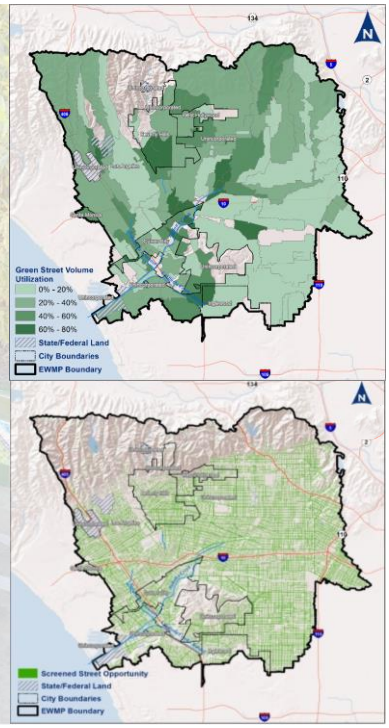




8

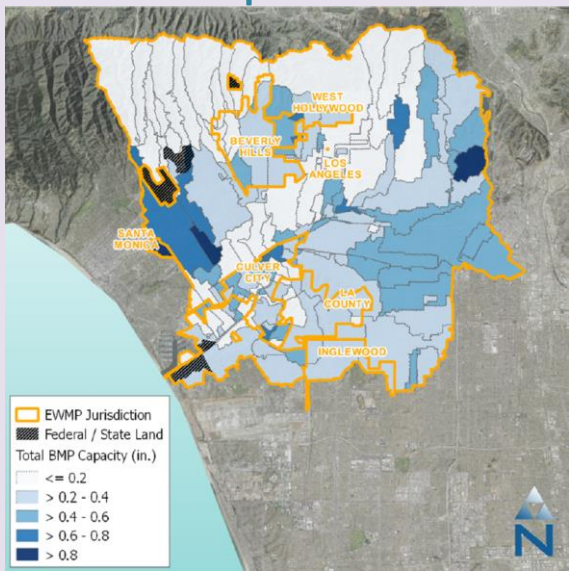
Green Streets

- Identified percent of streets for retrofit by subwatershed
- Identified right-of-way opportunities throughout watershed based on soils and slope
- Constitutes 17% of strategy



RAA- Mapping Out Stormwater Compliance

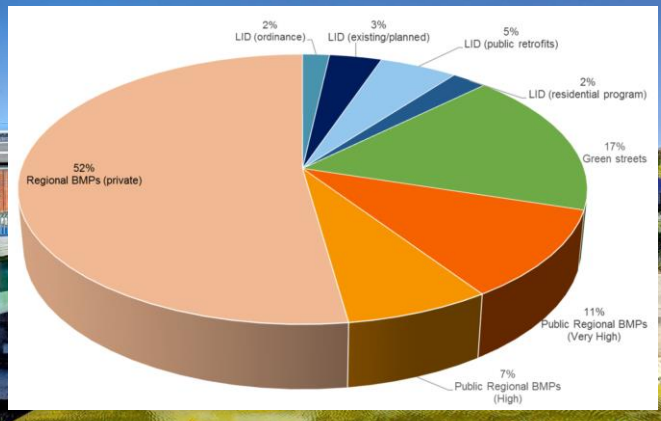
- RAA demonstrates compliance
- Utilizes Watershed Management Modeling System (WMMS)
- Consistent with RAA Guidelines
- Map shows control measure "density" by subwatershed



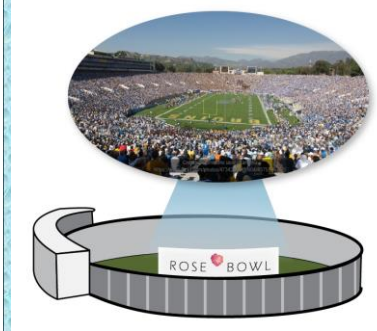
RAA- Recipe for Compliance

Subwatershed ID	COMPLIANCE TARGETS: MEASURABLE AND ENFORCEABLE BMP GOAL		EWMP IMPLEMENTATION PLAN: APPROACH TO ACHIEVE COMPLIANCE TARGETS, SUBJECT TO ADAPTIVE MANAGEMENT (BMP capacity expressed in units of acre-feet)												
	For Metals by 2021	For Bacteria by 2021	For Metals Attainment by 2021											For Bacteria Attainment by 2021	
				Low-Impact Development				Streets	Regional BMPs						
	24-hour Volume Managed (acre-ft)	Additional 24-hour Volume to be Managed (acre-ft)	% Load Reduction Critical Condition	Ordinance	Planned LID	Public LID	Residential LID	Green Streets	Very High (public, owned)	High (public, owned)	Medium (public, non-owned)	Private	Total BMP Capacity (acre-ft)	Regional BMPs (private)	Total BMP Capacity (acre-ft)
102322	0.12	0.87	8%	0.03	0.06	0.00	0.11	0.00	0.00	0.00	0.00	0.00	**0.2**	0.87	**1.1**
102422	16.50	0.00	95%	0.22	0.60	0.23	0.37	3.81	0.00	0.11	0.00	7.19	**12.5**	0.00	**12.5**
102522	12.59	0.00	86%	0.06	---	0.06	0.01	0.01	0.00	0.37	0.00	2.51	**3.0**	0.00	**3.0**
102622	5.22	0.00	94%	0.04	---	0.00	---	0.00	0.00	0.01	0.00	4.08	**4.1**	0.00	**4.1**
102722	8.19	0.00	90%	0.09	---	0.70	---	0.58	0.00	0.00	0.00	4.96	**6.3**	0.00	**6.3**
102822	0.02	0.68	6%	0.05	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.0**	0.68	**0.7**
Total	**42.6**	**1.5**	**86%**	**0.5**	**0.7**	**1.0**	**0.5**	**4.4**	**0.0**	**0.5**	**0.0**	**18.7**	**26.3**	**1.5**	**27.8**

Relative BMP Capacities



Stormwater Storage



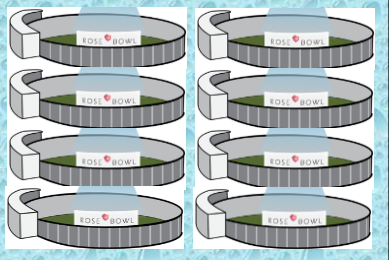
Rose Bowl Stadium

Seating Capacity: 92,542 fans

Volume: 259 acre-feet

Ballona Creek EWMP

2,064 acre-feet capacity (metals)

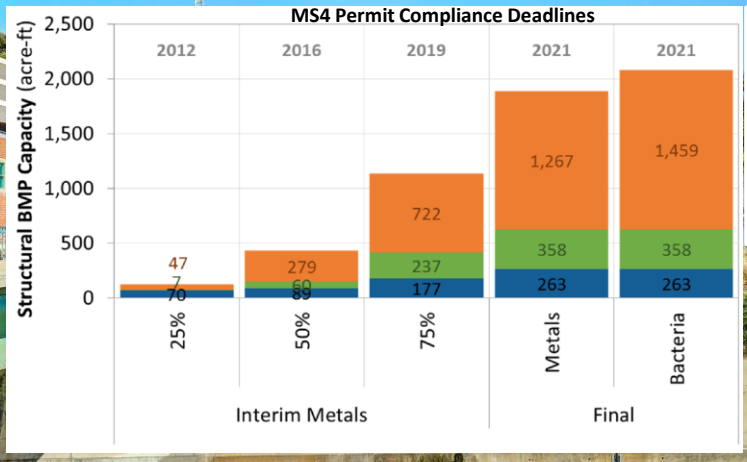


The volume of 8 stadiums!

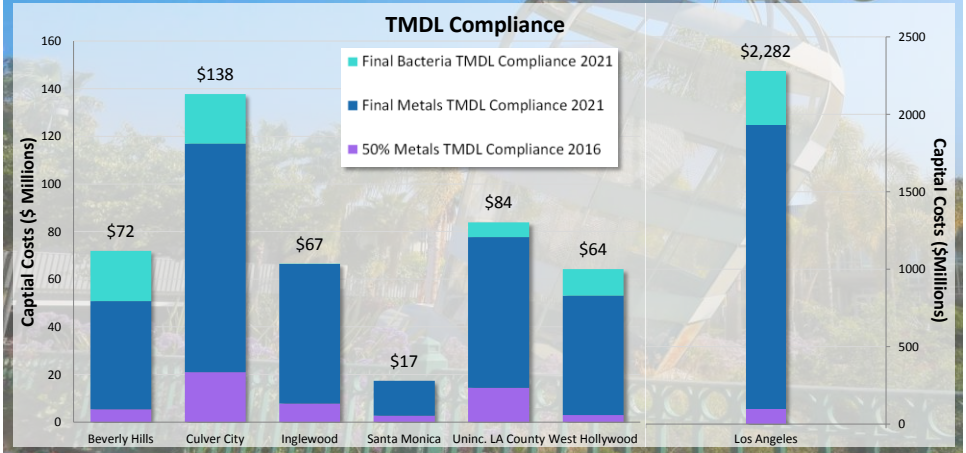
Equivalent to 6 billion gallons

13

Scheduling for Compliance



Implementation Co$ts by Jurisdiction



Financial Strategy

- Grants: Prop 1 Water Bond, IRWMP, etc.
- Fees: AB 2403, Sales Tax, Source-specific fees
- Legislative: Amend Prop 218, source control measures
- General Funds
- Partnership with public agencies outside of municipal control (i.e. school districts, Metro, US Post Office, etc.)
- Other options: P3, JPAs, stormwater credit trading,

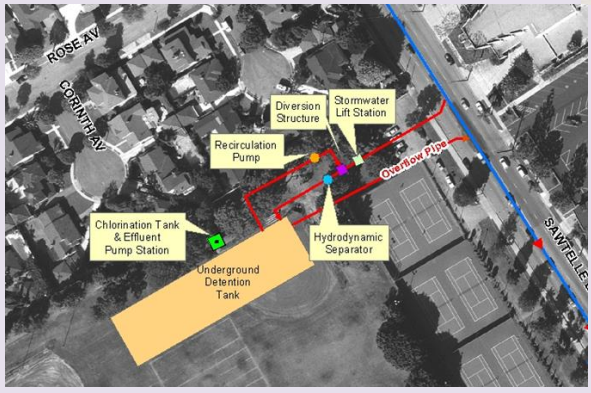
Low Impact Development and Green Street Policy

Agency	LID Adoption Date	Green Street Policy Adoption Date
County	January 2009	July 2011
Los Angeles	October 2011	July 2011
Culver City	November 2014	November 2014
Beverly Hills	April 2013	June 2015
Inglewood	June 2015	(pending)
West Hollywood	June 2015	August 2013
Santa Monica	July 2010	July 2010

Early Action Project

Mar Vista Recreation Center Stormwater BMPs Phase 2

- Currently in design
- Completion by end of 2016



Stakeholder Outreach

- **Three large workshops at LA Zoo:**
  - April 10, 2015,
  - March 19, 2015
  - November 20, 2014,
- **Additional individual meetings**

Briefing and Support of Elected Officials

- BC City Managers Meeting held May 17, 2015
- EWMP Funding meeting held May 28, 2015

Agency	Board/Council EWMP Submittal Approval Date
County	May 26, 2015
Culver City	June 8, 2015
West Hollywood	June 15, 2015
Beverly Hills	June 16, 2015
Los Angeles	June 16, 2015
Inglewood	June 23, 2015

Questions?

Contact

- Huub Cox: hubertus.cox@lacity.org
- Susie Santilena: susie.santilena@lacity.org
- Ryan Thiha: ryan.thiha@lacity.org

21

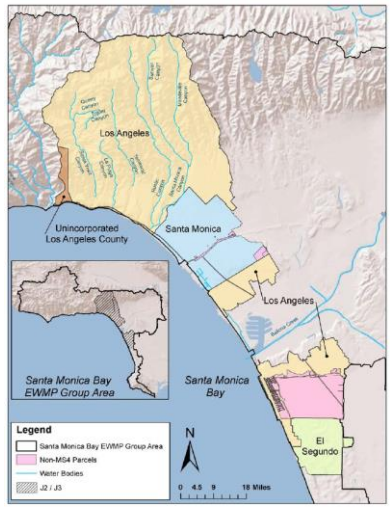
Santa Monica Bay (J2/J3) EWMP

July 9, 2015

1

Overview of Watershed

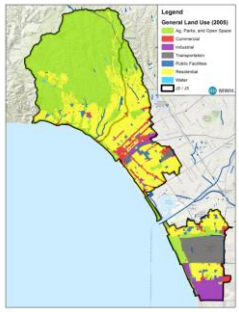
- 53 square miles (34,000 acres)
- Member Agencies are City of Los Angeles, County of Los Angeles, LACFCD, City of El Segundo and City of Santa Monica
- Major Water Bodies
  - Santa Monica Bay Beaches
  - Santa Monica Bay
  - Santa Monica Canyon Channel



2

What Makes the Watershed Unique

- The J2/J3 area is in the central region of Santa Monica Bay with more than 12 miles of shoreline
- The J2/J3 beaches receive millions of visitors annually
- Land use is comprised of predominately open space and residential



3

Watershed Priorities

SMB Beaches – Bacteria TMDL

- Dry Weather Bacteria, Wet Weather Bacteria

SMB TMDL

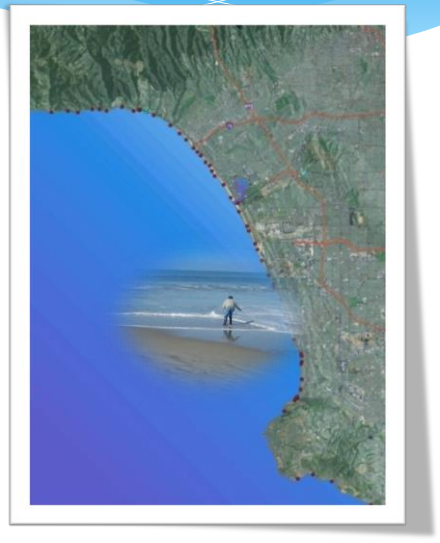
- PCBs/DDTs

SMB Offshore/ Nearshore TMDL

- Debris/Plastic Pellets

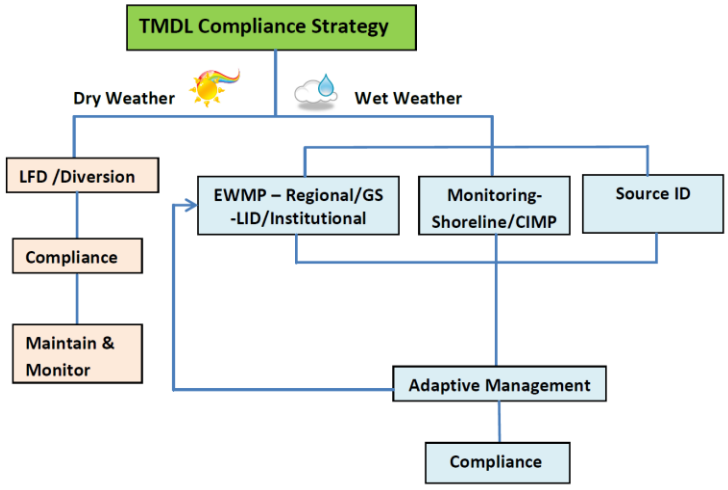
Santa Monica Canyon Channel 303(d)

- Lead
- Indicator Bacteria



4

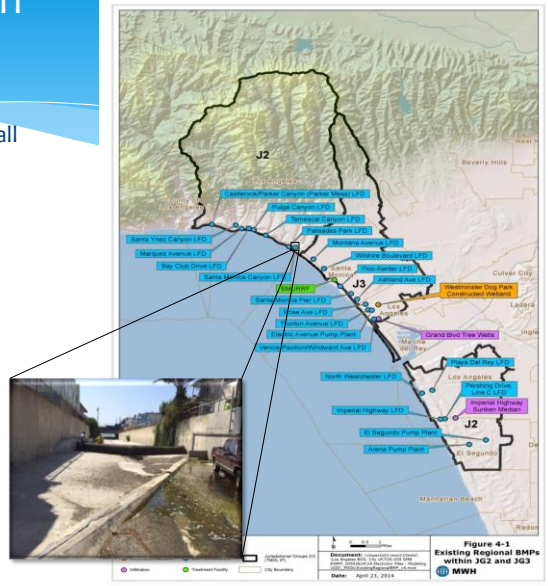
Compliance Strategy



5

Dry Weather runoff addressed

- 23 Low Flow Diversions at all Major Outfalls



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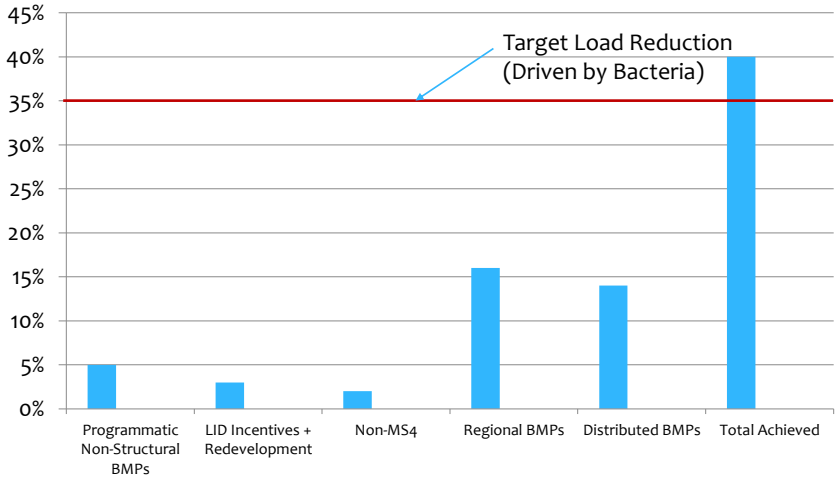
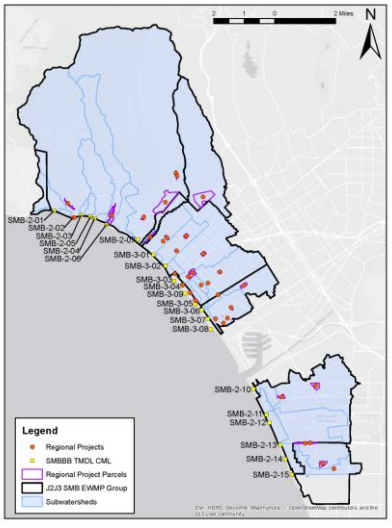
Wet Weather



7

Regional Projects



- 32 Regional Projects proposed
- Regional Projects collectively take care of about 40% of total target load
- Water harvesting for irrigation is a major component of many Regional Projects
- 8 signature projects with concept report

8

Example Signature Project : Riviera Country Club

- Public/Private Partnership Project
- Retain dry and wet weather runoff from the upper SMC watershed
- Diversion from flood control channel to pre-treatment (e.g. CDS unit) followed by storage within both, storage tanks and the barranca
- Captured runoff will be infiltrated along the length of barranca to recharge groundwater and on-site landscape irrigation

9

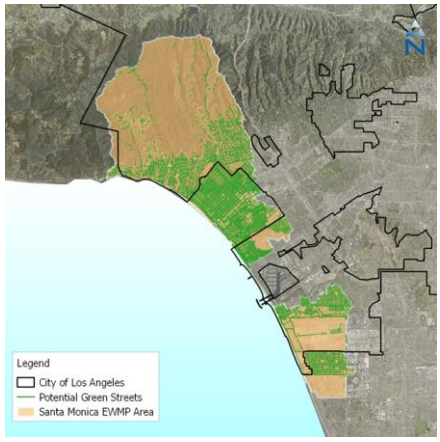
Riviera Country Club

Additional Benefits:

- Restores the historical barranca
- Recharges groundwater
- Reduces downstream pollutant loads and runoff volumes
- Reduces reliance on potable water

10

Distributed Projects



- EWMP identifies potential Green Streets
- Total runoff to be captured is 120 acre-feet per storm event
- Total area of proposed green streets is 147 acres

11

Potential Green Streets Project

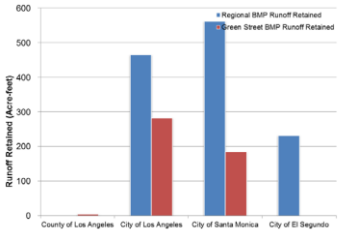
- Potential Green Streets project in Pacific Palisades

12

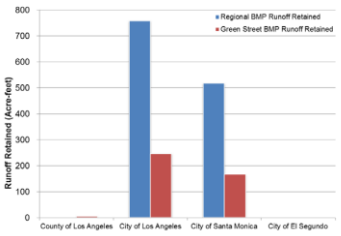
Implementation Schedule

Bacteria

BMP Runoff Retained over Critical Year by 2018



BMP Runoff Retained over Critical Year from 2018 - 2021



13

Early Action Project - PENMAR

Phase I (completed):

- Diversion structure, pump station, and a 2.75 mg underground detention tank

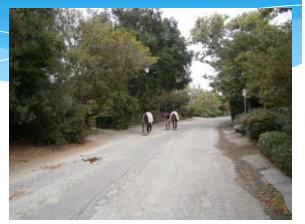
Phase II:

- On-site treatment following the detention tank, and irrigation system
- Completion expected by the end of 2017

14

Old Oak Road Bio-Swales

- Approximately 50 acres tributary residential area
- Within an equestrian community



15

Old Oak Road Bio-Swales

- 11 Bio-swales
- Completed in March 2014
- Maintained by residents

16

Estimated Implementation Cost

Total Costs by Agency ($ Millions)

Agency	Capital	O & M*
Los Angeles	$408.8	$54.2
Santa Monica	$213.2	$33.5
Uninc. LA County	$5.9	0.53
El Segundo	$20.8	6.42
Total	**$648.7**	**$94.7**

*O&M cost is the present worth value of an annual O&M cost over a lifespan of 20 Years with a 5% interest.

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Financial Strategy

- Grants: Prop 1 Water Bond, IRWMP, etc.
- Fees: AB 2403, Sales Tax, Stormwater fees
- Legislative: Amend Prop 218, source control measures
- General Funds
- Other options: P3, JPAs, stormwater credit trading

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Stakeholder Process

Three Workshops held at LA Zoo on;

- April 10, 2014
- November 20,2014, and
- March 19, 2015
- Many individual meetings


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Elected Officials Support

Agency	Board/Council Approval Date
Los Angeles	June 16, 2015
County	May 26, 2015
Santa Monica	Briefings
El Segundo	Briefings



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Low Impact Development and Green Street Policy

Agency	Adoption Date	
	LID	Green Street Policy
County	January 2009	July 2011
Los Angeles	October 2011	July 2011
Santa Monica	July 2010	July 2010
El Segundo	Adoption expected by end of 2015	Adoption expected by end of 2015

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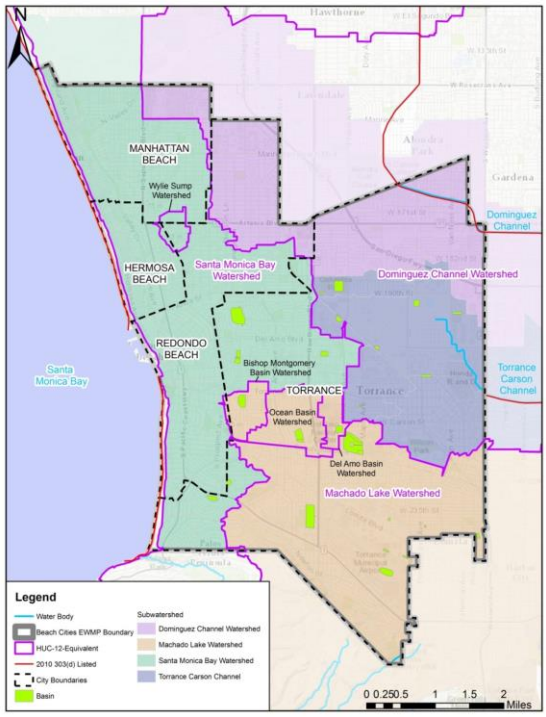
BEACH CITIES EWMP OVERVIEW

KRISTY MORRIS, CITY OF HERMOSA BEACH
ON BEHALF OF BEACH CITIES WMG AGENCIES

JULY 9, 2015

Beach Cities Watershed Management Group

- Manhattan Beach
- Hermosa Beach
- Redondo Beach
- Torrance
- Los Angeles County Flood Control District



11-57

RB-AR 3144

Beach Cities WMG EWMP Land Area Distribution

Agency	Santa Monica Bay Watershed Area (acres)	Dominguez Channel Watershed Area (acres)	Total EWMP Area (acres)
Redondo Beach	2,614	1,217	3,831 (25%)
Manhattan Beach	2,078	350	2,428 (16%)
Hermosa Beach	832	0	832 (5%)
Torrance	2,314	5,812	8,126 (53%)
LACFCD	NA	NA	
Beach Cities WMG	**7,837**	**7,379**	**15,217 (100%)**

How is the Beach Cities WMG unique?

- Beach communities focused on high quality recreational beaches
- 10 Yrs of collaboration on Santa Monica Bay Bacteria TMDL Implementation
- Numerous completed water quality improvement projects

Expansion of Previous Work

Santa Monica Bay Beaches Bacteria TMDL Implementation Plan: Jurisdictional Groups 5 & 6 (2005)

Jurisdictional Groups 5 & 6 Implementation (2011) – Santa Monica Bay Beaches Bacteria TMDL:

- **Structural BMP Siting and Conceptual Design Study**
- **Dry Weather Source Characterization and Control Summary**
- **Programmatic Solutions – Report of Findings**

City of Torrance Stormwater Quality Master Plan

Watershed Water Quality Priorities

Total Maximum Daily Loads

- **Santa Monica Bay Beaches**
  - Dry Weather Bacteria
  - Wet Weather Bacteria*
- **Santa Monica Bay**
  - Trash/Debris
  - DDT and PCBs
- **Dominguez Channel**
  - Toxics and Metals (Cu,Zn Pb)*

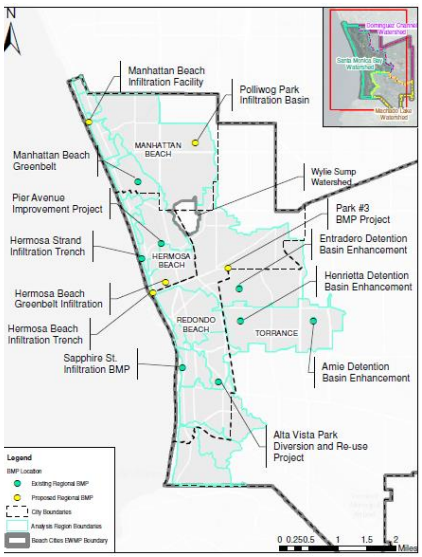
*Controlling Pollutant

Compliance Schedule

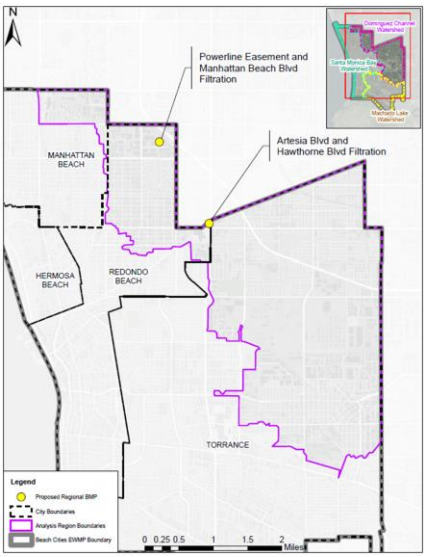
Category	Water Body	Pollutant	Final Compliance Deadlines (Category 2 deadlines are proposed)
1: Highest Priority (Total Maximum Daily Loads [TMDLs])	Santa Monica Bay Beaches	Bacteria (wet and dry weather)	2021
	Santa Monica Bay	Trash and plastic pellets	2020
		Toxics	N/A
	Dominguez Channel (including Torrance Lateral)	Toxics and metals	2032
2: High Priority (303[d] listings)	Dominguez Channel (including Torrance Lateral)	Indicator bacteria	2032

Watershed Control Measures

Santa Monica Bay Watershed
Regional BMPs



Dominguez Channel Watershed
Regional BMPs



Santa Monica Bay Watershed
Existing Regional BMPs

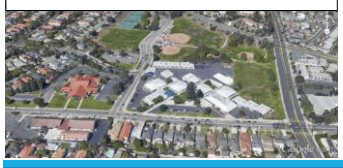
Manhattan Beach Greenbelt Infiltration Project

Amie Basin

Henrietta Basin

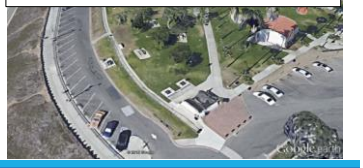
Hermosa Strand Infiltration Trench

Alta Vista Diversion and Reuse



Entradero Basin

Sapphire Street Infiltration BMP



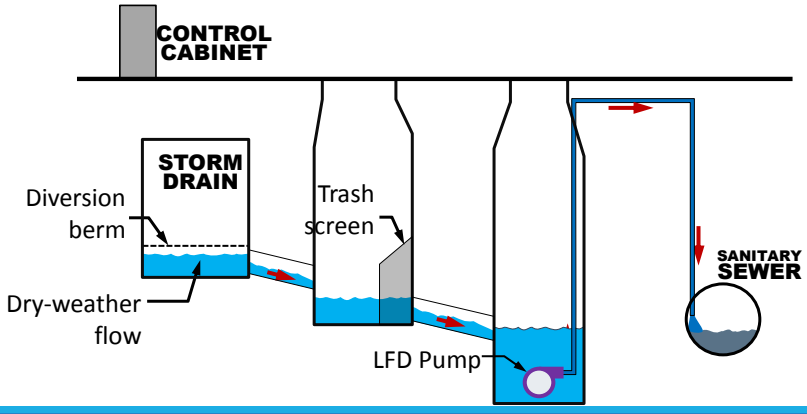
Hermosa Beach – Pier Avenue Improvement Project

Green Street Retrofit

- 33-acre drainage area
- Multi-benefit streetscape project
- Reduced pollutant loading and flooding
- Widening of pedestrian walkways
- New bikeways
- Safer crosswalks
- Landscaped Median
- Bulb-outs

Seven (7) Low Flow Diversions on Major Storm Drains in Beach Cities WMG

Address Santa Monica Bay dry weather bacteria TMDLs



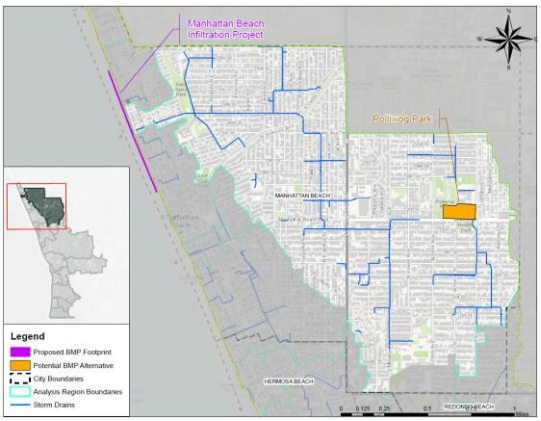
Santa Monica Bay Watershed

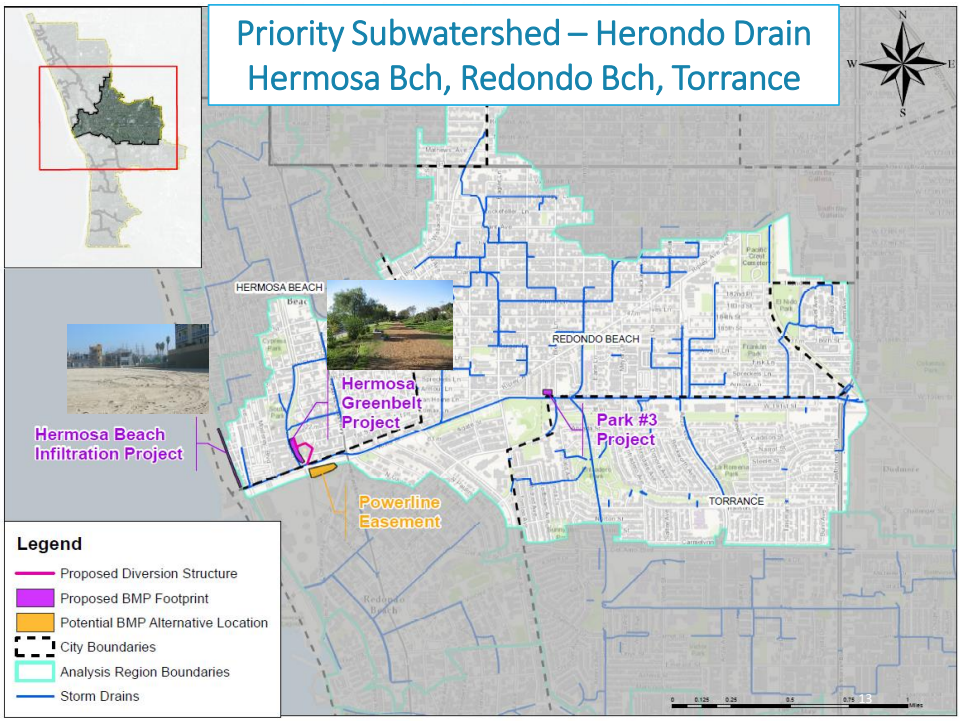
Proposed Regional BMPs

Priority Subwatershed - 28TH Street MB

Diverts runoff from six outfalls to subsurface, linear infiltration trench

Tributary area = 1,600 acres





Dominguez Channel Watershed

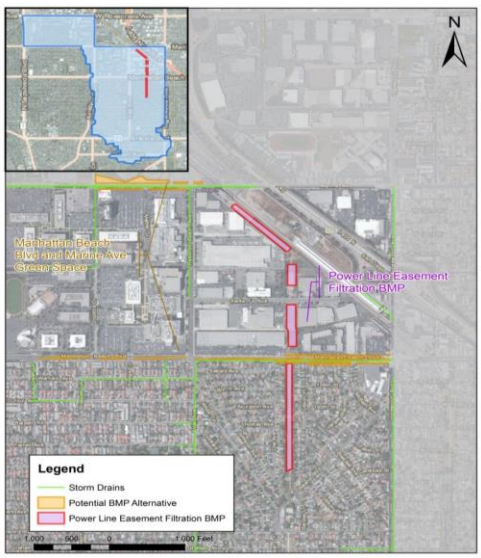
Proposed Regional BMPs

Powerline Easement

Marine Ave & Manhattan Bch Blvd.

Diversion to subsurface engineered biofiltration system

Tributary area = 1,500 acres



Examples of Existing Distributed BMPs

Connector Pipe Screens

Continuous Deflection Systems

Retractable and Fixed Screens

Permeable Concrete

Non-Structural & Institutional BMPs

- Clean Bay Restaurant Program
- Stormwater Awareness Website (www.southbaystormwaterprogram.com)
- Water Efficient Landscape Ordinance
- Plastic Bag Ban
- Polystyrene Ban
- No Smoking in Public Areas
- Pet Waste Stations & Dog Parks
- CalGreen Code
- LID Ordinances & Green Street Policies

Project Implementation Costs

Summarized costs based on proposed structural BMPs (distributed and regional)

Excluded: Annual monitoring costs (CIMP), costs of implementing baseline and enhanced MCMs

Project schedules will be aligned with compliance deadlines for the water body-pollutant combinations
- (between 2018 and 2032)

Cost Component	Range (low-high)
Construction	$43 – 89 Million
Annual O&M	$2.0 - 3.1 Million
Total 20-year Life-Cycle (not discounted)	**$82 – 150 Million**

Financial Strategy Opportunities:

STRATEGIES:

- **Grants**
  - Prop 1 Water Bond
  - IRWMP
  - USEPA 319 Grants
  - Clean Beaches Initiative
- **Fees**
  - Local Stormwater Fees
  - Sales Tax
- **Legislative**
  - Amend Prop 218
  - Source Control (i.e. SB 346)
- **General Funds**

EXAMPLES:

- Dedicated storm drain fee(s)
- Solid waste management surcharge
- Water service surcharge
- Property assessment
- Vehicle license and rental fees
- Fines
- Financial subsidy to encourage private sector participation in the development of local and district-wide projects
- One time capital recovery fee
- Taxes (e.g. fuel taxes)

Beach Cities EWMP Planning Outreach Meetings for Stakeholders

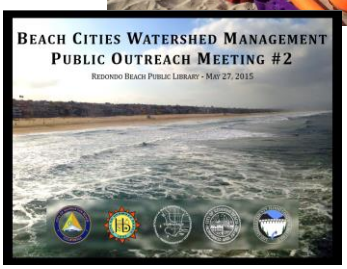
Work Plan & CIMP: May 21, 2014

Draft EWMP: May 27, 2015

Invitations emailed to stakeholders

Advertised in:

- **Daily Breeze**
- **Beach Reporter**



Elected Official Support

Agency	Draft EWMP Approved by City Councils/Board
Hermosa Beach	June 23, 2015
Manhattan Beach	June 2, 2015
Redondo Beach	June 16, 2015
Torrance	June 9, 2015
Los Angeles County	May 26, 2015

Questions

Low Impact Development Ordinances and Green Street Policies

Agency	LID Ordinance Adoption Date	Green Street Policy Adoption Date
Hermosa Beach	May 26, 2015	April 28, 2016
Manhattan Beach	April 21, 2015	April 7, 2015
Redondo Beach		
Torrance		

Marina del Rey EWMP Overview

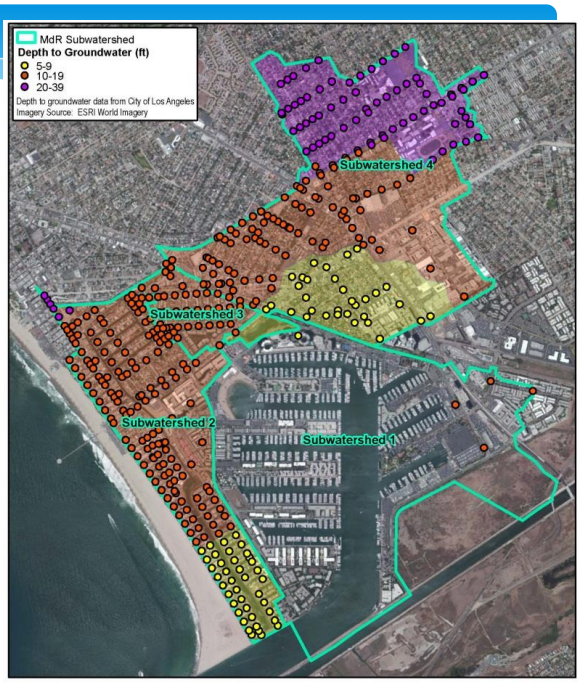
TJ Moon
County of Los Angeles
on behalf of the Marina del Rey EWMP Agencies

Marina del Rey Watershed

- 1,409 Acres
  - 4 Sub-watersheds
- Land Uses:
  - Residential 44%
  - Industrial/Commercial 21%
  - Transportation 21%
  - Vacant 0.5%

Unique Challenges

- TMDL Compliance Schedule
  - Toxics (2018)
  - Bacteria (2021)
- High Groundwater Table
- Dense Urban Area

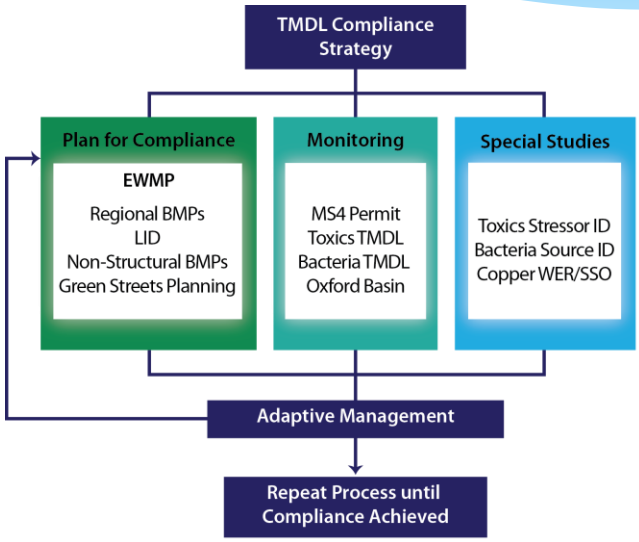


Watershed Priorities

- Toxics TMDL
  - Metals
    - Copper
    - Zinc*
    - Lead
  - Organics
    - DDT/DDE
    - PCB
    - Chlordane
- Bacteria TMDL

*controlling pollutant

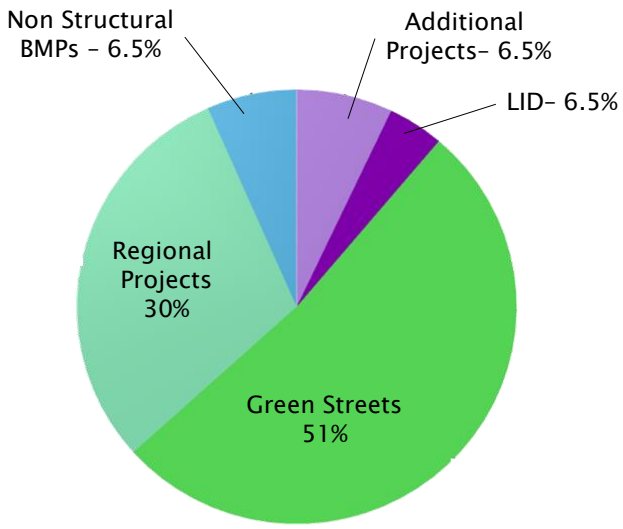
TMDL Compliance Strategy



Required Load Reduction

Parameter	1A Back Basins	1B Front Basins	3 Boone Olive	4 Oxford Basin	Total
Total Tributary Area (acres)	104	264	70	646	**1085**
Total Volume to be Mitigated (ac-ft)	72	172	45	370	**658**
Target Load Reduction	96.6%	95.5%	87.4%	95.4%	**95.30%**

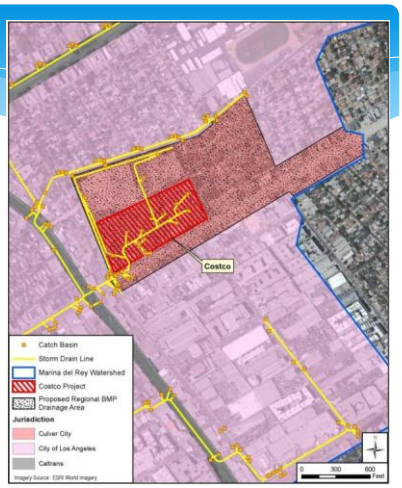
BMP Compliance Solution



Regional Projects

Costco Project

- Culver City – Costco partnership
- Capture 100% of 85th Percentile event from 42 acres (all of Culver City)



Distributed Regional BMPs

Distributed Green Streets

- Venice Neighborhood Project

Early Action Project – Parking Lot Projects


Parking Lot 5 – Biofiltration


Parking Lot 7 – Bioretention

Projects completed on September 2014

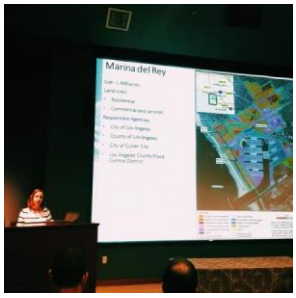
Financial Strategy

- **Marina del Rey**
  - $40 Million already spent on monitoring, studies, and projects
  - $1.5 Million/year for proposed CIMP costs
  - $0.5 Million for development of EWMP and CIMP
- **Grants**
  - Prop 1 Water Bond
  - IRWMP
  - USEPA 319 Grants
  - Clean Beaches Initiative
- **Fees**
  - Local Stormwater Fees
  - Sales Tax
- **Legislative**
  - Source Control (i.e. SB 346)
- **General Funds**

Stakeholder Meetings

L.A. Zoo

- March 19, 2015
- November 20, 2014
- April 10, 2014

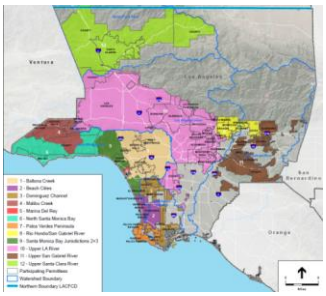


Elected Official Support

Agency	Board/Council Approval Date
Los Angeles	June 16, 2015
Culver City	June 8, 2015
County of LA	May 26, 2015
LACFCD	May 26, 2015

Program Environmental Impact Report

- Development of Website – LACoH2Osheds.com
- 9 Public Outreach Meetings throughout County
- 6 Council of Governments presentations
- Press Releases/Twitter Announcements
- Newspaper publications



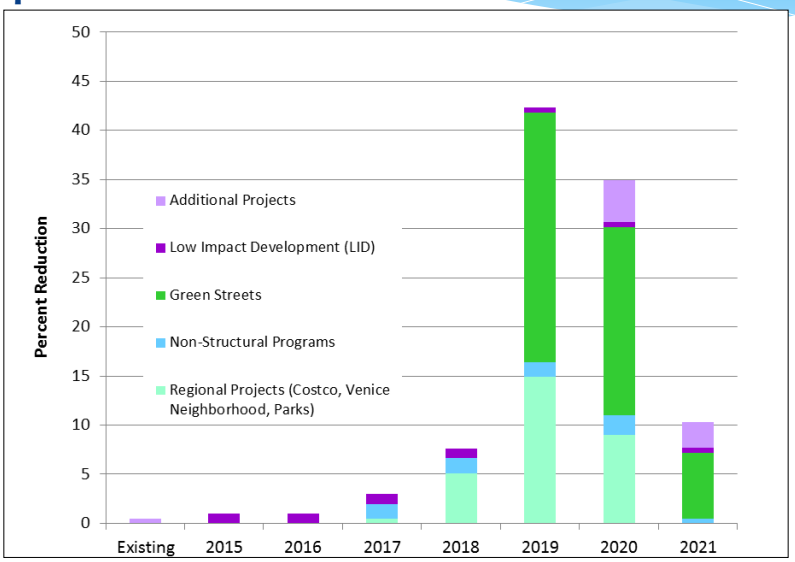
Conclusion

Questions? Email:
TJ Moon
tmoon@dpw.lacounty.gov

Estimated Implementation Costs

Agencies	Structural BMPs	Nonstructural BMPs	Operations & Maintenance	Total Cost
City of Los Angeles	$249 M	$3 M	$32 M	$284 M
County of Los Angeles	$87 M	$1 M	$12 M	$101 M
City of Culver City	$7 M	$0.1 M	$0. 9M	$8 M
Total Cost (2015 dollars)	$343 M	$4.2 M	$44 M	$392 M

Implementation Schedule



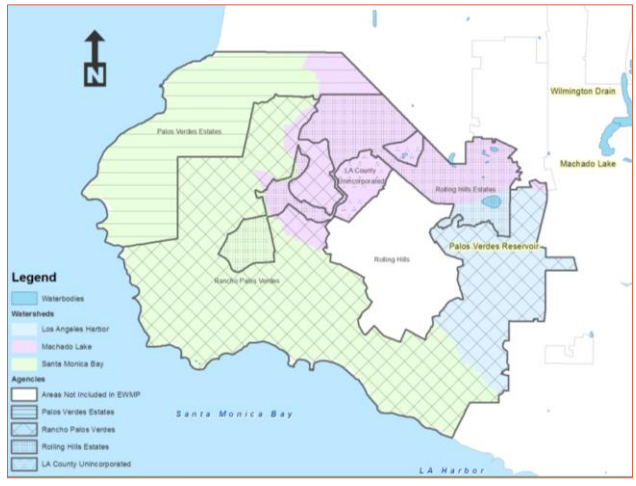
Low Impact Development and Green Street Policy

Agency	LID Adoption Date	Green Street Policy Adoption Date
County	November 2013	June 2011
Los Angeles	October 2011	July 2011
Culver City	November 2014	November 2014

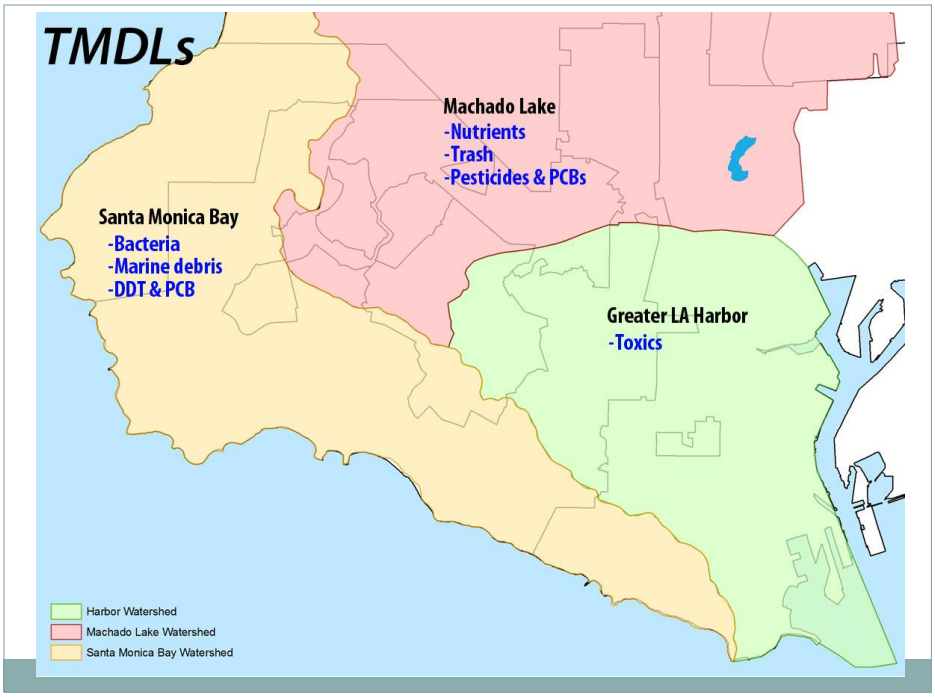
Palos Verdes Peninsula EWMP Watershed Management Group

Participating Agencies:

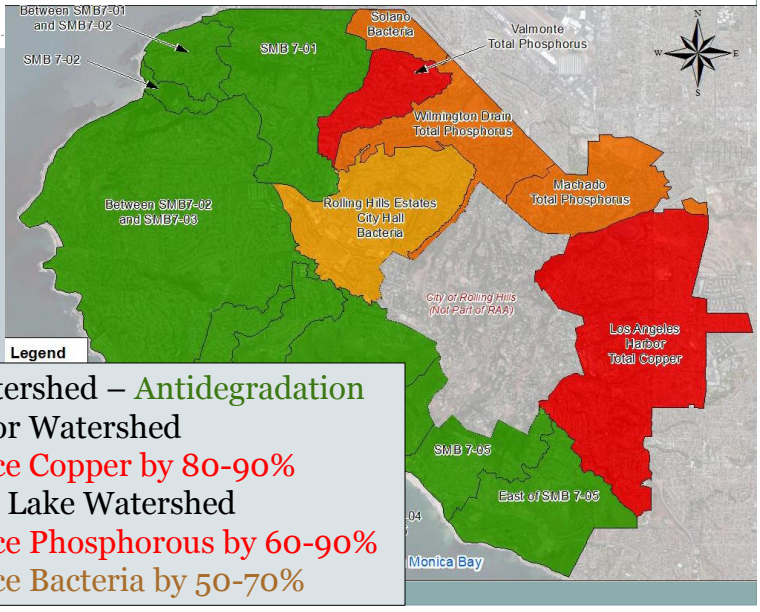
- **Rancho Palos Verdes**
- **Palos Verdes Estates**
- **Rolling Hills Estates**
- **County of Los Angeles**
- **Los Angeles County Flood Control District**



Peninsula EWMP Agencies



Water Quality Priorities

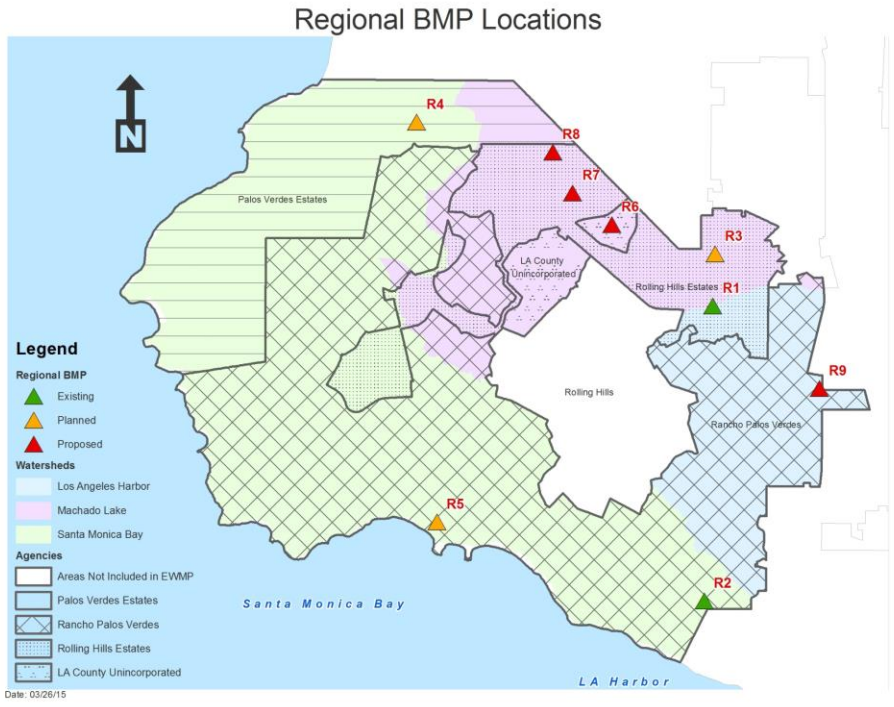


- SMB Watershed – Antidegradation
- LA Harbor Watershed
  - Reduce Copper by 80-90%
- Machado Lake Watershed
  - Reduce Phosphorous by 60-90%
  - Reduce Bacteria by 50-70%

Technical Challenges

- Machado Lake Nutrient TMDL Final Compliance Deadline 2018
- Machado Lake Pesticides and PCBs TMDL Final Compliance Deadline 2019
- Significant occurrence of geotechnical hazards
  - Infiltration infeasibility
- Machado Lake Watershed held to very low WQBELs, particularly for phosphorus
  - Traditional biofiltration BMPs would not satisfy necessary reductions

Distributed Structural BMPs



Regional BMPs - Casaba Estates (Butcher Ranch)

- Completed – Early Action
- Located in Rolling Hills Estates
- Pre-existing ravine re-graded to remove standing water conditions
- Rehabilitated into a **bioretention system**
- Drainage area: ~28.62 acres

Regional BMPs - San Ramon Canyon

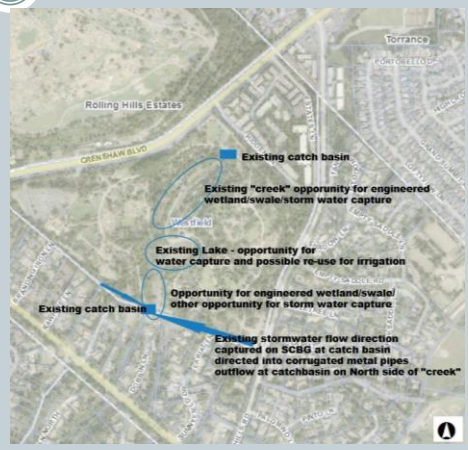
- Completed September 2014 – Early Action
- Located in the City of Rancho Palos Verdes
- Erosion Reduction
- Landslide Stabilization
- Ecosystem Restoration

Regional BMPs - Chandler Quarry Project

- Western Drainage Area : 707 acres
  - Debris Basins
  - Water Quality/ Sediment Basin
  - Flow Infiltration System
- Eastern Drainage Area: 230 acres
  - Two Manufactured Wetlands Systems

Regional BMPs - South Coast Botanic Garden

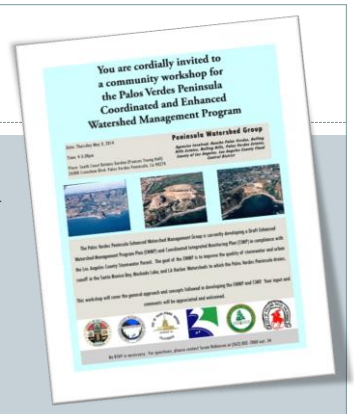
- As a part of the SCBG Conceptual Vision Plan, additional enhancements are being considered:
  - Existing creek to an **engineered wetland, swale, or stormwater capture facility**
  - Existing lake for **stormwater capture and possible reuse** for irrigation
  - Existing open space for an **engineered wetland, swale, or stormwater capture facility**
  - Existing catch basin to **divert upstream flows to Regional BMP**



Additional Regional BMPs

- **Machado Lake Watershed BMPs**
  Infiltration Infeasible & Biofiltration Opportunities Limited
  - Treatment Facility or a Subsurface Flow (SSF) Wetland
    - ✓ *Palos Verdes Landfill Regional BMP* } Modeled with RAA
    - ✓ *Valmonte Regional BMP*
  - Walteria Flood Control Basin BMP
  - Low Flow Diversion BMP
  - Fern Creek Stream Restoration
  - Machado Lake Restoration
  - Lake Nutrient TMDL Reopener
- **Los Angeles Harbor Watershed BMPs**
  - *Eastview Park Infiltration Project* } Modeled with RAA
- **Santa Monica Bay Watershed BMPs**
  - *Malaga Cove Water Reuse*
  - *Abalone Cove Water Reuse*

Stakeholder Outreach



- Two workshops were held to engage stakeholders in the Peninsula EWMP development process and solicit input. These stakeholders include:
  - Key City Staff
  - City Council Members and Water Quality and Flood Protection Oversight Committee
  - Governmental Organizations Staff
  - Non-Governmental Environmental Organizations Staff
  - Non-Governmental Organizations Staff
  - Palos Verdes Peninsula Residents
- Three separate meetings were held with specific stakeholders who expressed interest in providing more detailed input into the Peninsula EWMP:
  - South Coast Botanic Garden (SCBG)
  - Palos Verdes Peninsula Land Conservancy (PVPLC)
  - Palos Verdes Golf Club

City Council Meetings

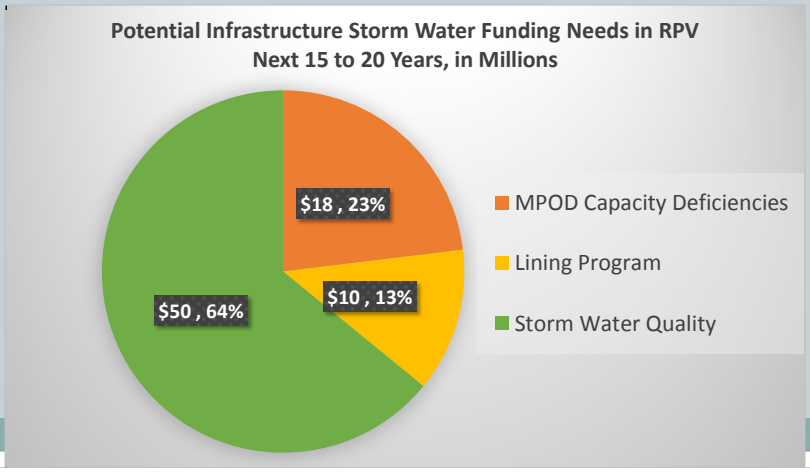
- Elected Officials are familiar with the EMWP plan and submittal of that plan
- All agencies have obtained their Council or Board's approval on LID Ordinances
- All agencies have obtained their Council or Board's approval on Green Streets Policies

How much will it cost?

- We don't know… exactly
- Orders of magnitude higher than what is being spent now
- Estimated Cost for the 3 Modeled Peninsula WMG Projects:
  - Capital: $90 - 130 M (front loaded)
  - Annual O&M: $1 -$1.5 M
- Combined FY15-16 Budgets of Cities is $47.1M

Cost Planning

The tide is turning…SWQ infrastructure needs will soon overshadow flood control needs



SWQ Financial Strategy Needed

- To be established by each CC / County BOS
- General Fund – currently used for SWQ
- State Bonds & Grants – competitive & revenue is uncertain
- Dedicated Fee Efforts – Prop 218, etc.
- Pursuing partnerships and looking for ways to collaborate
- Our leadership is wrestling to develop strategies to meet demands of a NEW infrastructure category that enters as the LARGEST need

THANK YOU

DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA - EWMP

July 9, 2015

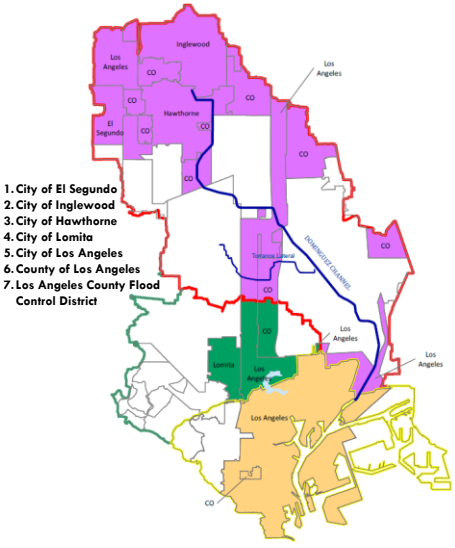
Dominguez Channel WMA Group

2

- Group's jurisdiction:

58 sq. miles of 133 sq. mile total Watershed Management Area

- Fully built out watershed
- High percentage of impervious area
- Top Landuses:
  - 28% Single Family
  - 18% Commercial
  - 16% Industrial
  - 16% Other Urban (Transportation)
  - 14% Multifamily Residential



11-87

RB-AR 3174

Early Action Project: Catch Basin Retrofit Project

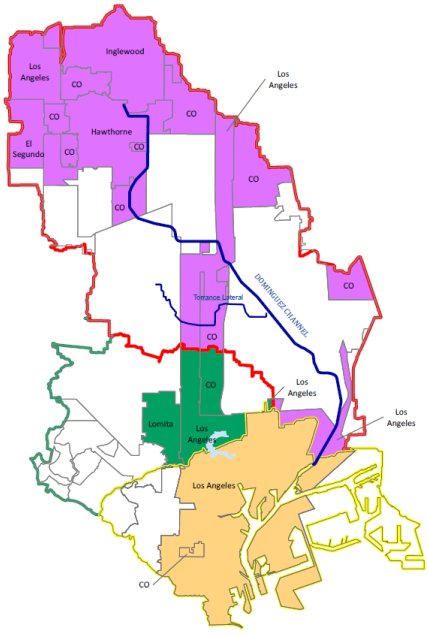
3

- Retrofitted 1,325 CBs with automatic retractable screens (ARS)
- Approximately $1.5 Million
- Completed June 2014

Dominguez Channel Watershed Management Area

3

DISTINCT DRAINAGE AREAS



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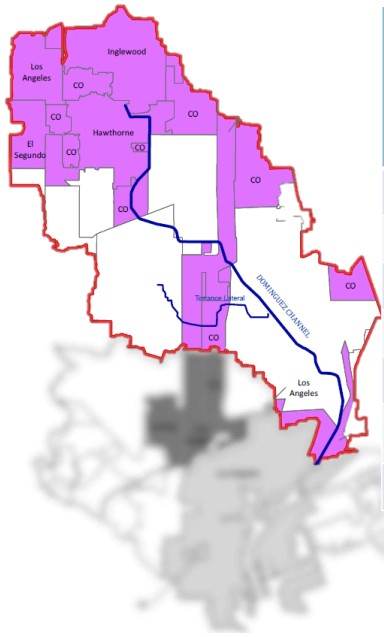
Dominguez Channel Watershed

3

DISTINCT DRAINAGE AREAS



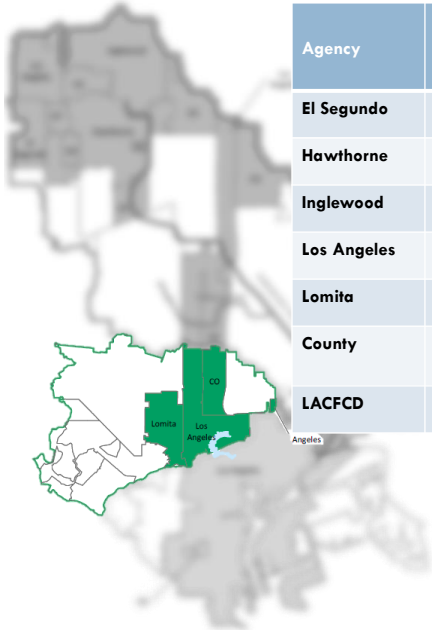
Applicable TMDLs

Agency	Dominguez Channel and Greater LA/LB Harbor Toxics TMDL
El Segundo	✓
Hawthorne	✓
Inglewood	✓
Los Angeles	✓
Lomita	
County	✓
LACFCD	✓

Machado Lake (ML) Watershed

3

DISTINCT DRAINAGE AREAS



Applicable TMDLs

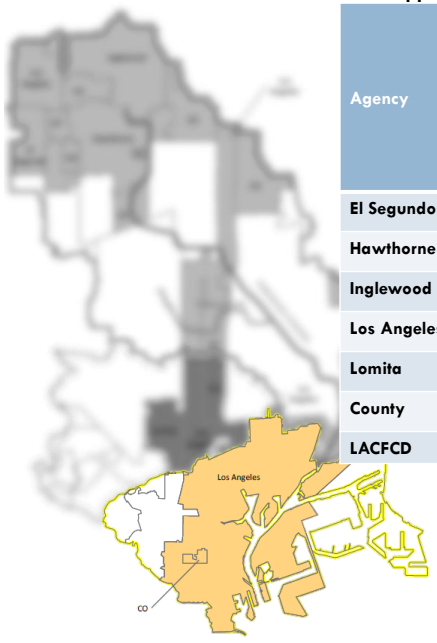
Agency	ML Trash TMDL	ML Nutrients TMDL	ML Toxics TMDL
El Segundo			
Hawthorne			
Inglewood			
Los Angeles	✓	✓	✓
Lomita	✓	✓	✓
County	✓	✓	✓
LACFCD	✓	✓	✓

6

LA Harbor Watershed

3

DISTINCT DRAINAGE AREAS



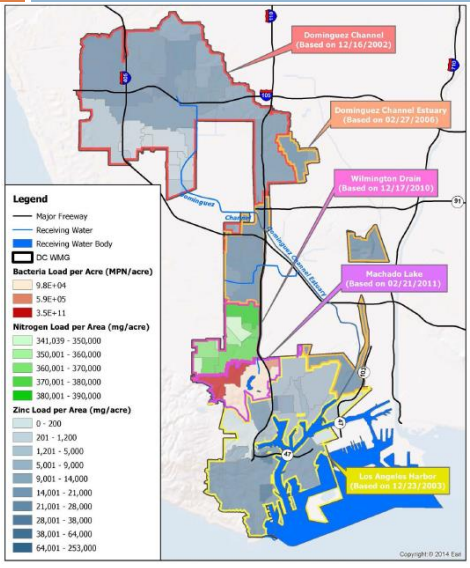
Applicable TMDLs

Agency	Dominguez Channel & Greater LA/LB Harbor Toxics TMDL	LA Harbor Bacteria TMDL
El Segundo		
Hawthorne		
Inglewood		
Los Angeles	✓	✓
Lomita		
County	✓	✓
LACFCD	✓	✓

7

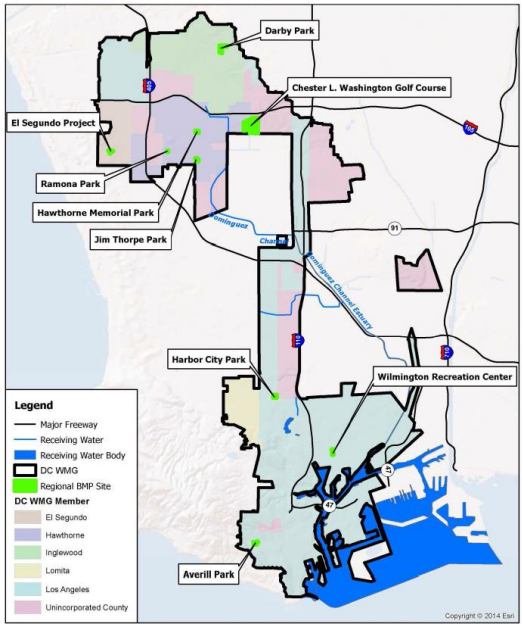
Reasonable Assurance Analysis

8



- Zinc Governs:
  - Dominguez Channel
  - Dominguez Channel Estuary
  - LA Harbor
- Nitrogen Governs:
  - Wilmington Drain
- Fecal Coliform Governs:
  - Machado Lake

Priority Regional Projects (9)



9

Dominguez Channel Compliance Strategy

10

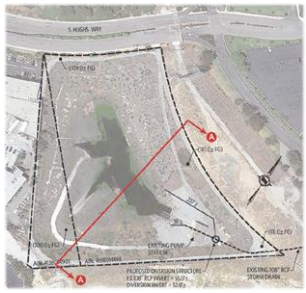
- Priority Regional Projects:

Project Site	Ownership	Parcel Size (ac)	Drainage Area (ac)	Storage Volume (ac-ft.)
Chester Washington Golf Course (North)	County	116	636	26.4
Chester Washington Golf Course (South)			542	26.1
El Segundo Pump Station	El Segundo	6.2	574	27.0
Jim Thorpe Park	Hawthorne	7.6	378	16.0
Ramona Park	Hawthorne	1.7	273	12.9
Hawthorne Memorial Park	Hawthorne	6.6	202	8.2
Darby Park	Inglewood	19.5	106	5.2

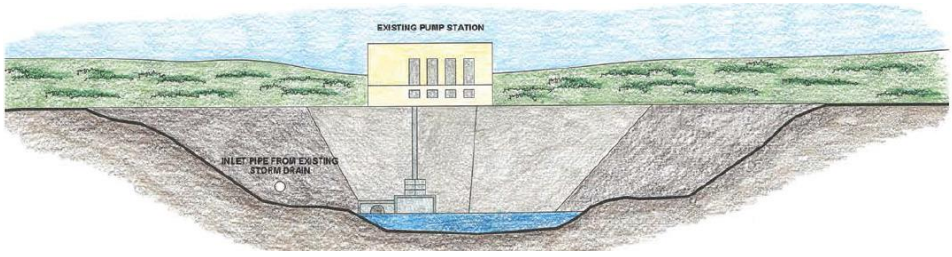
- 287 lane miles of Green Streets
- Final Compliance 2032

Dominguez Channel: El Segundo Pump Station

11



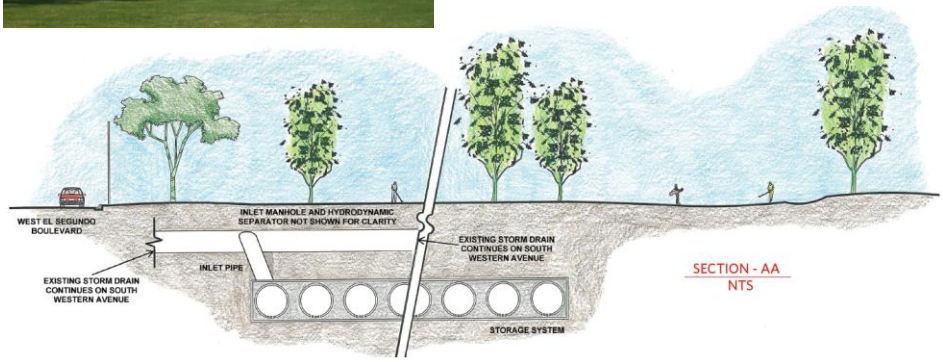
- Approx. 500 acre drainage area
- Site to be re-graded
  - Promote better infiltration
- Design has commenced



Dominguez Channel: Chester Washington Golf Course

12

- 1,178 acre drainage area
- Underground storage with perforated bottom



Machado Lake Compliance Strategy

13

- Completed Wilmington Drain Multiuse Project
- Machado Lake Rehabilitation Project underway
- Priority Regional Project:

Project Site	Ownership	Parcel Size (ac)	Drainage (ac)	Storage Volume (ac-ft.)
Harbor City Park	Los Angeles	14.8	4,460	80.7

- 9 lane miles of Green Streets
- Full Capture Devices installed throughout watershed

Wilmington Drain Multiuse Project

14

- Completed June 2015

Machado Lake Ecosystem Project

15




- Est. Cost: $75 million
- Completion Date April 2017

LA Harbor Compliance Strategy

16

- Regional Projects:

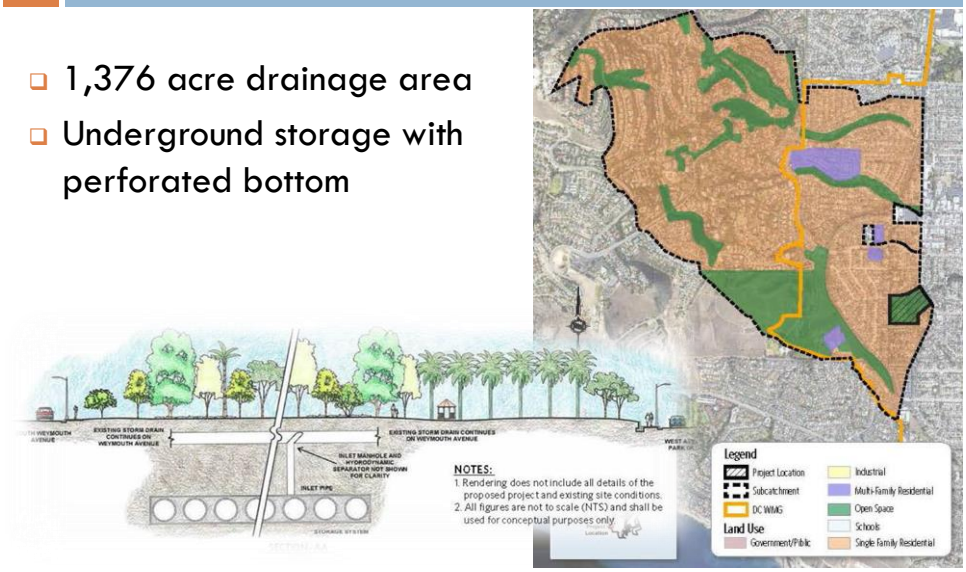
Project Site	Ownership	Parcel Size (ac)	Drainage Area (ac)	Storage Volume (ac-ft.)
Averill Park	Los Angeles	10.7	1,376	21.4
Wilmington Rec. Center	Los Angeles	7.2	273	12.9

- 115 Lane miles of Green Streets
- Comprehensive monitoring program underway
- Final Compliance 2032

LA Harbor Project: Averill Park

17

- 1,376 acre drainage area
- Underground storage with perforated bottom



Implementation Costs / Funding Strategy

18

Costs

- Total EWMP Capital Cost: $1.3 Billion
- Annual O&M at Build-out: $12.4 Million

Funding

- Grants
  - Prop 1 Water Bond
  - IRWMP
  - USEPA 319 Grants
- Fees
  - Local Stormwater Fees
  - Sales Tax
- Legislative
  - Amend Prop 218
  - Source Control (i.e. SB 346)

Stakeholder Outreach

19

- All events held at LA Zoo
- April 10, 2014
  - April 22, 2014 webinar for Dominguez Stakeholders
- November 20, 2014
- March 19, 2015

Local Support from elected officials

20

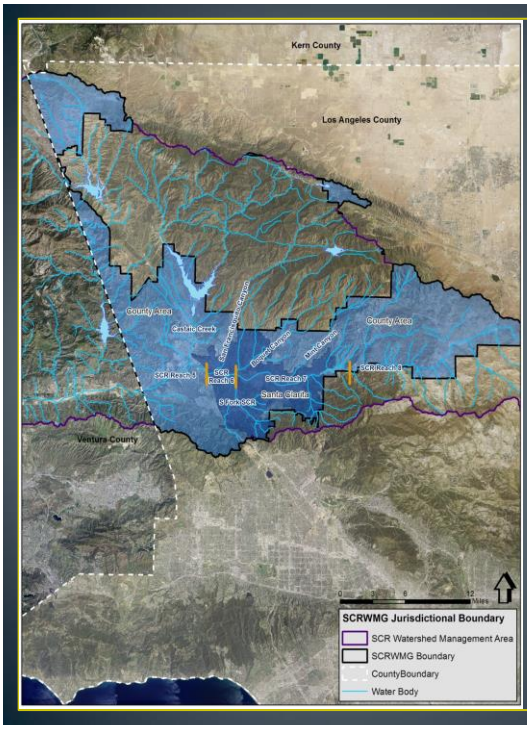
Agency	Elected Official Support
El Segundo	Received Authorization in 2014.
Hawthorne	June 23, 2015: City Council Approval
Inglewood	June 23, 2015: City Council Approval
Los Angeles	June 16, 2015: City Council Approval
Lomita	June 24, 2015: City Council Approval
County	May 26, 2015: Board of Supervisors Approval
LACFCD	May 26, 2015: Board of Supervisors Approval

DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA - EWMP

July 9, 2015

Presentation Upper Santa Clara River EWMP

City of Santa Clarita
Los Angeles County
Los Angeles County Flood Control District



Upper Santa Clara River Watershed

Upper Watershed

- One of the most natural rivers left in southern California
- 90% open, undeveloped land
- 262,748 acres

EWMP Area

- City of Santa Clarita
- County of Los Angeles
- Los Angeles County FCD
- 121,423 acres

Projects Status

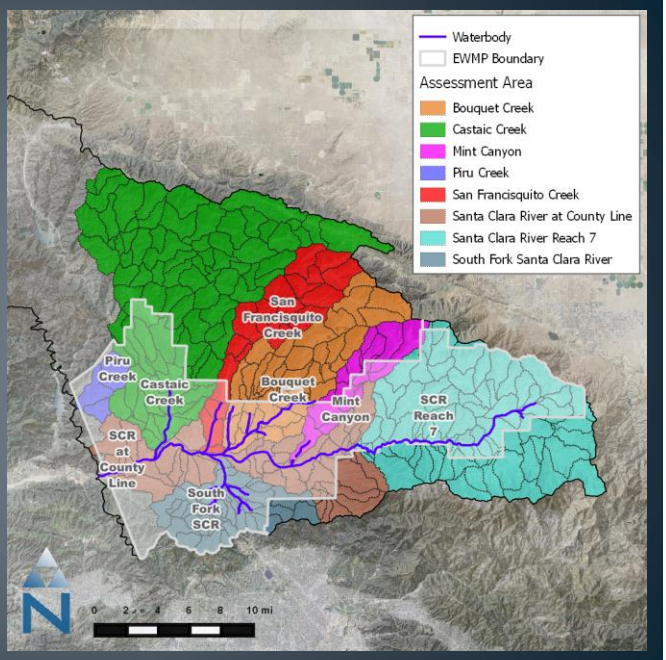
- Early Action Best Management Practice
  - Trash removal best management practices in commercial and industrial areas
  - City of Santa Clarita - installing full capture devices in Rye Canyon Business Park, permits acquired
  - County of Los Angeles – installing full capture devices in commercial and industrial areas
- LID Ordinance
  - Both City and County have adopted LID Ordinances
- Green Streets Policy
  - Both City and County have approved green streets policies

EWMP Overview

- Elements
  - Water Quality Priorities
  - Watershed Control Measures
  - Reasonable Assurance Analysis - WMMS
  - EWMP Implementation Plan
  - Financial Strategy
  - Assessment and Adaptive Management
- More detailed and specific implementation actions through 2022 based on leveraging existing funding sources, including City Stormwater Utility Fee
  - After 2022 actions will be modified in response to analysis of water quality monitoring data collected under the coordinated integrated monitoring program
- Short Term Approach
  - Source control
  - Low Impact Development
  - Priority and Tier A Regional Best Management Practices on Public Property

Reasonable Assurance Analysis

260 Sub Watershed Analyzed by WMMS

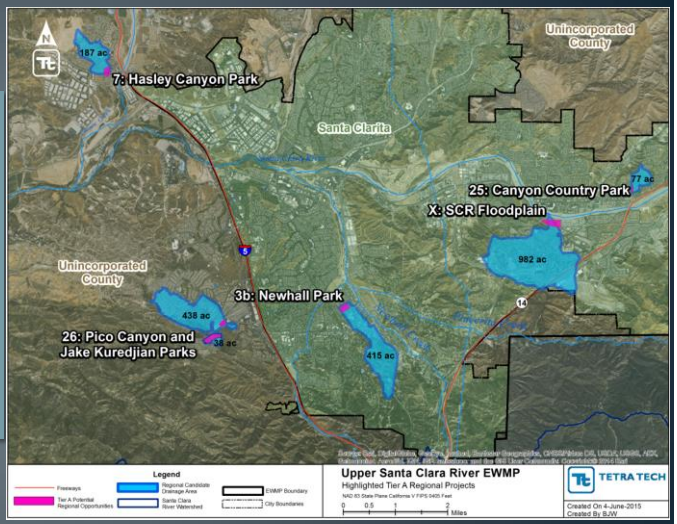


Summary of Community Efforts

- Six public, open house style events:
  - April 2014, November 2014, and May 2015
- Three presentations to the Upper Santa Clara River Integrated Regional Water Management Group
- One presentation to local business group
- One presentation to the Lower Santa Clara River Integrated Regional Water Management Group Sub-Committee
- Announcements at Town Council meetings
- Social media
- City of Santa Clarita 2020 Visioning Plan
  - "Enhance water quality in the Santa Clara River by implementing the Stormwater Enhanced Watershed Management Plan"

Drainage Areas of Highest Priority Regional Projects

Six projects prioritized through technical analysis and stakeholder input

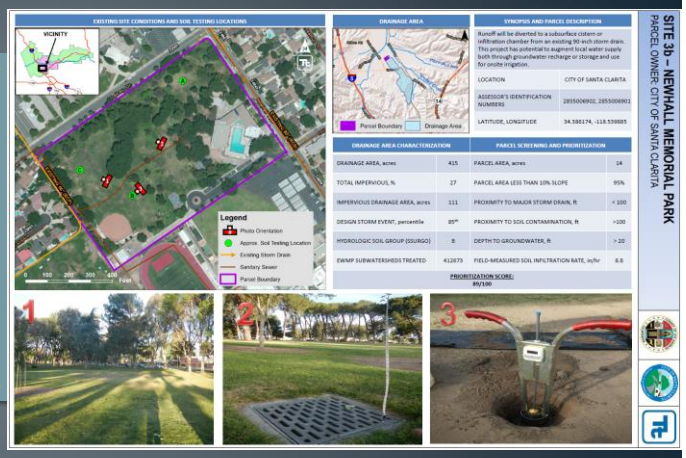


Highest Priority Regional Projects

City of Santa Clarita

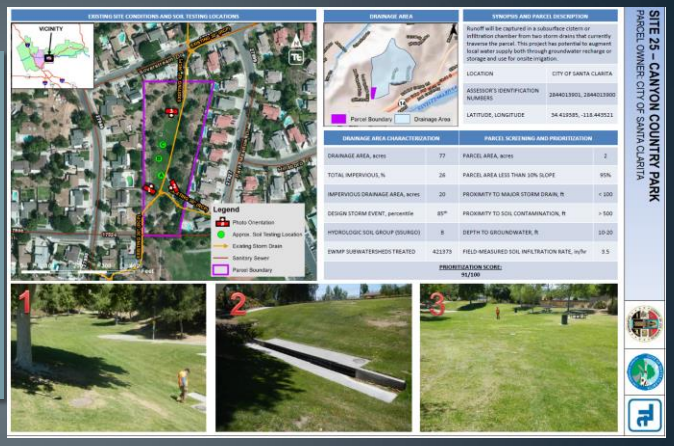
Newhall Park

- Underground regional BMP
- 10 acre-foot capacity
- Multi benefit (groundwater, flood control, park function)
- Estimated cost $10 million



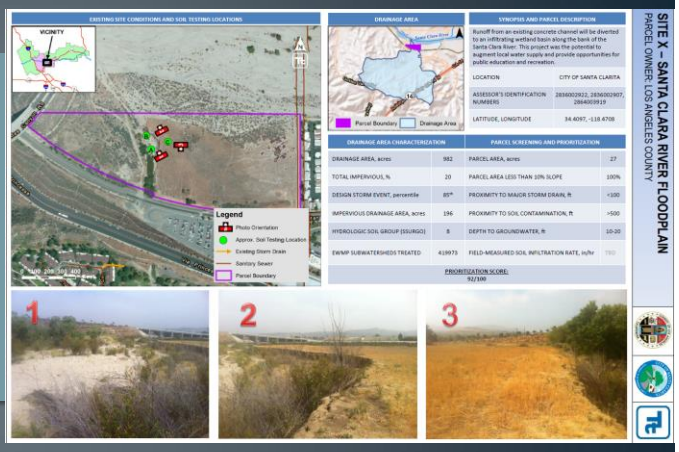
Canyon Country Park

- Underground regional BMP
- 2.8 acre-foot capacity
- Multi benefit (groundwater, flood control, park function)
- Estimated cost $2.5 million



SCR Floodplain

- Wetland basin
- 18 acre-foot capacity
- Multi benefit (groundwater, habitat, public education, new park)
- Estimated cost $10 million



Highest Priority Regional Projects

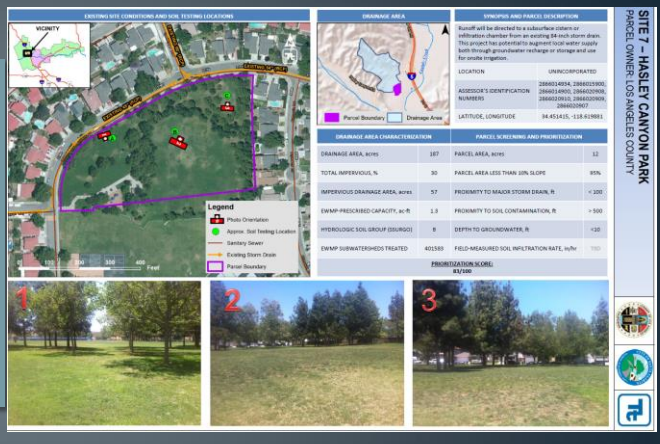
County of Los Angeles

Jake Kuredjian Park

- Underground regional BMP
- 8 acre-foot capacity
- Multi benefit (groundwater, flood control, park function)
- Estimated cost $7 million

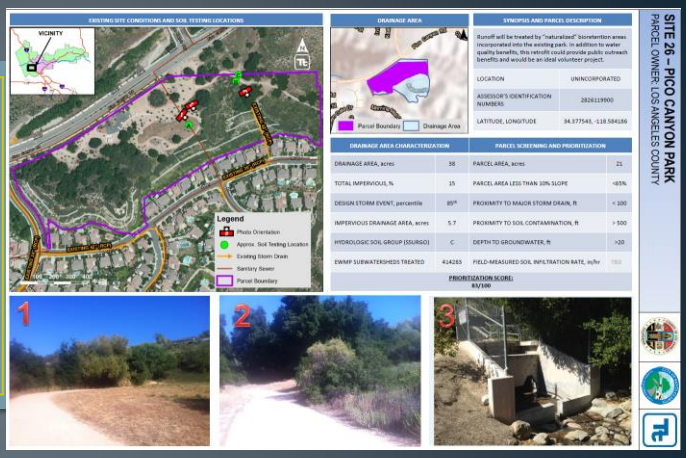
Hasley Park

- Underground regional BMP
- 1.3 acre-foot capacity
- Multi benefit (groundwater, flood control, park function)
- Estimated cost $1.5 million



Pico Canyon Park

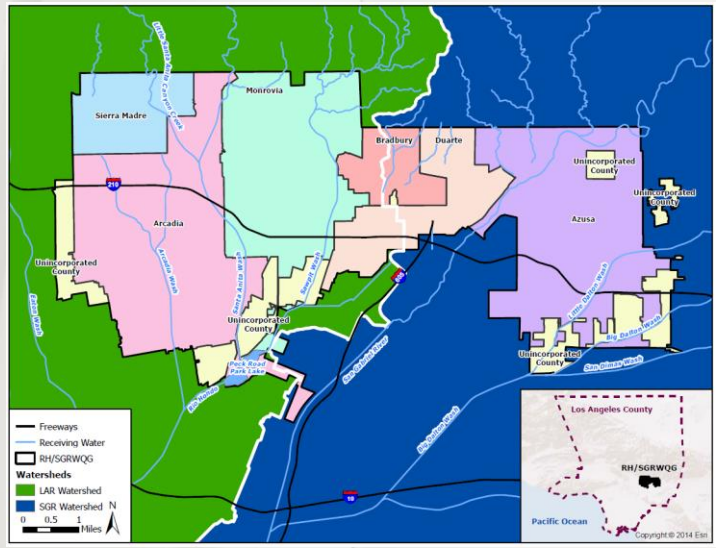
- Bioretention BMP
- .6 acre-foot capacity
- Multi benefit (public education, groundwater, flood control, park function)
- Estimated cost $469,000



Overview

- Background
- Water quality priorities
- Proposed control measures
- Early action projects
- Cost and potential funding strategies
- Outreach events
- Local support

Our Water Quality Group's Story



Water Quality Priorities

Limiting Pollutant Concept

If

We capture pollutant with the highest load or that is most difficult to treat

Then

All other water quality priorities are addressed

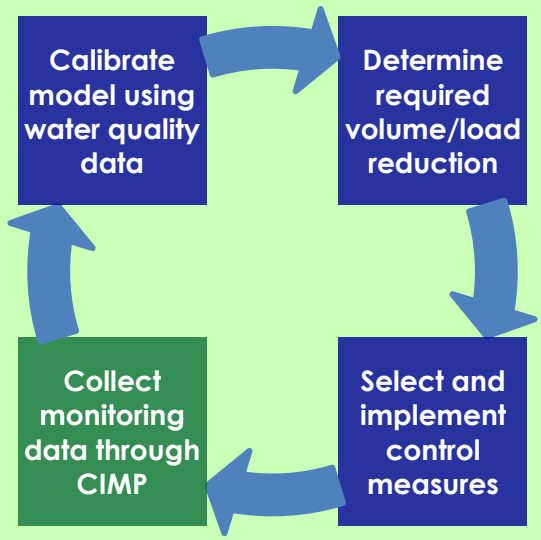
Limiting Pollutants

Los Angeles River = Zinc
San Gabriel River = Lead

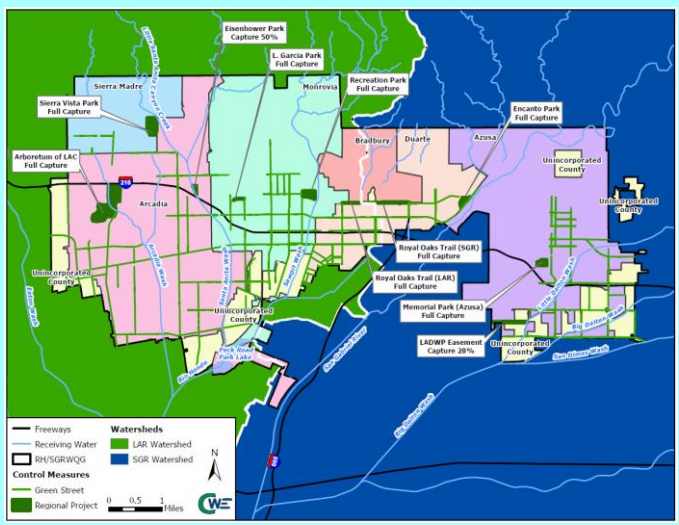
11-107

RB-AR 3194

Control Measures and RAA



Proposed Control Measures



Regional Projects		
Recommended Project Site	Rank	Schedule
LAR Watershed		
Recreation Park	1	2020
Arboretum of LAC	2	2021
Sierra Vista Park	3	2020
Royal Oaks Trail (LAR)	3	2023
L. Garcia Park	5	2024
Eisenhower Park	6	2024
SGR Watershed		
LADWP Easement	1	2020
Encanto Park	2	2020
Memorial Park (Azusa)	3	2023
Royal Oaks Trail (SGR)	3	2023

Example Regional BMPs

Subsurface Infiltration

Recreation Park
Sierra Vista Park
Royal Oaks Trail (LAR)
L. Garcia Park
Eisenhower Park

Encanto Park
Memorial Park
Royal Oaks Trail (SGR)

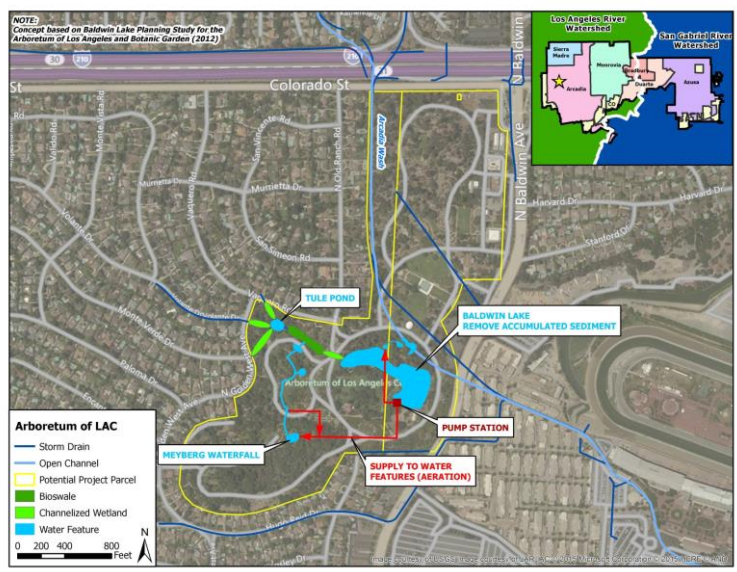
Baldwin Lake

Arboretum of LAC

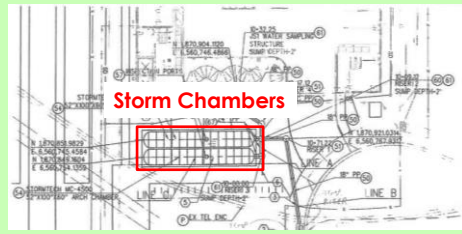
Aboveground Infiltration

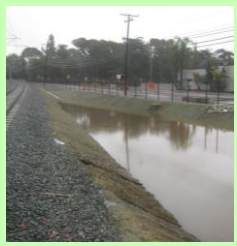
LADWP Easement

Regional BMPs – Arboretum of LAC



Early Action Projects
Monrovia Station Square





Detention Basin

Permeable Pavers

Green Streets

Permeable Sidewalks

Early Action Projects
Azusa Metro Gold Line

Early Action Projects
Arcadia City Hall Parking Lot




Early Action Projects
Sierra Madre Dry Wells



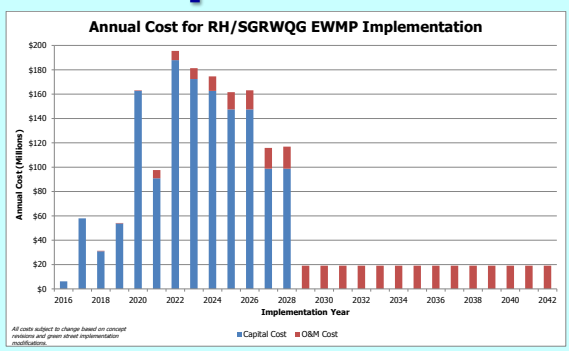

11-111

RB-AR 3198

Committed to Implementation

$3,161,580+ Invested

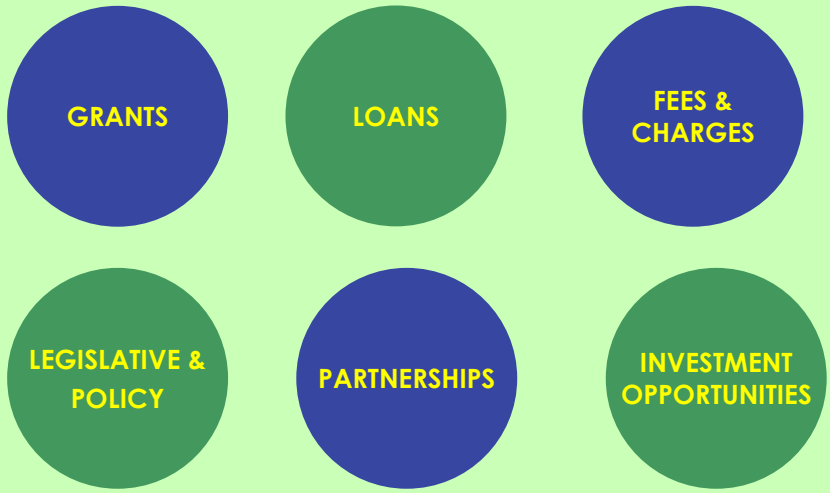
Implementation Cost



$1.4 Billion
(Capital Cost)

776 acre-feet of capture = 3 Rose Bowls

Funding Strategies



Outreach Events

May 5, 2014
39 Participants
LACDPW

March 9, 2015
95 Participants
Arboretum of LAC

Local Support

Members have been authorized to submit the EWMP and are committed to doing what can feasibly be afforded

Any

Questions?

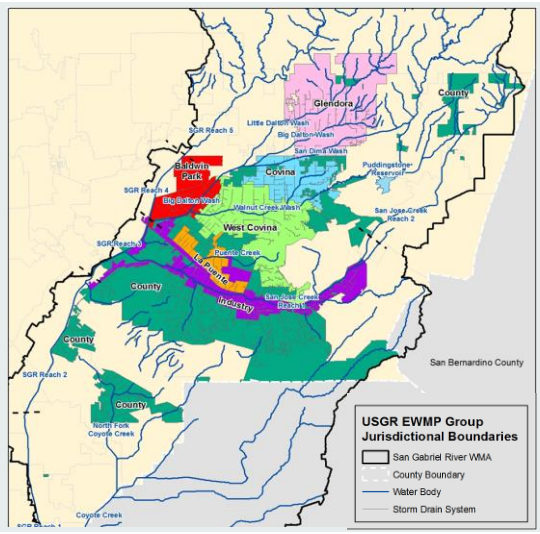
ENHANCED WATERSHED MANAGEMENT PROGRAM

FOR THE UPPER SAN GABRIEL RIVER GROUP

CITIES OF BALDWIN PARK, COVINA, GLENDORA, INDUSTRY, LA PUENTE, WEST COVINA, COUNTY OF LOS ANGELES, AND LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

JULY 9 2015

UPPER SAN GABRIEL RIVER GROUP



2

WATER QUALITY PRIORITIES

Governing Pollutants – Zinc and Bacteria

Highest (1)

- **Total Maximum Daily Loads**
  - Zinc – San Gabriel River Metals TMDL
  - Nutrients & Legacy Pollutants – Puddingstone Reservoir (LA Area Lakes TMDL)

High(2)

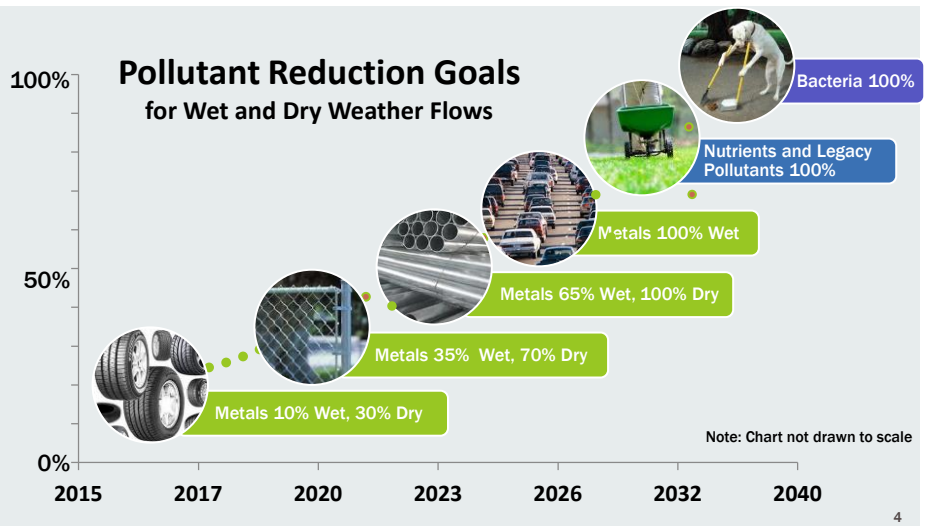
- **Impaired on 303(d) list**
  - Bacteria (San Gabriel River Bacteria TMDL)

Medium (3)

- **Exceedances found during EWMP data analysis**
  - Salts, other metals, and pollutants without exceedances in last 5 years

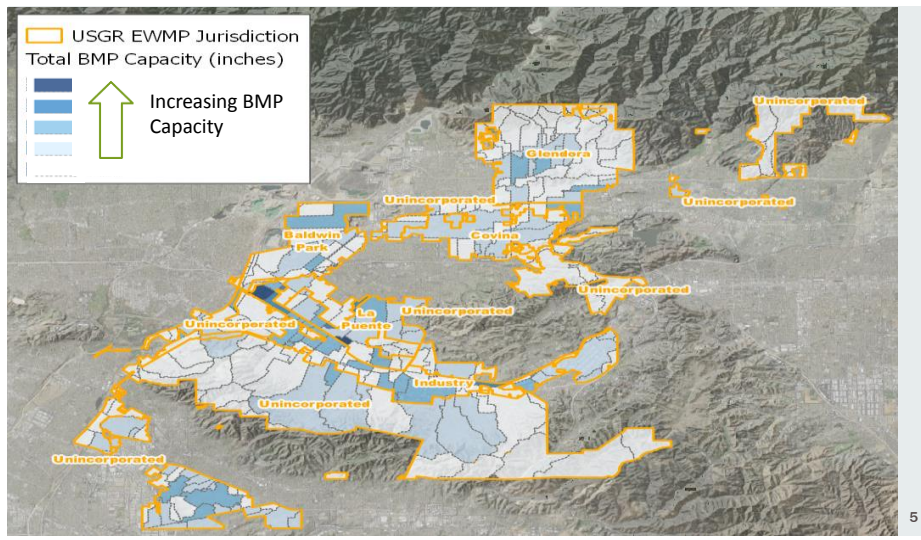
3

IMPLEMENTATION SCHEDULE



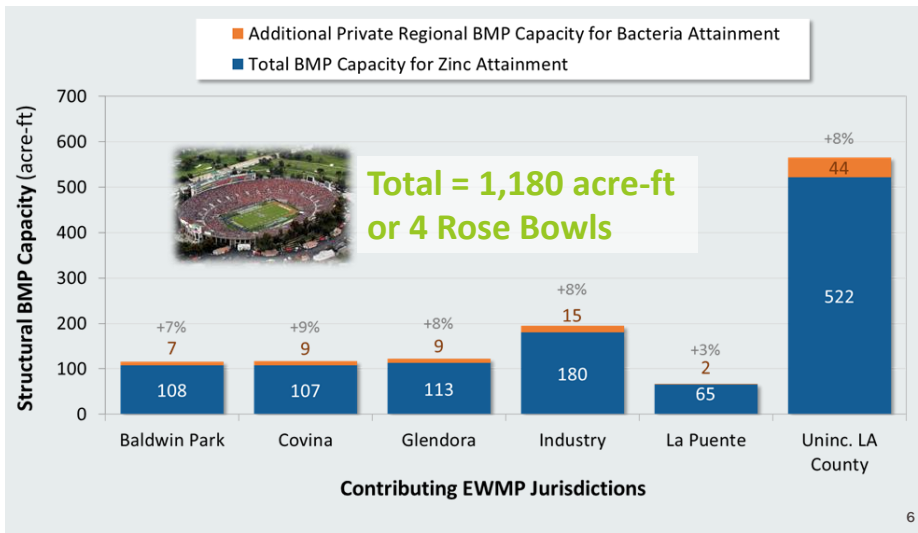
4

BMP CAPACITY MAP
(SUBWATERSHED-LEVEL DETAIL)



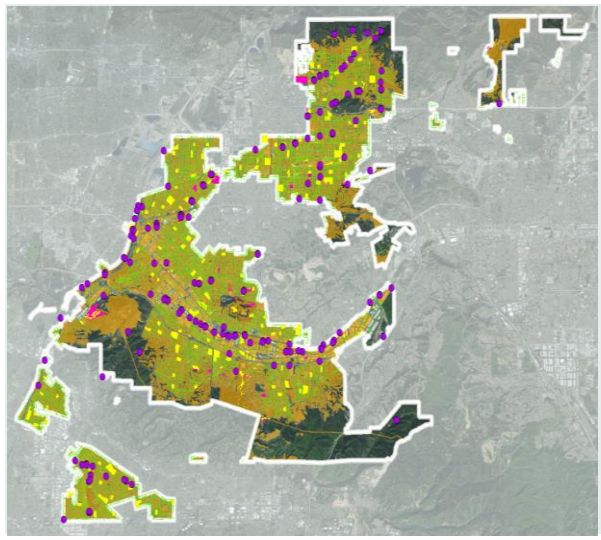
5

BMP CAPACITY SUMMARY



6

POLLUTANT REDUCTION STRATEGIES

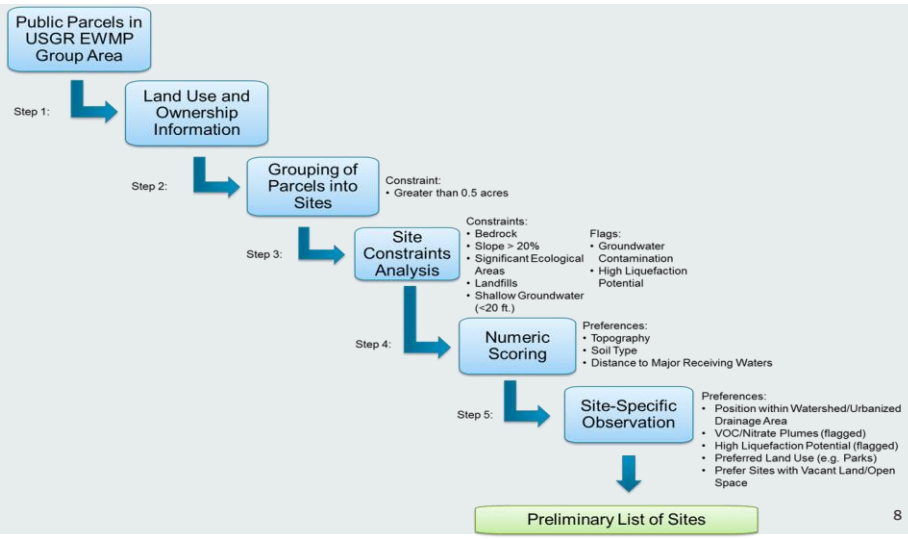


- MCMs & Enhanced MCMs
- LID Incentive Programs – 3%
- Redevelopment/ Residential LID – 2%
- LID on Public Parcels – 8%
- Regional Projects – 36%
- Green Streets – 22%
- Projects on Currently Unavailable Parcels* – 28%

*Locations shown are for illustration purpose only

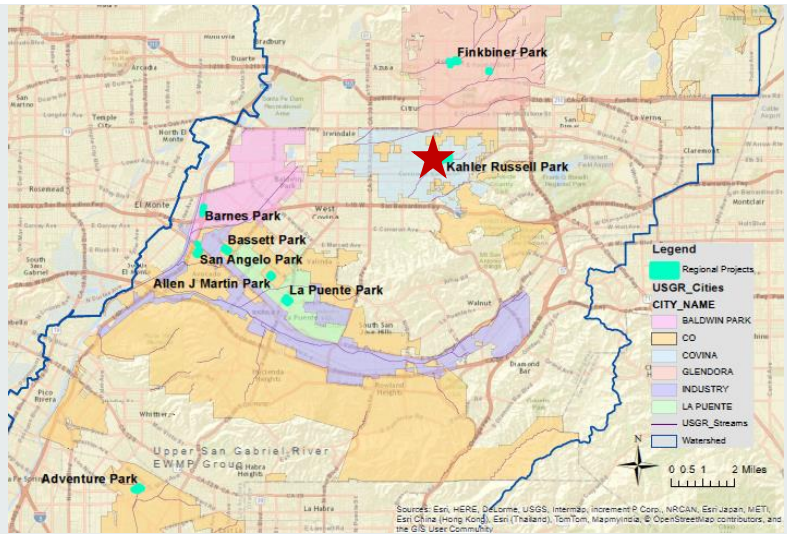
7

IDENTIFYING REGIONAL PROJECTS



8

USGR EXAMPLE REGIONAL PROJECTS



9

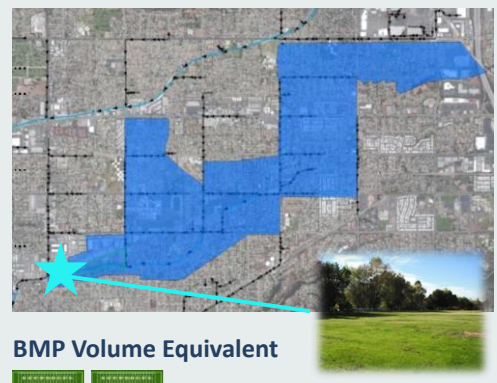
KAHLER RUSSELL PARK

Jurisdiction/Owner
Covina

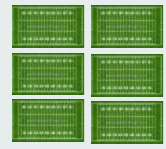
Site Area	17 acres
Drainage Area	1,040 acres
Jurisdictions in Drainage Area	County (44%)
	Covina (41%)
	Glendora (15%)
Design Volume	36.6 ac-ft

Project Cost

Planning & Design	$4,963,000
Construction	$14,178,000
Contingency	$3,545,000
Total Project	$22,686,000



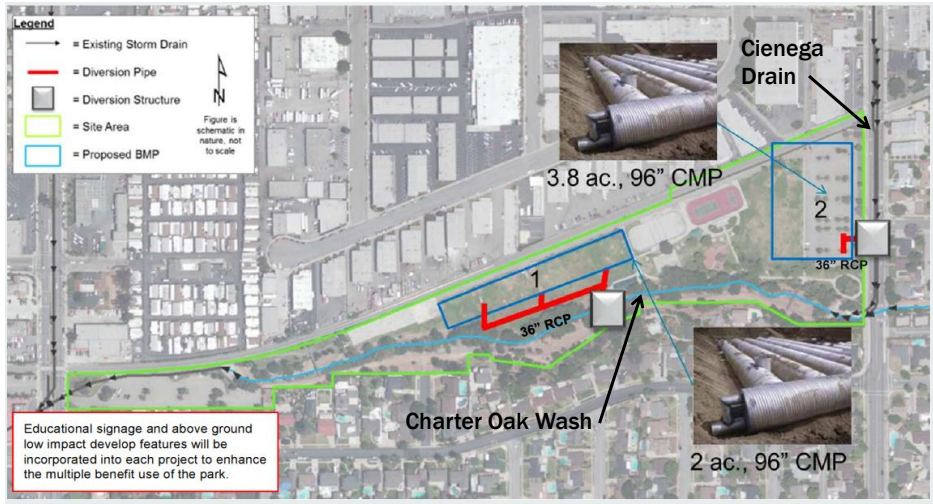
BMP Volume Equivalent



6 Football Fields Covered With 5 Feet of Water

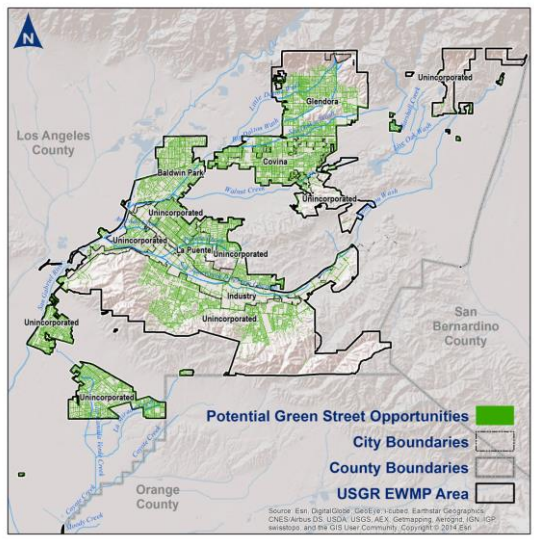
10

KAHLER RUSSELL PARK



11

GREEN STREETS



- Green streets make up about 22% of total BMP capacity
- Detailed analysis identified 1,900+ miles of suitable curb length
- About 70% of developed areas drain to street opportunities

12

EARLY ACTION PROJECT

Avocado Heights Multi-Use Trail Project

- BMP Volume of 5 ac-ft
- Annual groundwater recharge of up to 70 ac-ft
- Total cost about $4M
- Completed in Sept 2014

13

STAKEHOLDER OUTREACH

- May 5, 2014

  Informed stakeholders of EWMP process and invite inputs
- March 9, 2015

  Updated stakeholders on EWMP progress

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ELECTED OFFICIAL SUPPORT

Agency	Board/Council Approval Date
Baldwin Park	Jul 15, 2015
Covina	Jun 16, 2015
Glendora	Jun 23, 2015
Industry	Jun 25, 2015
La Puente	Jun 23, 2015
West Covina	Jun 16, 2015*
County of Los Angeles	May 26, 2015
Los Angeles County Flood Control District	May 26, 2015

* Authorization to Join EWMP Group

15

FINANCIAL STRATEGY

- Already spent or committed:
  - EWMP and CIMP Development: **$1.5 Million**
  - CIMP Implementation FY 14-19: **$5.4 Million**
  - More than two years of staff time
- Grants - Prop 1B, Prop 84 IRWMP
- Private/Public Partnerships
- Fees and Charges
- Water Bond
- Legislative and Policy - LACSD 2015 Legislative Proposal, AB 2403, SB 346, SB 628

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THANK YOU


BALDWIN PARK
CITY OF COVINA CALIFORNIA
CITY OF GLENDORA INCORPORATED 1911
La Puente
WEST COVINA
COUNTY OF LOS ANGELES CALIFORNIA
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

17

Draft Enhanced Watershed Management Programs (DVD)

11-124

RB-AR 3211

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Public Comments on the Draft EWMPs

Commenter	EWMP Name	Page No.
Construction Industry Coalition of Water Quality	All 12 EWMPs	11-126
Joyce Dillard	Ballona Creek	11-129
Joyce Dillard	Dominguez Channel	11-136
Joyce Dillard	Marina del Rey	11-139
Joyce Dillard	Santa Monica Bay JG 2-3	11-142
Joyce Dillard	Los Angeles River	11-144
LA County Sanitation District	Palos Verdes Pennisula	11-183
NRDC-LAWK-HTB	Upper San Gabriel River	11-185
NRDC-LAWK-HTB	Upper LA River, Upper San Gabriel River, North San Monica Coastal, Beach Cities	11-186

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Construction Industry Coalition on Water Quality

August 31, 2015

Mr. Ivar Ridgeway, Chief, Storm Water Permitting
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Via Email: losangeles@waterboards.ca.gov

RE: Opportunity for Public Comment on Draft Enhanced Watershed Management Programs Submitted Pursuant to the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit (NPDES Permit No. CAS004001; Order No. R4-2012-0175)

Dear Mr. Ridgeway:

The Construction Industry Coalition on Water Quality (CICWQ) is submitting comments concerning the preparation of Enhanced Watershed Management Program Plans for twelve watershed management groups in Los Angeles County (EWMPs or Plans). These Plans are also accompanied by Coordinated Integrated Monitoring Program Plans (CIMP). We are submitting this letter on behalf of the CICWQ membership, which is described below.

CICWQ is an advocacy, education, and research 501(c)(6) non-profit group of trade associations representing builders and trade contractors, home builders, labor unions, landowners, and project developers. CICWQ membership is comprised of members of four construction and building industry trade associations in southern California: The Associated General Contractors of California, Building Industry Association of Southern California, Engineering Contractors Association, and Southern California Contractors Association, as well as the United Contractors located in San Ramon. Collectively, members of these associations build a significant portion of the transportation, public and private infrastructure, and commercial and residential land development projects in California.

In preparing this comment letter, we have reviewed twelve Enhanced Watershed Management Plans and their thousands of pages of combined content. Our comments are informed by our membership's collective experience and through CICWQ's years of involvement in the development of regulatory requirements for managing municipal stormwater discharges in the Los Angeles region. Our intent here, rather than to comment on each Plan or CIMP specifically, is to provide input based on some common themes and elements contained in the Plans.

Comments from CICWQ concern four primary areas: (1) Aggregation of Watershed Management Plan Data is Necessary to Understand the Entirety of the Compliance Obligation; (2) The Timing of Monitoring and Capital Expenditures for Monitoring Should Be Commensurate with Installation of Appropriate Best Practices; and (3) The Capital Expenditures Required for Plan Implementation are Staggering and Appear Infeasible.

I. Aggregation of Watershed Management Plan Data is Necessary to Understand the Entirety of the Compliance Obligation

After a review of the 12 EWMPs, it is our recommendation that Regional Board staff aggregate important physical, hydrological, demographic, best practices implementation, and cost data, and place the data collected in context with the entirety of the MS4 permit compliance obligation that is theoretically being addressed through the preparation of Watershed (WMPs) and Enhanced Watershed Management Plans. At the current time, there is no clear comprehensive picture of what is being proposed, and what the proposal will cost. There are 12 different plans prepared, with no understanding of their interconnections, or their interconnections to any other WMPs or individual Plans. We requested such an aggregation approximately one year ago when the DRAFT WMPs were released for public review and note that no aggregation has been provided to date.

II. The Timing of Monitoring and Capital Expenditures for Monitoring Should Be Commensurate with Installation of Appropriate Best Practices

Reviewed collectively, the Plans all appear to place a heavy emphasis and requirement to monitor stormwater discharges during wet weather events at hundreds and perhaps even thousands of locations throughout Los Angeles County. Requiring extensive and costly stormwater discharge monitoring at the outset of watershed plan implementation is counter intuitive and, in our opinion, a waste of financial resources and should be performed in opposite order. Only after the planned networks of regional and distributed best practices are implemented over the years should additional monitoring be required, as this would then inform the Regional Board and stakeholders of effectiveness at an appropriate time.

Requiring more and expensive monitoring at this time is both unnecessary and unhelpful to achieving compliance. Current monitoring programs have demonstrated where impairments or problem areas exist very clearly, and the RAA done for all the Plans acknowledges this fact and lays out a modeled approach for meeting water quality objectives through implementation of existing structural and operational controls and planned structural best practices for installation at a future date. Monitoring is needed when additional best practices are in place, not vice versa. We urge the Regional Board to re-think and change its approach to monitoring.

III. The Capital Expenditures Required for Plan Implementation are Staggering

Using data contained in the twelve EWMPs, the combined cost of implementation is approximately $17.3 Billion, and in most instances this amount appears to also include annual operations and maintenance for time periods running generally through the years 2025 to 2030, although this is not always clear in the Plan documents. In addition, in reviewing the EWMPs and their companion CIMPs, we could not determine each of the 12 CIMP implementation costs, and whether or not these costs were included as part of the annual O&M costs presented in the 12 EWMPs. We ask and urge the Regional Board to make it clear to stakeholders the total cost of program implementation, and the relative proportions that constitute to the total cost.

Regardless of the completeness of the cost obligation presented in the EWMPs, the combined costs of EWMP implementation are staggering, and we do not believe given the current state of stormwater management funding that there is any possibility that LA County or its municipal co-permittees will have the resources to fund EWMP implementation, nor implementation of any group or individual WMPs. Dividing the total proposed EWMP cost of implementation of $17.3 billion by 15 years (assuming across the board compliance in year 2030), yields an annual expenditure of more than $1 billion per year to achieve compliance. This level of annual expenditure appears infeasible, and we can imagine the participating municipalities will have their own challenges in obtaining funding when other pressing needs exist for community health and well-being, and public safety and protection. We urge the Regional Board to recognize and address our request to aggregate all the Watershed Plan information, and allow those projects and practices that will yield immediate water quality improvement results, and at the same time augment regional ground water supplies. In our opinion, these projects are generally identified in the EWMPs as regional watershed control measures.

CICWQ's membership is in the forefront of water quality regulation, providing to water quality regulators practical ideas and solutions that are implementable and that have as their goal clean water outcomes. If you have any questions or want to discuss the content of our comment letter, please feel free to contact me at (951) 781-7310, ext. 210, (909) 525-0623, cell phone, or mgrey@biasc.org.

Respectfully submitted,

Mark Grey, Ph.D.
Technical Director
Construction Industry Coalition on Water Quality

Construction Industry Coalition on Water Quality (CICWQ)
2149 E. Garvey Avenue N., Suite A-11, West Covina, CA 91791. Phone: (626) 858-4611 Fax: (626) 858-4610
www.cicwq.com

LARWQCB-LA County MS4 Permit-Comments on Ballona Creek EWMP due Sunday 8.30.2015

EWMP IMPLEMENTATION COSTS AND FINANCIAL STRATEGY

ES.5 EWMP Implementation Costs and Financial Strategy states:

> ***The total estimated capital cost is approximately $2.7B, over the course of six years. The costs provided here are considered to be planning level only (order of magnitude), and can be refined as EWMP implementations progresses with the use of actual BMP implementation costs. Funds have not been identified in the EWMP Implementation Plan but will be pursued.*** *Potential funding sources and alternatives that could be evaluated by each Group Member include grants, fees and charges, legislative and policy remedies.*
>
> *The costs to implement the EWMP will require orders of magnitude increases in stormwater program funding.* ***The capital costs to address Water Quality Priorities by 2021 are approximately $2.7B, which is approximately $9,422 per parcel, with total operations and maintenance costs exceeding $77M per year (Table ES-1).*** *Expenditures for the EWMP Implementation Strategy will need to be coordinated with other regional efforts to improve habitat, promote greenways and increase access to Ballona Creek. In order to garner community support for financing the costs, it will likely be necessary to quantify the multi-benefits of the LID, green streets, and regional projects including improved aesthetics, increase recreational opportunity, water supply augmentation and climate change resiliency. The financial strategy presented in this EWMP outlines a set of multiple approaches that allows each jurisdiction to consider and select the strategies that best fit their specific preferences*

and

9.1 EWMP Implementation Costs

> *The costs for structural BMPs are considered to be planning level only (order of magnitude), and can be refined as EWMP implementation progresses with the use of actual BMP implementation costs. Costs for enhanced minimum control measures and other institutional BMPs have not been included because they will vary by jurisdiction and are estimated to be a small percentage of the overall program costs.* ***Monitoring and stormwater program costs are not included.***

COMMENTS

There is no Financial Strategy but an intent to pursue and no projected costs for monitoring.

Regional Projects on Private Land are 52% of the implementation with no sources identified.

LID Ordinances are 2% of the implementation and the remaining LID strategies are 10%.

Green Streets are 17% of the implementation and involves the area of extensive Bioretention and Biofiltration through subwatersheds. State highways are not delineated and categories of streets are not defined. Authorities are not cited.

Public Health inspections and costs are not addressed as those costs are borne by the inspecting agency.

MILESTONE Capital Costs are $2,723,650,000. Operation and Maintenance costs are $764,200,000 through the 2021 compliance period. This Permit, however, expires December 28, 2017.

It is not clear how Storage Costs are addressed. The IMPERVIOUS SURFACE is: 1,100,527,170 square feet producing 358,583.447,168,496 gallons of water.

No Circulation Element facts are presented and we have no idea who has the Mineral Rights, Groundwater Rights or Pipeline Leases. The area is not adjudicated and groundwater is owned by the property owners. .It is unclear as to how extraction will be achieved on properties not owned by the agencies involved.

As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:

> ***Total Maximum Daily Loads (TMDLs)***
>
> *The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants.* ***In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012, contains provisions that require compliance with all the adopted TMDLs. It is expected that significant capital improvements funded by Sewer may be required to comply with the TMDLs and their resulting impact on the City's NPDES permits.***

This statement discloses Sewer funds as the source for “significant capital improvements.” This permit goes beyond the sewer system into streets and land and the taxpayer has not been notified of the tremendous expected costs.

ROLE OF GREEN INFRASTRUCTURE

5.2 What is the Role of Green Infrastructure in the EWMP states:

> *To quantify the potential benefit of green streets for pollutant reduction and integrate them into the EWMP Implementation Strategy, all available streets throughout the watershed were screened to define the maximum available green street length, as shown in Figure 5-4. The RAA evaluated a series of detailed green street implementation parameters (described in detail in the RAA, Section 6.3), and determined the percent of available streets opportunities to be retrofitted with green infrastructure to meet EWMP objectives, as shown in Figures 5-5 and 5-6. While it is anticipated that the implementation of green streets will evolve over the course of adaptive management, the EWMP Implementation Strategy provides the foundation of a robust watershed-wide green streets program going forward.*

COMMENTS

All streets were addressed regardless of agency authority including the State. Not considered are the Methane issues of the area and the Fault Zones.

MODELING

6.1.1 LSPC

> *The watershed model included within WMMS is the LSPC (Tetra Tech and USEPA 2002; USEPA 2003; Shen et al. 2004). LSPC is a watershed modeling system for simulating watershed hydrology, erosion, and water quality processes, as well as in-stream transport processes. LSPC also integrates a GIS, comprehensive data storage and management capabilities, and a data analysis/post-processing system into a convenient Windows-based environment. The algorithms of LSPC are identical to a subset of those in the **Hydrologic Simulation Program–FORTRAN (HSPF) model** with selected additions, such as algorithms to dynamically address land use change over time. USEPA’s Office of Research and Development (Athens, Georgia) first made LSPC available as a component of USEPA’s National TMDL Toolbox (http://www.epa.gov/athens/wwqtsc/index.html).*
>
> *LSPC has been further enhanced with expanded capabilities since its original public release*

COMMENTS

The Modeling Systems offered in the Permit are:

- Watershed Management Modeling System (WMMS)
- Hydrologic Simulation Program-FORTRAN (HSPF)
- Structural BMP Prioritization and Analysis Tool (SBPAT)

LSPC modeling costs are not compared to the other models for the CAPITAL COST and OPERATIONS AND MAINTENANCE.

PEER REVIEW
COMMENTS

Peer Review is not addressed.

RAA MODEL PARAMETERS

8.2.3 Updates to the RAA Model Parameters

> *Over time, the parameters in the watershed and BMP models used for the RAA may be updated based on newly available data. For example, as additional control measures are implemented in LA County,* ***new data may become available regarding performance of control measures for reduction pollutants****.*
>
> *In turn, the performance metrics in the RAA could be updated. Other types of data that could support RAA updates include soil infiltration data, revised catchment delineations, modified operations to impoundments/reservoirs, changes in rainfall patterns, water conservation efforts, and major changes to the quality or volume of effluent discharges from POTWs.*

COMMENTS

We do not understand how these updates coordinate with monitoring and pollutant reduction load identification other than outfall monitoring. Proposition O projects from the City of Los Angeles have no data that can verify load reductions. This is an NPDES permit based on Source Point discharges.

ADAPTIVE MANAGEMENT

8.2.4 Updates to Preferences for Control Measure Implementation states:

> *In Figure 8-2, the "****recipe for compliance" is split to emphasize that the Compliance Targets (on the left-hand side) are fixed, enforceable goals, whereas the plan (on the right-hand side) is subject to adaptive management****. The objective is for each BC EWMP Group member to meet the Compliance Target (left-hand side) and manage a certain amount of runoff in a 24-hour period with a suite of BMPs. The right-hand side represents the control*

measures identified by the RAA based on the assumptions described in Section 6. However, over time, the EWMP Implementation Strategy will be adjusted. In some cases, it may be possible to use alternative control measures or designs in such a way that the overall constructed size (and associated cost) of the suite of BMPs is reduced.

COMMENTS

It is unclear if how Monitoring will be achieved for Regional Projects, LID Low Impact Development and Green Streets. They are not Source Point discharges. Managing runoff is not a Source Point issue. It is not clear how water quality improvement is attained by these adaptive management strategies.

Joyce Dillard
P.O. Box 31377
Los Angeles, CA 90031

Attachment:
Ballona Creek EWMP Implementation Strategy Analysis

EWMP IMPLEMENTATION STRATEGY ANALYSIS
BALLONA CREEK
128 SQUARE MILES

REGIONAL PROJECTS	
Public Land-Very High	11%
Public Land-High	7%
Sub-Total Public Land	18%
Private Land	52%
TOTAL REGIONAL PROJECTS	70%

Regional projects: these control measures are an emphasis of the Permit because they are able to capture runoff from large upstream areas. The EWMP emphasizes implementation of regional projects, particularly those that are able to retain the 85th percentile, 24-hour storm event. The BC EWMP includes 68 regional BMPs, including 4 multi-benefit regional projects that retain the stormwater volume from the 85th percentile, drainage areas 24-hour storm for the tributary to the multi-benefit regional projects. In addition, the EWMP includes regional projects on private land to assure required pollutant reductions are achieved.

LID LOW IMPACT DEVELOPMENT	
Ordinance	2%
Existing/Planned	3%
Public Retrofits	5%
Residential Program	2%
TOTAL LID	12%

Low impact development (LID): control measures implemented on parcels to retain stormwater runoff during rain events. For the EWMP, the Group members' LID ordinances are also incorporated. In addition, residential LID programs are incorporated to incentivize adoption of rain cisterns and other methods to reduce runoff from residential properties, while also facilitating community engagement and awareness. Group members will also investigate LID retrofits on public parcels.

GREEN STREETS	17%

Green streets: the right-of-way along streets offer a significant opportunity to implement control measures on public land. The EWMP includes extensive green streets to retain runoff from roads and alleys, and indirectly from roofs and parking surfaces. Green streets will potentially offer many other benefits to communities in terms of aesthetics, safety and increased property values.

MILESTONES

CAPITAL COSTS

2016	$	153,820,000
2021		2,569,830,000
TOTAL	$	2,723,650,000

ANNUAL COSTS-OPERATION & MAINTENANCE			Years	
2016	$	13,500,000	1	13,500,000
2021		150,140,000	5	750,700,000
TOTAL	$	163,640,000		$ 764,200,000

Prepared by Joyce Dillard

LARWQCB-LA County MS4 Permit-Comments on Dominguez Channel EWMP due Sunday 8.30.2015

EWMP IMPLEMENTATION COSTS AND FINANCIAL STRATEGY

7. EWMP Implementation Costs and Financial Strategy

> ***Currently, most of the projects described in this EWMP are not explicitly funded from a dedicated revenue source. Obtaining funds for all of the activities identified in the EWMP is anticipated to take many years****. This section describes the probable costs of the projects, the amount of funding currently available to meet the needs described in the EWMP, and potential funding sources that may be available to fund elements of the program.*

And

7.1.1 Probable EWMP Program Costs

> *The purpose of this section is to present the probable order-of-magnitude cost opinions to implement the EWMP.* ***The cost opinion for program costs were developed using feasibility study level engineering cost estimation procedures****. The EWMP identified projects to be completed along a timeline. These projects are broken into four categories:*
>
> *(1) Minimum Control Measures (MCMs), excluding implementation of LID ordinances for new and re-development,*
> *(2) LID ordinance implementation for new and redevelopment,*
> *(3) regional projects, and*
> *(4) distributed projects, which are primarily green streets*

COMMENTS

There is no Financial Strategy. The costs have not been reviewed by an economist versed in municipal costs.

Funding addressed is:

- EPA Section 319
- Clean Beaches Initiatives
- TIGER Discretionary
- Supplemental Environmental Project Funds:
- Clean Water State Revolving Fund
- California Infrastructure Development Bank–Infrastructure State Revolving Fund Program

We question the availability and grant/loan maximums. Implementation takes cash outflow, yet debt financing is not addressed.

As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:

> ***Total Maximum Daily Loads (TMDLs)***
>
> *The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants.* ***In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012, contains provisions that require compliance with all the adopted TMDLs. It is expected that significant capital improvements funded by Sewer may be required to comply with the TMDLs and their resulting impact on the City's NPDES permits.***

This statement discloses Sewer funds as the source for “significant capital improvements.” This permit goes beyond the sewer system into streets and land and the taxpayer has not been notified of the tremendous expected costs.

MULTI-BENEFIT REGIONAL PROJECTS

4.2.4 Process of Identifying and Selecting Multi-Benefit Regional Projects (EWMP Regional Projects) states:

> *The approach described below was used to identify, screen, and evaluate potential regional projects. This approach included a watershed based assessment of all publicly-owned and some private parcels within the DC WMG to evaluate if they would be suitable to support a regional stormwater enhancement project. The approach to identifying potential regional projects is illustrated in Figure 4-3. The process is discussed generally in the sections below and in detail in Attachment O.*
>
> *The potential project footprints are based on stormwater storage areas of sufficient size to infiltrate in 72 hours or to store the 85th percentile storm in 10 feet of depth unless otherwise noted. In most cases, areas needed to infiltrate in 72 hours were larger than the area needed to store the storm volume in 10 feet of depth.*

And

4.2.6 Multi-Use Benefits from Injection Well Aquifer Recharge states:

> *The DC WMG is underlain primarily by the West Coast Groundwater Basin. A small portion of the eastern section of the DC WMG is underlain by the Central Basin Groundwater Basin. Both of these basins are adjudicated. Most water captured by projects in the DC WMG is likely to be injected, if feasible and practicable, into the West Coast Groundwater basin.*

COMMENTS

It is not clear how Storage Costs are addressed or where stored. Adjudication issues and groundwater extraction are addressed but not capture in non-adjudicated areas. Capacity issues are unclear.

GREEN STREETS

4.2.5 Distributed Projects (Green Streets) states:

> *Green streets are consistent with some DC WMG agency plans for various projects. They also provide additional opportunities for volume reduction with the potential for capturing water for municipal use. Once hydrologic and loading scenarios were simulated with the MCM, new and re-development (LID ordinance), and regional BMP implementation, the volume associated with capturing the remainder of the 90th percentile load for the limiting pollutant was estimated. Then, the lane miles of green streets to achieve this storage volume was estimated. The green streets represent distributed BMPs and are modeled to the extent that the required volume reduction is satisfied. Green streets were used as distributed BMPs as they are located in the public right-of-way, are distributed throughout the DC WMG area, and could be implemented as streets are rehabilitated. The volume reduction provided by a green street can be replaced with alternative distributed BMPs as desired.*

COMMENTS

No Circulation Element facts are presented and we have no idea who has the Mineral Rights, Groundwater Rights (outside the adjudicated basins) or Pipeline Leases. Methane issues and related de-watering is not addressed. Jurisdictional issues and operations and maintenance responsibility is not addressed.

Joyce Dillard
P.O. Box 31377
Los Angeles, CA 90031

LARWQCB-LA County MS4 Permit-Comments on Marina del Rey EWMP due Sunday 8.30.2015

FINANCIAL STRATEGY

ES.6 Financial Strategy states:

> *Estimated costs for compliance with the 2012 MS4 Permit through the implementation of the Marina del Rey Watershed EWMP are approximated at **$392 million** (Table ES-4), including costs associated with Subwatershed 2 (a non-TMDL area). If costs associated with Subwatershed 2 are not included in the calculation, the total costs for BMP implementation based on the RAA are estimated at $363 million. **All costs are presented in 2015 dollars using the net present worth analysis and an average inflation rate of 3 percent**. The costs associated with compliance may be much different than those projected in the table below and could be significantly lower based on the results of ongoing and future studies that will be incorporated into the adaptive management process.*
>
> *The EWMP Agencies will follow a multi-pronged financial strategy to maximize potential funding opportunities in support of EWMP implementation. This approach includes, but is not limited to the pursuit of grants (including Prop 1 funding), the investigation of potential fees and other charges, as well as legislative strategies*

COMMENTS

There is no Financial Strategy yet there is a concern with inflation.

As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:

Total Maximum Daily Loads (TMDLs)

> *The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants. **In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012, contains provisions that require compliance with all the adopted TMDLs. It***

is expected that significant capital improvements funded by Sewer may b required to comply with the TMDLs and their resulting impact on the City's NPDES permits.

This statement discloses Sewer funds as the source for “significant capital improvements.” This permit goes beyond the sewer system into streets and land and the taxpayer has not been notified of the tremendous expected costs.

ADAPTIVE MANAGEMENT

ES.7 Adaptive Management

Adaptive management is the process by which data are continually assessed in the context of improving and adapting programs to ensure the most effective strategies are implemented. In accordance with the MS4 Permit, every two years as data become available through Coordinated Integrated Monitoring Program (CIMP) monitoring, BMP effectiveness studies, special studies such as the Toxics TMDL required Stressor ID Study, Oxford Basin monitoring, and other scientific studies, it will be integrated and assessed to determine if programs in the EWMP should be altered to enable compliance in the most efficient manner. ***Additionally, public participation and LARWQCB recommendations will also be included in the adaptive management process****. The adaptive management framework will allow the EWMP Agencies to develop an overall program consisting of efficient solutions based on evolving watershed priorities.*

COMMENTS

We do not understand how this process coordinates with monitoring and pollutant reduction load identification other than outfall monitoring. Proposition O projects from the City of Los Angeles have no data that can verify load reductions. This is an NPDES permit based on Source Point discharges. Scientific studies should be applied now and a clearinghouse established.

So far, the public has been omitted for most processes of this permit other than writing comments and a few workshops or meetings. Most public do not identify a permit with Green Streets. This is confusing.

SELECTION CRITERIA

5.2.1 Regional BMPs Selection Criteria

7. Health and Safety—Stormwater quality facilities must be designed and maintained in a manner that does not pose health or safety hazards to the public. The potential for nuisances, odors, and prolonged soggy conditions should be evaluated for BMPs, especially in areas with high pedestrian traffic or visibility. Urban areas are heavily populated, which adds to safety concerns when

considering potential BMPs such as ponds, wetlands, and surface sand filters. Open surface systems may require additional measures such as fencing to ensure public safety and reduce vandalism. Often the only feasible location for BMPs in developed areas is underground, which presents more complex maintenance issues that trigger worker safety requirements. The installation of subsurface BMPs may require maintenance activities to be performed in confined spaces. Confined spaces have specific entry requirements to ensure safety that would need to be followed each time BMPs are inspected or maintained.

COMMENTS

We do not believe Public Health and Safety has been embraced. Public Health Departments, not part of the permitting process, need to take a role. Vector Control issues need to be addressed. Liability issues have not been reviewed.

Joyce Dillard
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LARWQCB-LA County MS4 Permit-Comments on Santa Monica Bay Jurisdictions 2 & 3 EWMP due Sunday 8.30.2015

MODELING

ES-2 Water Quality Priorities states:

> *Subwatersheds in SMB were further modeled into compliance monitoring location (CML) regions. These modeled CML subwatersheds, and these are herein referred to "CML analysis regions" and were used in the RAA modeling*

COMMENTS

The geology of the area including petroleum deposits and earthquake faults should be reviewed in more depth before any substantial planning. Santa Monica Fault is being studied by the state.

Aspects of the Southern California Bight should be addressed.

RAINWATER HARVESTING

5.4.2. Public Retrofit Incentives for BMPs states:

> *These programs are directed at incentivizing the public to decrease the amount of stormwater runoff from their property. Permittees are responsible for continued development, execution, enforcement, and reporting of the progress of these programs in their annual reports.*

COMMENTS

This is incorrectly identified. Private property is not a Source Point for this permit and the description is about Rainwater Harvesting. California Building and Plumbing Codes cover this aspect for property owners. Consequently, it is unclear how Outfall Monitoring data is incorporated

FINANCIAL STRATEGIES

7.4. Financial Strategies states:

> *The financial strategy described in this section is focused on developing a set of options to address the expected additional costs associated with compliance with the new MS4 Permit. It is not intended to incorporate the costs associated with existing stormwater activities identified previously.* ***Just as the engineering and strategic solutions for watershed management rely upon a coordinated regional approach, so too does the financial strategy. Capital and operating costs for watershed programs are large and span decades. As such, there is no single "right" way to finance these programs. Instead, the financial***

strategy presented herein outlines a set of multiple approaches, allowing each jurisdiction to select those strategies that best fit their specific circumstances.

COMMENTS

There is no Financial Strategy. Cities are not in the position to be speculators. They have requirements of solvency.

As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:

> ***Total Maximum Daily Loads (TMDLs)***
>
> *The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants.* ***In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012, contains provisions that require compliance with all the adopted TMDLs. It is expected that significant capital improvements funded by Sewer may be required to comply with the TMDLs and their resulting impact on the City's NPDES permits.***

This statement discloses Sewer funds as the source for “significant capital improvements.” This permit goes beyond the sewer system into streets and land, and the taxpayer has not been notified of the tremendous expected costs.

Joyce Dillard
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LARWQCB-LA County MS4 Permit-Comments on Upper LA River EWMP due Sunday 8.30.2015

EWMP IMPLEMENTATION COSTS AND FINANCIAL STRATEGY

ES.1.6 EWMP Implementation Costs and Financial Strategy states:

> *The capital costs to address Water Quality Priorities by 2037 is estimated at over **$6.0 billion, with total operations and maintenance costs exceeding $210 million per year** once fully implemented (see table below).*
>
> *Expenditures for the EWMP Implementation Strategy will be coordinated with other regional efforts to improve habitat, promote greenways and increase access to the LA River and its tributaries. In order to garner community support for financing the costs, the multi-benefits of the LID, green streets and regional projects will be quantified including improved aesthetics, increased recreational opportunity, water supply augmentation and climate change resiliency*

COMMENTS

There is no Financial Strategy except a dependence to take advantage of the US Army Corps LA River Ecosystem Restoration Feasibility Study and pending legislation for greenways surrounding the LA River. The USACE study is unfunded and estimated at $1.4 Billion.

LID, Green Streets and Regional Projects are to be quantified, or in other words, have no financial strategy.

Regional Projects on Private Land are 31% of the implementation with no sources identified.

LID Ordinances are 14% of the implementation and the remaining LID strategies are 10%.

Green Streets are 30% of the implementation and involves the area of extensive Bioretention and Biofiltration through subwatersheds. State highways are not delineated and categories of streets are not defined. Authorities are not cited.

Public Health inspections and costs are not addressed as those costs are borne by the inspecting agency.

MILESTONE Capital Costs are $6,097,870,000. Operation and Maintenance costs are $3,043,120 through the 2037 compliance period. This Permit, however, expires December 28, 2017.

It is not clear how Storage Costs are addressed. The IMPERVIOUS SURFACE is:

2,464,437,240 square feet producing 802,984,628,584,512 gallons of water.

No Circulation Element facts are presented and we have no idea who has the Mineral Rights, Groundwater Rights or Pipeline Leases. The area is adjudicated in two basins- Upper LA River and Central Basin. There are sections that may not be covered by those adjudication. It is unclear as to the amounts of allowable groundwater extraction.

FINANCIAL STRATEGIES

9.3 Financial Strategies states:

> *The costs to implement the EWMP will require orders of magnitude increases in stormwater program funding. The capital and operating costs for EWMP control measures are large and will span decades. Expenditures for the EWMP Implementation Strategy will need to be coordinated with other regional efforts to improve habitat, promote greenways and increase access to the LA River and its tributaries. In order to garner community support for financing the costs,* ***it will likely be necessary to quantify the multi-benefits of the LID, green streets and regional projects including improved aesthetics, increase recreational opportunity, water supply augmentation and climate change resiliency.*** *The financial strategy to fund the LID, green streets and regional projects in the EWMP will require a coordinated, regional approach. It will be important for each jurisdiction to have the opportunity to customize the financial strategy to the preferences of its community. As such, the financial strategy presented in this EWMP outlines a set of multiple approaches that allows each jurisdiction to consider and select the strategies that best fit their specific preferences. The detailed financial strategy for EWMP costs will be highly dependent and vary by jurisdiction.*

COMMENTS

As a sample, the City of Los Angeles CONSOLIDATED ANNUAL FINANCIAL REPORT (FY June 30, 2015) requires disclosure under NOTES TO BASIC FINANCIAL STATEMENT:

> ***Total Maximum Daily Loads (TMDLs)***
> *The USEPA and the LARWQCB are required to develop TMDLs for impaired water bodies. Various watersheds in the Los Angeles area have water body segments that are listed as impaired due to a variety of pollutants. Although some TMDLs have already been released, additional TMDLs will be under development and compliance with both existing and new TMDLs will continue into the next decade. At this time, it is difficult to predict the full impact of TMDLs on the National Pollutant Discharge Elimination System (NPDES) effluent limits at the City's four water reclamation and wastewater treatment plants.* ***In addition, the proposed Greater Los Angeles County Municipal Separate Stormwater Sewer Systems (MS4) permit, adopted by the LARWQCB in November 2012,***

contains provisions that require compliance with all the adopted TMDLs. It is expected that significant capital improvements funded by Sewer may be required to comply with the TMDLs and their resulting impact on the City's NPDES permits.

This statement discloses Sewer funds as the source for "significant capital improvements." This permit goes beyond the sewer system into streets and land and the taxpayer has not been notified of the tremendous expected costs.

Stormwater Capture Credit or Cap and Trade was mentioned in the LA Business Council report LA'S NEXT FRONTIER: CAPTURING OPPORTUNITIES FOR NEW HOUSING, ECONOMIC GROWTH, AND SUSTAINABLE DEVELOPMENT IN LA RIVER COMMUNITIES:

> *Later, we explore a number of innovative financing tools that can be employed to pay for residential, commercial, and infrastructure development in river communities. Our analysis places special emphasis on two promising financing tools: value capture and tax increment financing facilitated through Enhanced Infrastructure Financing Districts, and* ***a new stormwater recapture credit program built, in part, on the principles of California's groundbreaking carbon cap-and-trade program. Properly implemented, this stormwater program will encourage more efficient investments in stormwater recapture while meeting or exceeding retention goals, will reduce the costs of development, and will generate additional public revenues for community reinvestment. We include recommendations for how to "make the market" and fund the public purchase of stormwater credits from early-adopters, thereby establishing the program as a proven marketplace and ensuring its future sustainability.***

The Board has no legal authority over a Cap and Trade scheme.

Reasonable Assurance Analysis (RAA)

Section 6 Reasonable Assurance Analysis (RAA) states:

> ***Permit prescribes the RAA as a quantitative demonstration that control measures will be effective,*** *the RAA also uses a modeling process* ***to identify and select potential control measures to be implemented by the EWMP.*** *WMMS is specified in the 2012 MS4 Permit as an approved tool to conduct the RAA. LACFCD, through a joint effort with U.S. Environmental Protection Agency (USEPA), developed WMMS specifically to support informed decisions for managing stormwater.*
>
> *The* ***RAA demonstrates the calibrated modeling system is able to accurately predict flows and pollutant concentration in the LA River watershed****. The RAA was developed based on complying with the applicable*

criteria for "limiting pollutants" during 90th percentile storm conditions. Limiting pollutants are the pollutants that drive BMP capacity (i.e., control measures that address the limiting pollutant will also address other pollutants).

COMMENTS

The Modeling Systems offered in the Permit are:

- Watershed Management Modeling System (WMMS)
- Hydrologic Simulation Program-FORTRAN (HSPF)
- Structural BMP Prioritization and Analysis Tool (SBPAT)

WMMS is the chosen model, however, the choice of modeling is not explained on any basis of comparison of CAPITAL COST and OPERATIONS AND MAINTENANCE differences.

CREST (TMDL) used the Monte Carlo model which is not mentioned in the Permit. We do not understand the differences incurred between two different models and the effectiveness of the control methods.

It is unclear how Outfall Monitoring data is incorporated as a comparative basis to the modeling.

PEER REVIEW

April 2010 CREST Monte Carlo Model, Appendix 1: Details for Load Reduction Strategies and Scenarios for the Los Angeles River Watershed Bacteria TMDL Technical Report Dry Weather Implementation Plan states:

Treatment BMPs
A third general option is that flow from a subwatershed could be routed through a treatment BMP (e.g., a sand filter or a treatment wetland) with the ability to reduce bacteria concentrations in dry weather flows and discharge the treated runoff. It is likely that the effective BMP removal of the bacteria discharged from the outfall would be less than 100%. ***Peer-reviewed information on treatment BMPs that effectively reduce bacteria concentrations is scarce****. It is unclear whether treatment BMPs for bacteria would also remove other pollutants and benefit implementation efforts for other TMDLs (e.g., the Metals TMDL).*

COMMENTS

Peer Review is not addressed in any meaningful way.

RAA MODEL PARAMETERS

8.2.3 Updates to RAA Model Parameters states:

> *Over time, the parameters in the watershed and BMP models used for the RAA may be updated based on newly available data. For example, as additional control measures are implemented in LA County,* ***new data may become available regarding performance of control measures for reduction pollutants****. In turn, the performance metrics in the RAA could be updated. Other types of data that could support RAA updates include soil infiltration data, revised catchment delineations, modified operations to impoundments / reservoirs, and major changes to the quality or volume of effluent discharges from publicly owned treatment works.*

COMMENTS

We do not understand how these updates coordinate with monitoring and pollutant reduction load identification other than outfall monitoring. Proposition O projects from the City of Los Angeles have no data that can verify load reductions. This is an NPDES permit based on Source Point discharges.

ADAPTIVE MANAGEMENT FRAMEWORK

ES.1.5 Adaptive Management Framework states:

> *One of the key components of the EWMP is the incorporation of an Adaptive Management Approach for evaluating monitoring data and "lessons learned" or experience gained during implementation to evaluate EWMP implementation progress. The Permit specifies that an adaptive management process will be revisited every two years to evaluate the EWMP and update the program.* ***The EWMP strategy will evolve based on monitoring results by identifying updates to the EWMP Implementation Plan to increase its effectiveness.***

COMMENTS

It is unclear if how Monitoring will be achieved for Regional Projects, LID Low Impact Development and Green Streets. They are not Source Point discharges.

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Attachments:
ULAR EWMP Implementation Strategy Analysis
LA's Next Frontier

EWMP IMPLEMENTATION STRATEGY ANALYSIS
UPPER LOS ANGELES RIVER
485 SQUARE MILES

REGIONAL PROJECTS	
Public Land-Very High	6%
Public Land-High	18%
Public Land-Medium	2%
Sub-Total Public Land	26%
Private Land	31%
TOTAL REGIONAL PROJECTS	57%

Regional projects: these control measures are an emphasis of the Permit because they are able to capture runoff from large upstream areas. The EWMP emphasizes implementation of regional projects, particularly those that are able to retain the 85th percentile, 24-hour storm event. The ULAR EWMP includes 128 regional BMPs, including multi-benefit regional projects that retain the storm water volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the multi-benefit regional projects. In addition, the EWMP includes regional projects on private land to assure required pollutant reductions are achieved.

LID LOW IMPACT DEVELOPMENT	
Ordinance	14%
Existing/Planned	1%
Public Retrofits	4%
Residential Program	5%
TOTAL LID	24%

Low impact development: control measures implemented on parcels to retain stormwater runoff during rain events. For the runoff during rain events. For the EWMP, the Group members' LID ordinances are also incorporated. In addition, residential LID programs are incorporated to incentivize adoption of rain cisterns and other methods to reduce runoff from residential properties, while also facilitating community engagement and awareness. Group members will also implement LID retrofits on public parcels.

GREEN STREETS	30%

Green streets: the right-of-way along streets offers a significant opportunity to implement control measures on public land. The EWMP includes extensive green streets to retain runoff from roads and alleys. Green streets will potentially offer many other benefits to communities in terms of aesthetics, safety and increased property values.

MILESTONES

CAPITAL COSTS

2017	$ 168,780,000
2024	458,650,000
2028	2,889,500,000
2037	2,580,940,000
TOTAL	$ 6,097,870,000

ANNUAL COSTS-OPERATION & MAINTENANCE		Years	
2017	$ 17,010,000	3	$ 51,030,000
2024	55,270,000	7	386,890,000
2028	176,910,000	4	707,640,000
2037	210,840,000	9	1,897,560,000
TOTAL	$ 460,030,000	23	$ 3,043,120,000

Prepared by Joyce Dillard

LA's Next Frontier:

Capturing Opportunities for New Housing, Economic Growth, and Sustainable Development in LA River Communities

The Taylor Yards Crossing Community Bridge, proposed by Studio Pali Fekete architects [SPF:a]

LABC Institute
LOS ANGELES BUSINESS COUNCIL

11-151

RB-AR 3240

THE ROSALINDE AND ARTHUR GILBERT FOUNDATION
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MARTIN H. BLANK, JR., CEO & DIRECTOR
RICHARD S. ZIMAN, COO & DIRECTOR

On behalf of The Rosalinde and Arthur Gilbert Foundation, we congratulate the LABC Institute on its release of *LA's Next Frontier: Capturing Opportunities for New Housing, Economic Growth, and Sustainable Development in LA River Communities.* The content and trends that were identified are among the best we have seen on the LA River and stands out as one of the most significant analyses that articulates why this is such a unique and important opportunity here in Los Angeles.

When environments improve, health behaviors improve. Our ongoing support of the LABC Institute strengthens The Rosalinde and Arthur Gilbert Foundation's work to create healthier environments in LA County for physical activity and access to healthy food. Increasing the park and open recreation space in LA's low-income neighborhoods is crucial to building long-term wellness. LA is severely under-parked in comparison to the rest of the world and yet researchers, funders, and policy makers increasingly recognize that both children and adults must have access to physical activity and healthy foods if they are to act on their desire to eat well and be active. The need is seen as particularly pressing for low-income communities, whose populations have the greatest incidence of type-2 diabetes.

The Foundation believes that this report provides an important business perspective on the job creation and economic development opportunities for the surrounding residents and families and will attract greater engagement from LA's business and corporate stakeholders.

We commend the LABC Institute for its contribution and bringing together of stakeholders from business, local government and non-profits to help guide the LA River development to be of maximum benefit to the surrounding residents and families.

Richard S. Ziman
CEO & Trustee

Martin H. Blank, Jr.
COO & Trustee

CALIFORNIA COMMUNITY FOUNDATION

April 24, 2015

Los Angeles Business Council
2029 Century Park E, #1240
Los Angeles, CA

Dear Summit Participants,

As supporters of the Los Angeles Business Council (LABC) Institute and their recent report *LA's Next Frontier: Capturing Opportunities for New Housing, Economic Growth, and Sustainable Development in LA River Communities*, the California Community Foundation (CCF) encourages collaborative planning processes that draw together leaders from the public health, civic engagement, environmental justice, and affordable housing sectors. The LA River is a unifying connector that can extend the reach of transit into surrounding communities. In particular, areas near the river with existing growth near transit stops and stations are poised to leverage public investments effectively in the near term.

For four years, CCF has been building partnerships with important organizations like the LABC and other nonprofit groups working on housing, health, environmental, and transportation issues. These partners share several goals, including encouraging the preservation and production of affordable housing, parks, bike paths, safe sidewalks, and good jobs around transit hubs; expanding resources to preserve and produce housing and jobs for low-income residents who make up the core ridership; and ensuring that residents in the neighborhoods have the tools and support they need to fully engage in local planning issues.

In 2013, this partnership completed a study of ways that transit agencies can support affordable housing and job development around transit hubs. The foundation representatives, nonprofit groups, and community residents met over many months with the Metro staff and board members to review the findings of the study. Eventually, the Metro board and staff agreed on the recommendations that appeared most promising, and the results of that process were the five recommendations recently approved by the Metro board last month.

Similarly, it is our hope that this process and report - led by the LABC - provides an actionable framework wherein the Los Angeles River will meet its potential as an environmental, social, and economic hub for *every* Angeleno across the LA County region.

Sincerely,

Ann E. Sewill
Vice President, Housing and Economic Development

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LABC Institute
Los Angeles Business Council

About Us

The LABC Institute is a forward-thinking research and education organization dedicated to strengthening the sustainable economy of California, particularly the Southern California region. Founded in 2010, the LABC Institute provides a bridge between the business, government, environmental, labor and nonprofit communities of Southern California to develop policies and programs that promote investment, jobs and business development. We are the research and education arm of the Los Angeles Business Council, one of the most respected business advocacy organizations in Southern California.

A Coordinated Approach

The LABC Institute collaborates with diverse community stakeholders and world class institutions – USC, UCLA, CalTech and others – to conduct research leading to policies and programs that help build healthy communities. Our research focuses on environmental and sustainability best practices that also promote investment and economic development in Southern California.

The results of our research influence a broad range of leaders – including governmental officials, business executives, journalists and directors of community-based organizations – who engage with our work in informal settings and at Institute-sponsored summits, conferences and forums that help shape the public policy agenda.

Achieving Measureable Results

The LABC Institute's ground-breaking research on new energy policies has earned national recognition. Our innovative work on rooftop solar energy options led directly to the implementation of the Feed-in Tariff program, adopted in the spring of 2012 by the City of Los Angeles and the Los Angeles Department of Water and Power. The solar rooftop program will spur new investments and create a significant number of high-quality jobs in Los Angeles.

Our Partners

The LABC Institute works with national experts and scholars, many based in Southern California, who contribute significantly to our research efforts. These partners include many of the region's leading research institutions, including the University of Southern California; University of California, Los Angeles; Loyola Marymount University; and the California Institute of Technology. Subject area expertise is provided by government leaders at such agencies as the Departments of Energy and Housing and Urban Development, as well as key committee members in Congress and the California legislature.

Our ongoing educational partners include the California Governor's Office, the Los Angeles Mayor's Office, the California Air Resources Board, and the California Public Utilities Commission.

For nearly every policy area, the LABC Institute, working with the Los Angeles Business Council, forms a coalition of business, academic, environmental, labor, social justice and nonprofit stakeholders to help raise visibility for the research and drive recommended policies forward.

Our Supporters

The LABC Institute depends on the generosity of our supporters, which include a range of institutions, foundations and individuals, including the William and Flora Hewlett Foundation, the 11th Hour Project, Bank of America, Rockefeller Brothers Fund, JPMorgan Chase, Wells Fargo, Bank of America and the Gilbert Foundation.

The LABC Institute is a tax-exempt 501c3 organization, and is strictly nonpartisan.

Acknowledgements

The LABC Institute is pleased to present LA's Next Frontier: Capturing Opportunities for New Housing, Economic Growth, and Sustainable Development in LA River Communities and gratefully acknowledges The Rosalinde and Arthur Gilbert Foundation and the California Community Foundation for supporting this research. We would like to thank the report's author, Paul Habibi, UCLA Anderson School of Management, and the research team of Ben Feingold and Shane Phillips, Urban One. The LABC Institute would like to give a very special thanks our advisory committee for their guidance and contributions throughout this study.

LABC Institute LA River Advisory Committee

A Livable River

Since 2012, the LABC Institute has emphasized the need to develop livable communities that include a substantial workforce housing component as a part of a comprehensive economic development strategy for the region. Livable communities are those which have a balanced mix of residential and commercial uses, tied together through public transit connections, bicycle and pedestrian paths, and mobility hubs. Rapid expansion of the Los Angeles transit network is providing an incredible opportunity to widen the developable footprint around transit stations and connect livable communities like never before.

While we work to incentivize high quality, livable development in the region, it is critical to expand the supply of affordable and workforce housing for those earning between 50 and 120 percent of the Area Median Income ("AMI"). In Los Angeles County, annual funding for lower-income affordable housing (80 percent AMI or below) has fallen dramatically, from $732 million in 2008 to $164 million in 2013—a 78 percent decline in just five years (California Housing Partnership Corporation, 2014). Workforce housing, which is affordable to those earning between 80 and 120 percent of AMI and essential to housing moderate-income residents such as teachers, public servants, and young employees, has similarly suffered from a lack of supply and funding. Without an increased supply of affordable and workforce housing, Los Angeles could see much of its workforce—and subsequently, economic activity—depart to regions with less cost-burdened housing markets.

The Los Angeles River revitalization presents a unique opportunity to develop underutilized land and build new transportation connections, creating a cohesive series of sustainable, thriving, equitable communities throughout Los Angeles County. Successful redevelopment along the river will be a key component of the region's sustainable growth strategy for years to come.

This report explores the numerous opportunities for development along the river and into the surrounding neighborhoods, and begins with a look at the past and present conditions of the LA River and its adjacent communities. It is followed by a summary of the potential the river holds for revitalization and sustainable development and a brief analysis of the multitude of strategic efforts that have taken place to plan for growth along the river.

Later, we explore a number of innovative financing tools that can be employed to pay for residential, commercial, and infrastructure development in river communities. Our analysis places special emphasis on two promising financing tools: value capture and tax increment financing facilitated through Enhanced Infrastructure Financing Districts, and a new stormwater recapture credit program built, in part, on the principles of California's groundbreaking carbon cap-and-trade program. Properly implemented, this stormwater program will encourage more efficient investments in stormwater recapture while meeting or exceeding retention goals, will reduce the costs of development, and will generate additional public revenues for community reinvestment. We include recommendations for how to "make the market" and fund the public purchase of stormwater credits from early-adopters, thereby establishing the program as a proven marketplace and ensuring its future sustainability.

Finally, we show how the City of Los Angeles can take the lead in developing a comprehensive developer's toolkit to encourage livable community development centered on the LA River, with implementation recommendations that have short-term, mid-term and long-term time horizons. With leadership from the City to lay the foundation for a comprehensive governance structure and oversee the river's revitalization and development, these recommendations can be employed to direct targeted, sustainable growth along the entire length of the river and have a lasting impact on the quality of lifeof residents throughout the Los Angeles region.

Developer's Toolkit:

- **Project financing through establishment of EIFDs**
- **Design guidelines created with local stakeholder input**
- **Expedited plan check and permitting for projects complying with design guidelines**
- **True by-right development through revision of Site Plan Review process**
- **Increased density bonus incentives for projects that include workforce housing**

Key Values and Goals of River Revitalization:

- Employment Growth
- Market-Rate and Affordable Housing Production
- Ecosystem Recovery and Pollution Reduction
- Stormwater and Wastewater Retention
- Transportation and Accessibility
- Public Health and Safety
- Social Engagement and Community-Building

History And Background Of The Los Angeles River

The Los Angeles River has a long history as a source of vitality for our region and our city. Before being settled by the Spanish in the late 1700s, for thousands of years the riverlands were home to the Tongva people, who benefited from its rich wetland, marsh, and forest habitats. The Pueblo de Los Ángeles, which over the generations grew into the metropolitan area we know today, was founded in 1781 near today's Union Station, just a few blocks from the river.

Before the 20th century the LA River ran wild and unpredictable, changing course between a westward path along Ballona Creek and a southward track towards San Pedro Bay. These shifts resulted in regular flooding, and as the region grew increasingly settled and became an agricultural powerhouse, the cost and impact of these floods became more severe.

The City made early efforts to manage flooding through the construction of dams, but adequate control wasn't established until a series of major floods from the 1910s to the 1930s spurred the federal government to action. The Los Angeles Flood of 1938 damaged or destroyed over 1/3 of Los Angeles and resulted in the loss of 115 lives, driving Congress to direct the Army Corps of Engineers to build a concrete channel to contain the river's flow and rapidly shuttle water to the ocean during times of heavy rainfall, protecting the region's residents and businesses from dangerous, costly flooding.

The channelization of the 51-miles of the Los Angeles River was completed more than 50 years ago, in 1960. The channel begins in Canoga Park in the San Fernando Valley, traveling east toward Griffith Park and past the cities of Burbank and Glendale, then southward past Downtown LA and a number of smaller LA County municipalities before arriving at San Pedro Bay, next door to the Port of Long Beach. Along its first 32 miles, all within the City of Los Angeles, the river flows through 10 Council Districts, 20 Neighborhood Councils, and 10 Community Planning Areas (City of Los Angeles, 2007).

The River Today

Channelization of the LA River helped achieve the flood management goals of the City and the Army Corps of Engineers, but the security of a managed flood channel came at the cost of verdant riparian habitats that had drawn the Tongva and the Spanish settlers to its banks many years before. The habitats once native to the river were lost, and heavy industry, warehouses, and other uses incompatible with vibrant mixed-use communities moved in alongside the channel, dividing river-adjacent neighborhoods from one another and isolating them from nature. Generations later, many of these communities continue to be characterized by high levels of poverty, limited access to parks and open space, and a higher burden of pollution than most other state and county communities.

Despite its current state of disinvestment, numerous groups have recognized the environmental, social, and economic potential of a restored Los Angeles River ecosystem. These groups have been pushing for investment in a revitalized river for many years, and their work culminated in the development of the Los Angeles River Revitalization Master Plan (LARRMP), completed in May 2007. The Plan identified four core principles to follow as the river and its surrounding communities were engaged in a process of renewal and reinvestment:

1. **Revitalize the River**
2. **Green the Neighborhoods**
3. **Capture Community Opportunities**
4. **Create Value**

Other programs underway include the much-heralded partnership between the City and the Army Corps of Engineers to invest upwards of $1 billion in the revitalization of an 11-mile section of the river near Griffith Park, efforts to connect all 51 miles of the river with a continuous greenway bicycle and pedestrian path (Greenway 2020), and myriad other initiatives aimed at restoring the river ecosystem and improving quality of life for those living in river-adjacent communities.

Taylor Yards in Northeast Los Angeles, existing and as proposed in the US Army Corps of Engineers' draft plan for ecosystem restoration. Copyright City of Los Angeles/US Army Corps of Engineers from The Los Angeles River Draft Ecosystem Restoration Integrated Feasibility Report (2013)

Restoration and revitalization of the Los Angeles River is no longer just an idea, but a movement whose time has finally arrived. Forward-thinking planning will be needed to ensure that growth and development along the river is managed collaboratively, comprehensively, and in a way that fairly distributes the benefits of redevelopment and reinvestment. Now is the ideal time to explore complementary efforts—in addition to funding options and governance structures—that will help the region and its residents achieve the shared goals of a revitalized river ecosystem, sustainable and equitable community redevelopment, cultivation of new business and employment opportunities, and safe, healthy options for physical activity and social engagement.

Building off of the work and valued input of long-time stakeholders in local government, non-profit advocacy, neighborhood groups, business, and real estate development, this report seeks to identify best practices and create a framework to ensure that every community can be a part of and benefit from the Los Angeles River's bright future.

River Communities: Where They're Headed

As Los Angeles and the rest of the nation have recovered from the debilitating impacts of the Great Recession and associated housing crash, change has come rapidly to many river-adjacent communities. Similar to the approach taken in the LABC Institute's Annual Livable Communities Reports in years past, we sought to measure those changes and determine which communities along the river have shown indications, over the past several years, that they may be best poised to attract additional investment, residents, and businesses in the years to come.

Balanced Employment Growth Along the River

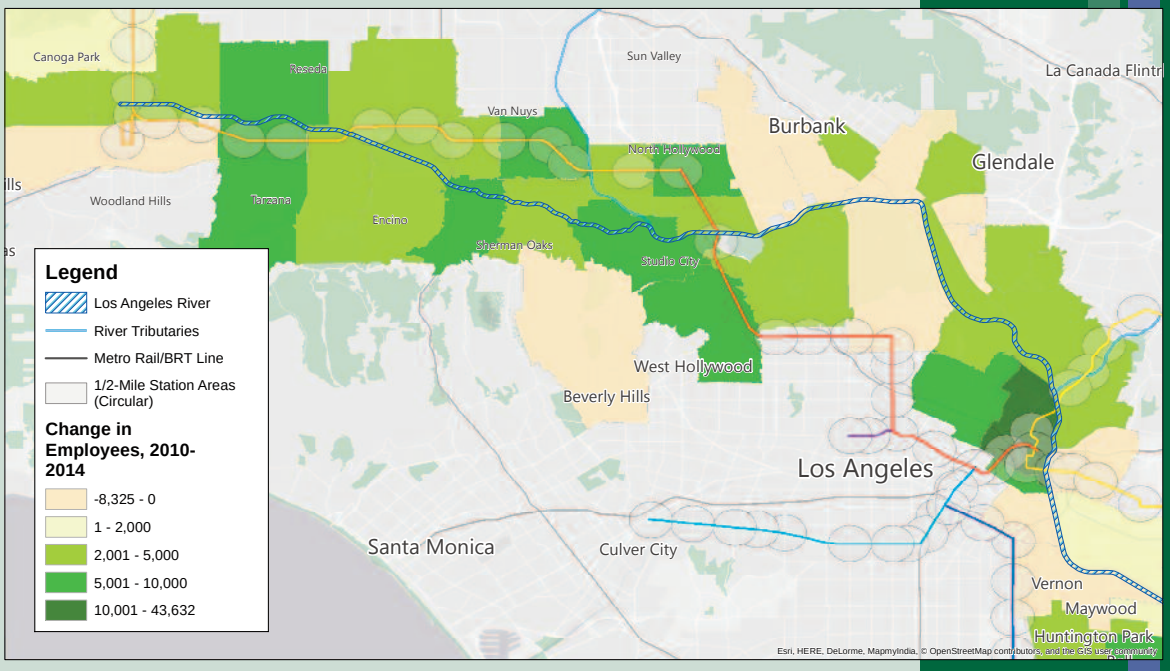
From 2010 to 2014, many areas along the LA River corridor saw substantial employment growth; as with housing and population, much of this growth took place in the area from the West San Fernando Valley to North Hollywood and Studio City. Downtown and the surrounding area also experienced significant increases in employment, particularly around Metro subway and light rail stations (U.S. Census Bureau, 2010) (Esri, 2014). The balanced nature of this growth supports the LABC Institute's belief that many river-adjacent communities are ripe for revitalization and reinvestment, bringing new amenities and job opportunities to a broad cross-section of the city and county population. At the same time, a concentration of opportunities at redevelopment "nodes"—locations such as Warner Center and Canoga Park, Studio City and North Hollywood, and much of the area to the north and northeast of Downtown—should allow the city to retain the lower-density residential, commercial, and semi/light-industrial character of many historic river-adjacent communities.

Office rental rate and vacancy data from CBRE indicates continued opportunities for business cultivation along the river corridor. Low rental rates in the Downtown LA Industrial zone suggest potential for new investment and upgrading of facilities as heavy industry continues its migration away from the city core. Likewise, high rental rates in the Studio City, North Hollywood, and non-industrial Downtown neighborhoods are evidence of these areas' strong appeal to businesses, which will continue to grow as the river revitalization progresses; Studio City appears especially desirable, with both high rental rates and very low vacancy rates. Since 2009, Woodland Hills and Sherman Oaks have seen some of the sharpest declines in vacancy rates, so these may also be targets for future investment, providing additional space for an increasingly tight office rental market (CBRE, 2014).

	OFFICE VACANCY RATE				ASKING LEASE RATE ($/SF)			
	1Q 2009	4Q 2014	2020 Projection	Change 2014-2020	1Q 2009	4Q 2014	2020 Projection	Change 2014-2020
Downtown	15.30%	18.90%	18.50%	-0.30%	$3.01	$2.96	$3.86	30.50%
Downtown Industrial	2.10%	2.40%	Unavailable	N/A	$0.55	$0.74	$1.01	37.00%
Woodland Hills	17.20%	12.80%	11.40%	-1.40%	$2.54	$2.37	$3.02	27.50%
Sherman Oaks	13.20%	11.60%	11.40%	-0.20%	$2.66	$2.18	$2.85	30.50%
Studio City	2.20%	1.50%	1.50%	0.00%	$3.10	$2.85	$3.72	30.50%
Canoga Park	16.10%	34.80%	31.10%	-3.70%	$1.77	$1.67	$2.12	27.50%
North Hollywood	18.50%	19.50%	19.20%	-0.30%	$2.52	$2.48	$2.93	18.30%

Source: CBRE

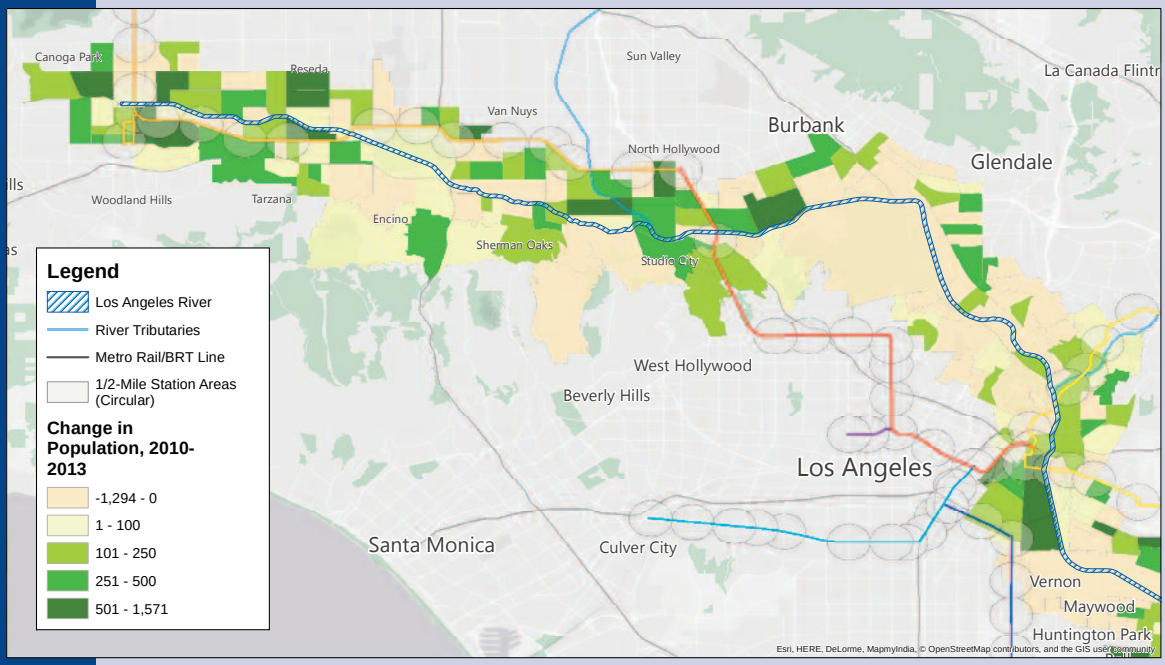
Change in Employment in River-Adjacent Communities, 2010-2014



Strong Population Growth Across the River Corridor

In evaluating the population change between 2010 and 2013, we begin to see three nodes of growth appear: Warner Center and its surrounding neighborhoods, the Studio City-North Hollywood region where the Red Line and Orange Line transit routes intersect, and the area in and around Downtown LA (U.S. Census Bureau, 2010 and 2013). Each of these nodes attracted thousands of new residents over this time period.

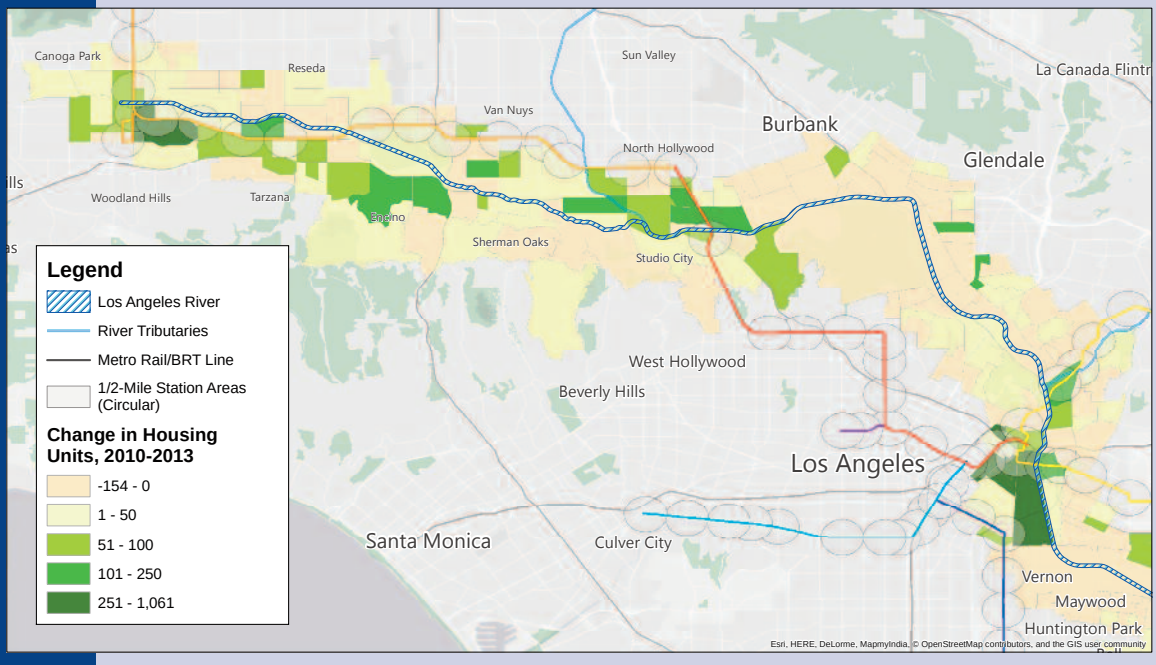
Population Change in River-Adjacent Communities, 2010-2013



Housing Unit Growth Focused in Select Neighborhoods

Similar to population, increases in housing tended to be concentrated in three nodes near the western terminus of the Orange Line, the area around North Hollywood and Studio City, and in Downtown LA and nearby regions of Northeast LA (U.S. Census Bureau, 2010, 2013). Such growth indicates residents' willingness to support increased investment in their communities, and represents an expression of confidence on the part of developers and business owners that these areas will continue to attract more residents in the future.

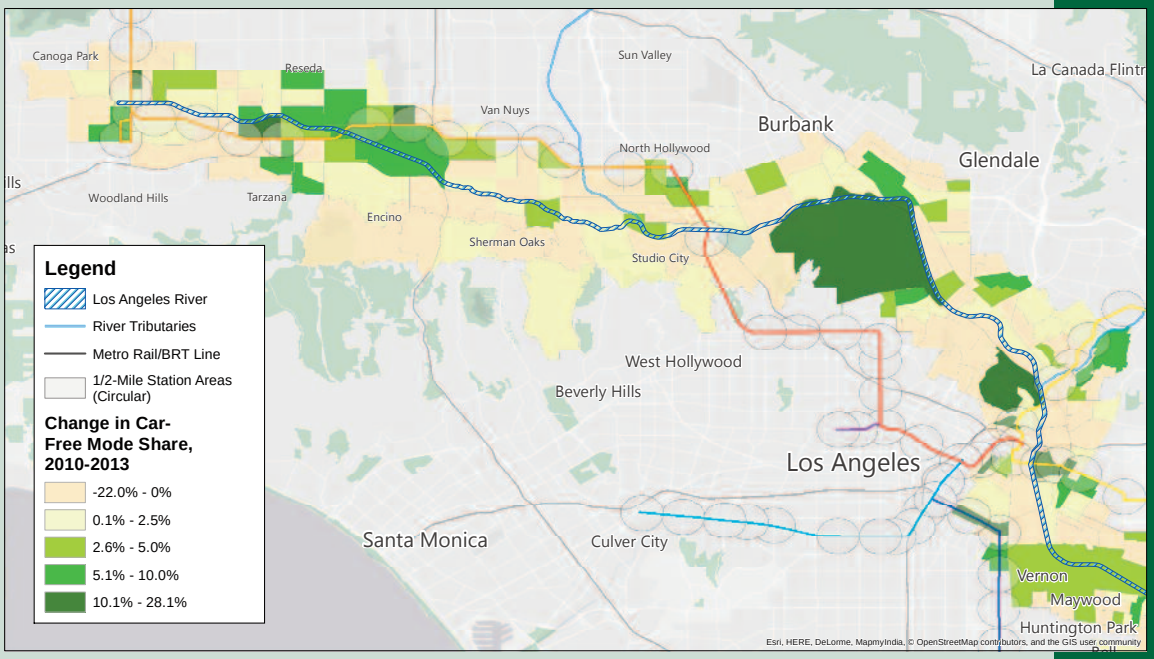
Net New Housing Units in River-Adjacent Communities, 2010-2013



Significant Gains in Car-Free Mode Share

Many census tracts within a one-mile radius of the LA River saw a significant increase in residents who rely upon car-free transportation modes for their commuting trips (transit, walking, and bicycling), particularly in the area between Encino and Reseda, in neighborhoods near Griffith Park, and to the north and east of Downtown Los Angeles (U.S. Census Bureau, 2010, 2013). These increases represent thousands of residents that will benefit from accessibility and street safety improvements, and should serve as examples of what is possible, even with limited investments, for other communities that have not yet adopted less car-dependent lifestyles[1]. The lack of any large areas with widespread mode shift is evidence that there is still much work to be done to create the right type of development around transit hubs, and to allow Los Angeles residents and employees to get out of their cars and into alternate modes of transportation.

Change in Car-Free Mode Share in River-Adjacent Communities, 2010-2013

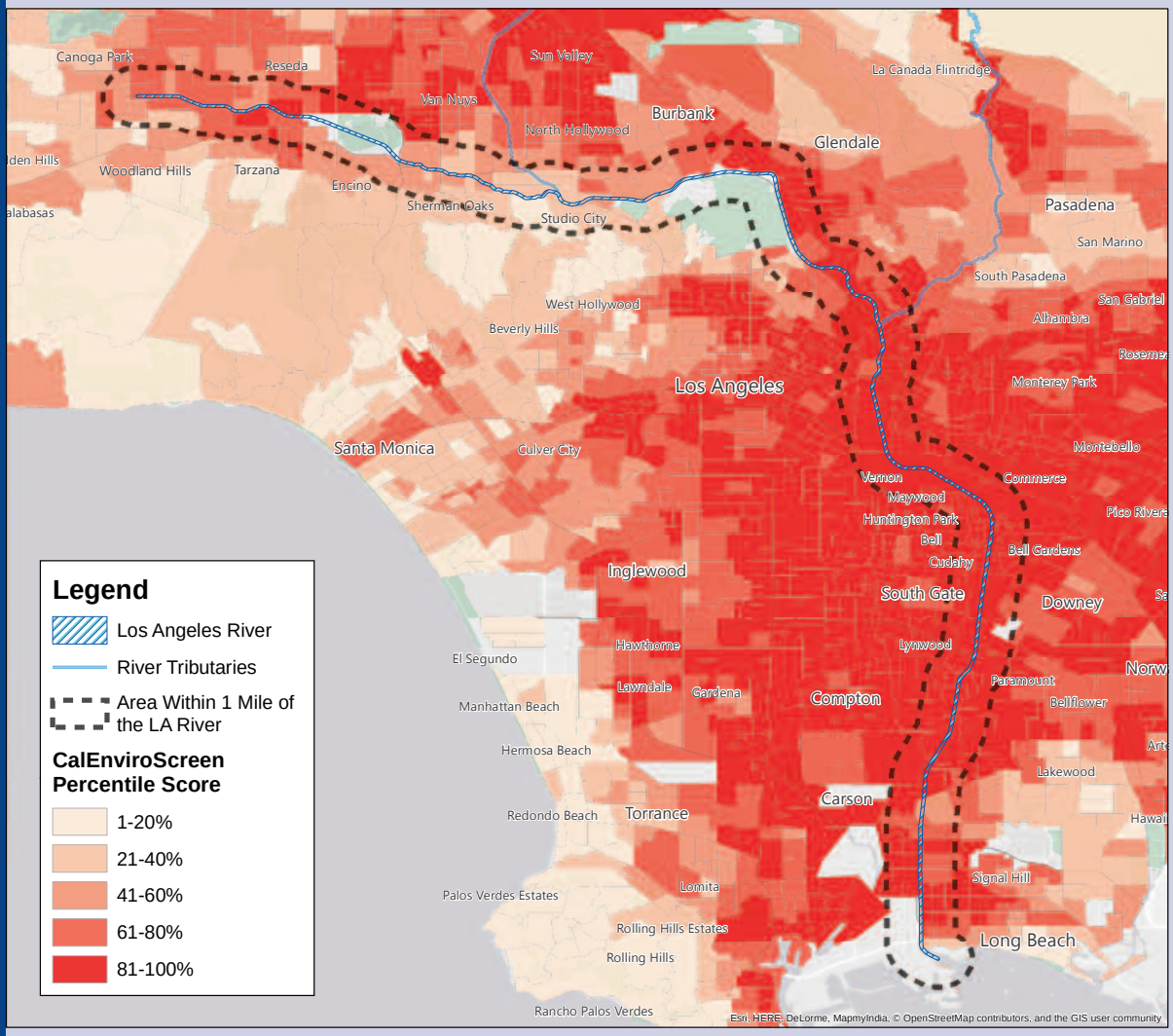


Highest Burden of Pollution in River-Adjacent Communities

CalEnviroScreen is a screening methodology used by the state to identify communities that suffer a disproportionate pollution burden and are most vulnerable to its ill effects, due to negative socioeconomic and health indicators such as high rates of poverty, low average birth weights, and large numbers of asthma-related hospital visits. Based on these indicators, CalEnviroScreen ranks communities from least-burdened (low percentile score) to most-burdened (high percentile score) by pollution.

Census tracts in the 91st to 100th percentile are considered the most burdened in the state—the worst 10 percent—and LA County has a disproportionate share: 19 percent of census tracts in the county rank among the most-burdened in the state, compared to just 10 percent of census tracts statewide. When this analysis examines just the census tracts within ½-mile of the LA River, that proportion jumps to a shocking 37 percent (State of California Office of Environmental Health Hazard Assessment, 2014). Although this is not a comparison over time as with the above demographic and employment data, it highlights the challenges currently faced by many river-adjacent communities, and the value that investments in sustainable infrastructure and new development can bring to some of the region's most disadvantaged residents.

[1] Note: Change in car-free mode share represents an absolute change (e.g., a census tract with 1% car-free mode share in 2010 with a 10% increase would have an 11% car-free mode share in 2013, not a 1.1% share).



River Revitalization: Challenges And Opportunities

In previous years, the LABC Institute's Annual Livable Communities Report identified a vital need for equitable community redevelopment throughout Los Angeles; it also highlighted many of the obstacles that stand in the way of realizing that vision. The LA River Revitalization Master Plan was released in 2007. Since that time, the decline and subsequent recovery of local housing and employment markets have heightened concerns over the potential impacts of gentrification and displacement in many of LA's diverse and historic river communities.

Recovery in employment has been bimodal, with strong gains in the low-wage and high-wage sectors and relatively modest increases in middle-class job opportunities (Hsu, 2014). Improvements in the housing sector have been uneven as well, with homeowners in wealthy neighborhoods seeing rapid appreciation in the value of their homes since the housing crash, while homeowners in lower-income and working class neighborhoods have seen little improvement since they purchased their homes, with many mortgages still underwater (PropertyShark, 2015). Renters continue to face a tight market, with little relief in sight: Rents are increasing far more quickly than wages, and many residents face the prospect of displacement to neighborhoods with less access to parks and social gathering spaces, and fewer affordable transportation options and employment opportunities.

Various river revitalization initiatives offer opportunities to bolster our region's ongoing economic recovery while ensuring that market forces are managed for the benefit of not just the lucky few, but for all city and county residents. These opportunities extend to nearly every facet of our residents' lives; many of these potential impacts are summarized below.

Employment Growth

Recovery from the Great Recession has been a long, protracted process. To this day, the City hasyet to match its pre-crash employment rate, and its recovery has stubbornly lagged behind that of California and the nation as a whole (State of California Employment Development Department, 2015). Los Angeles is particularly in need of jobs that are accessible to middle- and working-class residents, many of whom worked in the industrial, manufacturing, and warehousing businesses once prevalent along the river. As we move ahead investing billions of dollars in our river and the communities along its banks, creating opportunities for job growth in new, broadly-accessible industries will be a central aim of the Los Angeles Business Council and its partners.

UNEMPLOYMENT RATES (February 2015)	
United States	5.5%
California	6.7%
Los Angeles County	7.8%
City of Los Angeles*	**8.1%**

*Data for City of Los Angeles not seasonally adjusted

Market-Rate and Affordable Housing Production

Housing affordability is a growing concern in LA County, with rapid appreciation of homes leading to displacement of many lower-income and working-class families. According to a recent study by the California Housing Partnership Corporation, LA County needs almost 500,000 more units that are affordable to households earning less than 50 percent of the metropolitan area median income (California Housing Partnership Corporation, 2014). Mayor Garcetti has set admirable goals in his Sustainable City pLAn to build 100,000 new residential units by 2021, and begin construction of 17,000 of those new units within 1,500 feet of transit by 2017. Furthermore, the Mayor set a goal to reduce the number of LA households who are severely rent-burdened by 10% by 2025 and Metro's Board recently voted to establish a portfolio-wide goal to ensure that at least 35% of all residential units developed on Metro land are affordable to low-income residents. Funding assistance from a variety of sources - among them Metro resources and revenues from the state's growing cap-and-trade fund - will help us ensure that many of the new units are reserved for lower-income households.

Reversing the history of disinvestment along the river corridor presents an excellent opportunity to build many of those hoped-for housing units in sustainable, transit-oriented and active transportation-oriented communities. At the same time, we must balance new development with preservation of existing housing—especially market-rate units that have historically been affordable to lower- and middle-income renters. Taken together, these efforts will help counter the displacement of long-time residents and provide new options for current and future residents of revitalized river communities.

Artist's rendering of new residential development featuring pedestrian access to the LA River. Copyright City of Los Angeles from the Los Angeles River Revitalization Master Plan (2007)

Ecosystem Recovery and Pollution Reduction

The Los Angeles River is currently the destination for polluting, waste-ridden runoff from throughout the region. Under these circumstances, most sections of the river have been unable to support a riparian habitat for many decades. Industrial uses along the river further contribute to poor local environmental conditions, not just for the river but for nearby residents as well.

As highlighted earlier in the report, according to the latest data from CalEnviroScreen, 37 percent of census tracts within a half-mile of the river fall within the most-polluted (worst 10 percent) tracts in California—twice the rate of LA County and nearly quadruple the average rate for the state as a whole (State of California Office of Environmental Health Hazard Assessment, 2014). A restored river ecosystem, new stormwater retention and filtration infrastructure, and upgraded connections to local parks and open space have the potential to dramatically improve environmental conditions for local residents and employers, transforming the LA River from a liability into a world-class network of parks and a tool for local pollution mitigation. Additional plant life will also have an immediate positive impact, cleansing the air of toxic chemicals and particulates while reducing the heat island effect in our urban communities.

LOCATION	SHARE OF CENSUS TRACTS AT OR ABOVE 90TH PERCENTILE FOR CALENVIROSCREEN POLLUTION INDEX
California	10%
LA County	19%
Within ½-Mile of the LA River	37%

Stormwater and Wastewater Retention

The LA River was paved and channelized to facilitate the rapid transport of stormwater from the city to the sea, and that remains its primary purpose to this day. While the value of flood control is beyond dispute, the current design of the river channel leads to the loss of large quantities of stormwater and wastewater that could otherwise be filtered through our soils, reducing pollution from runoff and adding to the local supply of groundwater. Aside from the environmental benefits of reduced pollution and a stronger local water supply, this would also have financial ramifications for the region: According to the LA County Flood Control District, during the heavy rainfall years of 2011-2012 the county was able to conserve 1 million acre-feet of water through recapture—a quantity that would have cost $550 million to buy from imported sources (Scauzillo, 2014). Mayor Garcetti has set a goal of decreasing the city's reliance on imported water by 50 percent over the next 10 years (Office of Los Angeles Mayor Eric Garcetti, 2014); with approximately 85 percent of our water imported from outside the region, a bold, committed effort will be required to achieve that goal.

Transportation and Accessibility

With the advancement of initiatives like Greenway 2020 and numerous parks and open space sites identified in the LA River Revitalization Master Plan, the river has the potential to become a key transportation and recreation corridor for residents and visitors to the city. The Master Plan envisions the river as a "green spine" snaking throughout the city, with "nerves" of green streets and pathways extending into local communities, bringing life wherever they reach.

As reinvestment and redevelopment along the river progresses, it will be essential to facilitate growth that supports these connections for the benefit of whole communities. This will require that some property be used for other than its highest and best economic use, such as for park space frontage along the river or for pedestrian paths into the community. Incentives or other forms of compensation must be identified to make this palatable to owners and developers, or we risk squandering the potential of this once-in-a-lifetime opportunity. We must also make the most of ongoing investments in Metro's rail program by coordinating station area improvements with links to key river and neighborhood greenway corridors.

Additionally, local, regional, and state governments should address funding inequities that lead to a disproportionately small share of transportation dollars being invested in public transit and active transportation. According to the 2012 California Household Travel Survey, the share of trips made by

walking, bicycling, and public transit have all doubled between 2000 and 2012, from a total of 11.4 to 22.5 percent of all trips (California Department of Transportation, 2013), yet just 1 percent of the state transportation budget is invested in active transportation (Curry, 2014). Shifting funding levels to match mode share targets, as was recently done in San Luis Obispo (Meyer & Rivoire, 2015), would provide a massive influx of local transportation investment that would benefit river-adjacent neighborhoods, businesses, and communities throughout Southern California.

Public Health and Safety

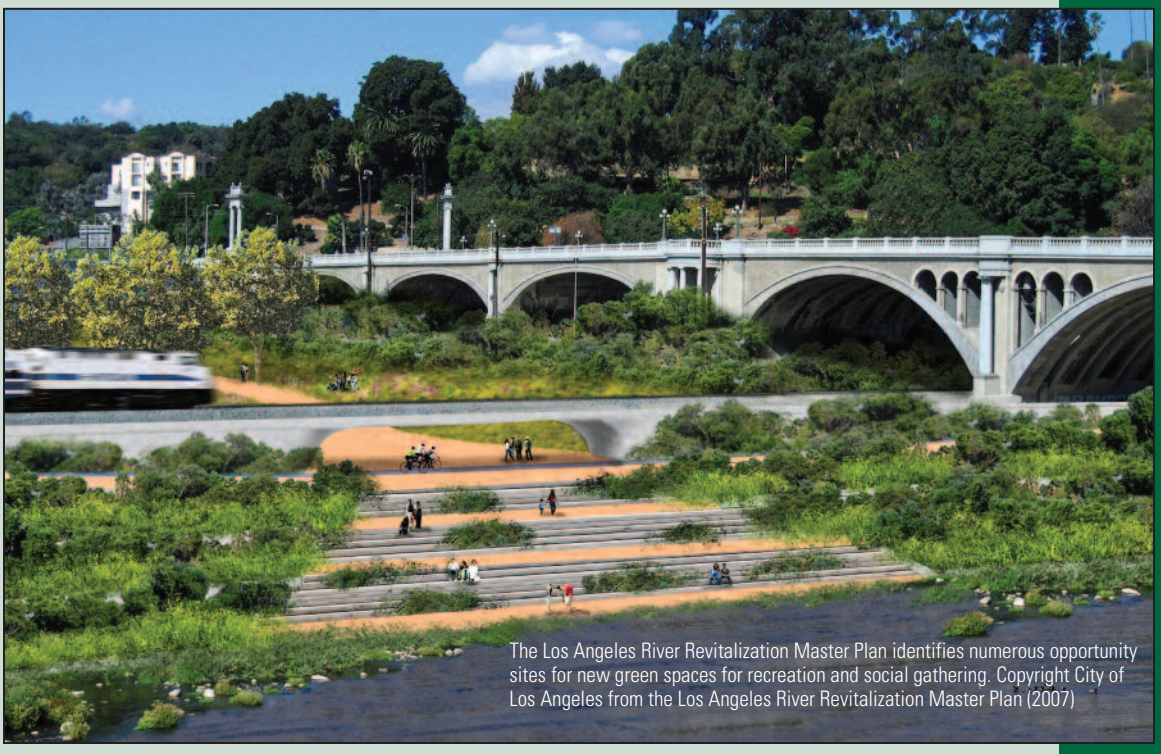
The health costs of physical inactivity are disproportionately paid by inner-city residents, people of color, and our lowest-income residents, all of whom have significantly less access to open, green spaces. Ensuring that all members of our region are given equal opportunities to live healthful, productive lives should be among our highest priorities while working to restore vitality to the river and its neighboring communities.

According to a recent study by the UCLA Center for Occupational & Environmental Health, the financial costs of physical inactivity far exceed the costs of investing in bikeways and walking paths along urban rivers. By one estimate, $1 spent on trails results in a savings of $3 in direct medical benefits. Another study found that the average annual cost per user of bicycle and pedestrian trails was $235, far less than the annual per-capita medical cost of physical inactivity, which is $622. In every case, river trails were found to be cheaper than the long-term costs associated with sedentary lifestyles (Jackson, et al., 2014).

Social Engagement and Community-Building

The planning process for river restoration and community redevelopment will provide local communities with opportunities for engagement and empowerment, with local residents playing an integral role in directing the future of their individual neighborhoods. At the same time, new parks and recreational spaces create physical assets for civic pride and open the door to informal social gatherings as well as programmed community-building events such as outdoor festivals, farmers markets, and cultural celebrations.

The social benefits of added green space are well established. In one important study from the University of Illinois, researchers found that "people living in buildings near green areas had a stronger sense of community and coped better with everyday stress and hardship," and that these environments can also lead to lower personal and property crime rates. It was also found that children with attention deficit disorders were better able to concentrate, complete tasks, and follow directions when exposed to natural environments (Ackerman, 2006).



The Los Angeles River Revitalization Master Plan identifies numerous opportunity sites for new green spaces for recreation and social gathering. Copyright City of Los Angeles from the Los Angeles River Revitalization Master Plan (2007)

CURRENT RIVER AND RIVER-COMMUNITY REVITALIZATION INITIATIVES

As noted above, there are numerous initiatives underway aimed at restoration of the river ecosystem and the environmental and economic revitalization of adjacent communities. A summary of some of the most prominent initiatives is included below. Although these initiatives and programs address a range of issues, what they all share is a need for coordinated leadership in developing and maintaining a comprehensive vision for the future of the river corridor.

Los Angeles River Revitalization Master Plan (LARRMP)

The LARRMP is in many ways the framework around which the various other river initiatives are built. It has helped lay the groundwork for many of the projects being planned or currently underway, largely by outlining its four core principles for river and community revitalization, described below.

Revitalize the River

Goals related to this principle include re-creation of a continuous riparian habitat corridor within the channel, and removal of the river's concrete walls where feasible. A full restoration to the river's naturalized condition would likely result in the loss of its ability to handle large-scale flooding events, so this goal must be balanced against the need to preserve the channel's flood control elements.

Green the Neighborhoods

With this goal the LARRMP authors identify a desire to create "a green ribbon throughout the City, with green strands extending the river's influence into adjacent neighborhoods in order to reconnect communities to the river and to each other." This aligns well with the goals of the Greenway 2020 initiative (below), the river access projects contemplated by the Army Corps of Engineers (below), and the mobility hub concept introduced in past LABC Institute Livable Community Reports.

Capture Community Opportunities

Reinvesting in the river and its adjacent neighborhoods will require input from local stakeholders to identify each unique community's goals and aspirations. A revitalized river will present new opportunities for recreation and social engagement, provide spaces for new public facilities and events, foster civic pride, and celebrate the cultural heritage of river communities.

Create Value

This principle refers to not just economic value, but to social, health, and environmental value as well. Initiatives along the river will serve to increase the attractiveness of the region as a place to live and work, will empower communities through participation and consensus-building, and will provide the many underserved neighborhoods along the river with a more equitable distribution of resources and opportunities.

Five primary values underpin the LARRMP vision: *environmental responsibility; social and geographic equity; community engagement; sustainable economics;* and *approaching issues with a system-wide perspective*. Each value is evident in the principles and goals outlined above, and specific case studies are highlighted in 20 "Opportunity Areas" identified as sites for potential investment, restoration, and redevelopment along the river.

Army Corps of Engineers' Los Angeles River Ecosystem Restoration, Alternative 20

The Los Angeles River Ecosystem Restoration Integrated Feasibility Report studies the potential for restoration of an approximately 11-mile section of the LA River, from Griffith Park to Downtown Los Angeles. The recommended alternative (Alternative 20) is the most expensive—exceeding $1 billion—and most comprehensive of the alternatives listed in the feasibility report. Its goals include reestablishing "riparian strand, freshwater marsh, and aquatic habitat communities," reconnecting the river to its major tributaries and regional habitat zones, and providing recreational opportunities and improved connections between the river and neighboring communities.

The City of Los Angeles will be responsible for funding a sizable portion of the restoration effort, in partnership with the federal government, so identifying revenue and financing options will be crucial to seeing this showcase river project move forward. Also, although the Corps' restoration project is an outstanding model for what is possible along the river, its geographically-limited scope—approximately one-fifth of the length of the river—highlights the need for additional restoration plans along the remainder of the corridor, as well as the considerable cost of a river-wide ecosystem restoration effort. Public and private leadership must work together to develop a unified, comprehensive revitalization plan while respecting the unique needs and wishes of communities along the river corridor.

Greenway 2020

Greenway 2020 is a combination of efforts by the City and County of Los Angeles, championed by the Los Angeles River Revitalization Corp, in partnership with local community organizations, business associations, foundations and elected leaders. To date, over half the route – 26 miles - has been completed through contributions from the County, local municipalities, and their partners. Companies have stepped in as well, including NBCUnversal's $13 million donation and partnership with LA County to extend the existing seven-mile river path from Griffith Park Zoo to Lankershim Boulevard by 2016.

The Los Angeles River Revitalization Corp has been highly effective at securing philanthropic, business and community support for the Greenway 2020 campaign. Several of their project successes include the La Kretz Crossing, a philanthropically-funded bicycle and pedestrian bridge that will connect Atwater Village to Griffith Park and a creative partnership with Golden Road Brewery that establishes the Greenway 2020 brand while raising funds to support its mission.

The Greenway is one of the few projects that includes the entire length of the river in its vision. As such, the LA River Revitalization Corp's experience in advancing this initiative will prove invaluable to supporting the development of a comprehensive river-wide planning and governance structure. The project may also serve as the starting point for expanding mobility and accessibility infrastructure beyond the river into nearby communities.

Los Angeles River Improvement Overlay (LA-RIO)

The LA-RIO is a special use district located along the 32-miles of the river found within the City of Los Angeles, from the river's headwaters to Boyle Heights. The LA-RIO was a recommendation of in the Los Angeles River Revitalization Master Plan and was adopted as an ordinance by the Los Angeles City Council in 2014. Design guidelines associated with the LA-RIO are currently being folded into the City's broader re:codeLA project. The district's intended function is to assist with implementation of the LA River Revitalization Master Plan, providing design guidelines related to watershed management, urban design, and mobility. These elements will guide private development and public investment in a way that encourages watershed improvements, promotes sustainable habitats, and improves mobility along the River Greenway and within surrounding neighborhoods
(City of Los Angeles Department of City Planning, 2008).

With standards and guidelines for both property improvement and "complete green streets," the LA-RIO can play an integral supporting role in raising the bar for urban form along the length of the LA River, while still maintaining the character of each distinct neighborhood. As new developments, renovations, and modernizations take place along the river, the City should provide incentives that encourage broad adoption of the proposed guidelines and promote investments in building more equitable communities.

Cornfield Arroyo Seco Specific Plan (CASP)

In 2013, the City of Los Angeles adopted the Cornfield Arroyo Specific Plan after a planning process that included extensive community-driven public outreach and stakeholder participation. The CASP seeks to incentivize development in the area just northeast of Downtown Los Angeles through detailed design guidelines and reduced restrictions on projects that comply with them. In fact, the CASP is the first specific plan in Los Angeles that has no minimum parking requirements, instead allowing developers and the marketplace determine the appropriate level of parking to provide (City of Los Angeles Department of City Planning, 2013).

The CASP is still a relatively new plan, and it remains to be seen how effective it will be in generating healthy growth in this neighborhood; regardless, this specific plan is an excellent example of how community input and creative planning may be used to attract desirable investment and development to a community that is poised for growth.

Northeast Los Angeles (NELA) Riverfront District Vision Plan and Economic Development Implementation Strategy ("NELA Vision Plan")

This vision plan focuses on the Glendale Narrows section of the LA River and was developed by the city in partnership with community members from Atwater Village, Cypress Park, Elysian Valley, Glassell Park, and Lincoln Heights. The plan was created to help leverage river revitalization efforts for the benefit of the participating neighborhoods, and is a model for community engagement in creating a holistic vision for redevelopment and restoration along the riverfront.

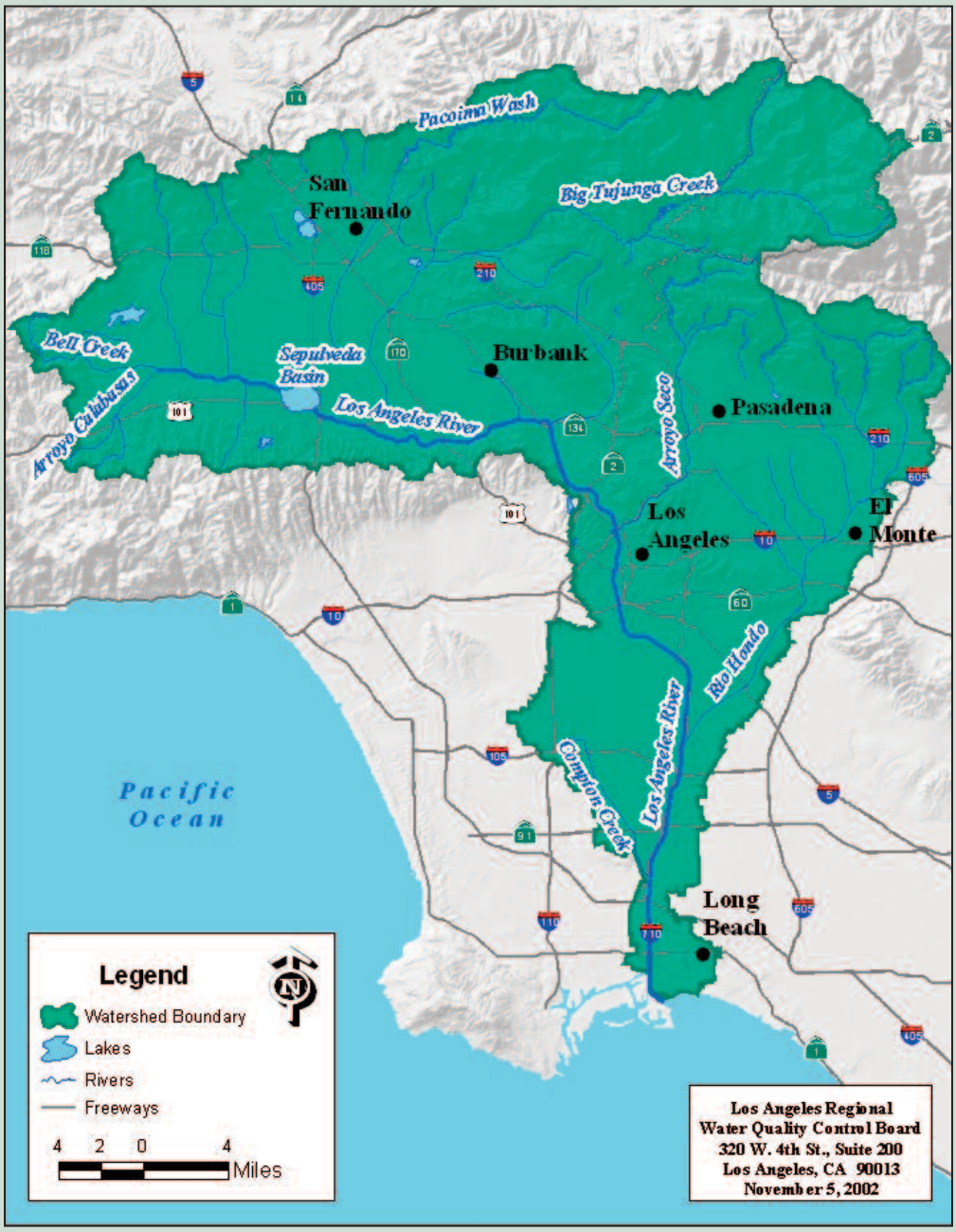
The NELA Vision Plan identifies a number of key goals, including the enhancement of a "sense of place" along the river, connecting neighborhoods to the river with mobility improvements, strengthening and supporting employment opportunities, improving governmental regulation and coordination of reinvestment activities, making space for social equity, and promoting sustainable economic development (Northeast L.A. Riverfront Collaborative, n.d.). These goals align well with those identified by the LABC Institute and its partners, highlighting further opportunities to collaborate with river communities in developing visions for redevelopment that enjoy the shared support of neighborhood groups, city staff, business groups, and real estate developers.

City of Los Angeles "One Water LA" Initiative

"One Water LA" is a City of Los Angeles initiative which seeks to address water quality, conservation, and flood control issues in a comprehensive manner. It seeks to break down "siloes" between how we plan for and manage storm water, recycled water, waste water, and other water types, and to approach watershed planning in a way that meets environmental goals while providing economic and social benefits to local communities (City of Los Angeles, 2015).

The City of Los Angeles Bureau of Sanitation is responsible for ensuring that the water quality within all of the city's watersheds are compliant with all prevailing regulations; the LA River and its tributaries account for a very large share of that territory. Because the Bureau's responsibilities extend to the tributaries and other water sources that feed into the LA River, the One Water initiative presents an opportunity to bring water quality improvements and ecosystem restoration beyond the banks of the LA River, into the neighboring communities through which those tributaries flow. Examples include the Arroyo Seco in Northeast LA, and the Tujunga Wash, which runs to the south between Van Nuys and North Hollywood. By improving water quality and managing the flow rates of tributaries and other water sources for the river, upstream improvements will have a direct impact on restoration efforts within the LA River itself.

Los Angeles River Watershed



Source: Los Angeles Regional Water Quality Control Board

Moving Forward

The above plans and initiatives, in addition to a host of others not mentioned, will play valuable roles in the revitalization of the river and the recovery of its adjacent communities. Thus far, however, there has been a lack of high level coordination bringing all of these plans and initiatives together. Each has its own geographic focus, sometimes overlapping with the boundaries of others; its own goals, generally in agreement with those of other initiatives, though not always; and its own funding strategy, where one exists at this stage of development.

To manage an effort of this scale and complexity, a governance structure will be required that can coordinate funding, programming, and investment, as well as manage conflicts when they inevitably arise. Without such a framework in place, the LA River will not meet its potential as an environmental, social, and economic hub for the LA County region. A fragmented, piecemeal, and most likely partial restoration will result, with groups competing for space and for dollars rather than cooperating for the benefit of all. The matter of governance and structure will be addressed in later sections of this report.

Revenue And Financing Opportunities

For nearly all of the initiatives seeking to restore the LA River and revitalize its neighboring communities, securing funding will be critical to success. With that in mind, we have identified a number of potential revenue and financing opportunities, with a special extended discussion of two of the most innovative and promising possibilities: *Enhanced Infrastructure Financing Districts* and a *Stormwater Mitigation Bank / Cap-and-Trade Program.*

Enhanced Infrastructure Financing Districts

With approval of California Senate Bill 628 in September 2014, the state authorized the establishment of Enhanced Infrastructure Financing Districts (EIFDs), an upgrade to existing infrastructure financing district (IFD) law that expands the scope of district activities and eases the path to district formation and approval of local funding mechanisms. Seen by many as a partial replacement for Redevelopment Agencies (RDAs), EIFDs provide cities and counties with a means for funding public capital facilities, redevelopment and brownfield development projects, construction and rehabilitation of affordable housing, transportation investments, and projects to implement sustainable communities strategies.

Like RDAs before them, EIFDs may use tax-increment financing to fund projects, though the scope of taxing jurisdictions has been curtailed compared to the former Redevelopment Agencies' relatively permissive structure. Unlike RDAs, EIFDs may primarily collect only the city and county share of property tax increment, and only with the consent of each participating taxing entity—taxes earmarked for school districts, or for local governments that don't wish to participate in the EIFD, may not be used. Despite these limitations, the revenue potential of this model remains significant, and it includes a number of other potential funding sources beyond tax increment, such as fees or assessment revenues. It also offers a governance structure that can encourage collaboration and an equitable distribution of benefits between stakeholders.

Projects relevant to the revitalization of the LA River, such as redevelopment of industrial sites, design and construction of new parkland, stormwater retention infrastructure, affordable housing, and neighborhood greenway connections, could all potentially be funded, at least in part, by Enhanced Infrastructure Financing Districts. The flexibility of EIFDs also allows for local districts that are tailored to the individual needs and goals of specific neighborhoods.

The primary advantages of the EIFD law, compared with the former IFDs, are the following:

- The maximum term of incremental tax allocation to districts is extended to 45 years from the date of issuance of a bond. Formerly, the limit was 30 years from the date of district formation.
- Joint Powers Authorities (JPAs) may now be established among participating jurisdictions.
- New financing tools are available in addition to tax-increment financing, including fees and assessment revenues, availability payments, and other sources; the former IFD law allowed tax increment financing only.
- EIFD funds may be used on a broader array of project types, no longer limited to public capital facilities (although some uses, such as for maintenance purposes, are still disallowed).
- Whereas IFDs required a 2/3 vote of approval by voters within a district, for both district formation and bond issuance, EIFDs require only one vote to move forward—at bond issuance—with approval of just 55 percent of voters.

Establishing an Enhanced Infrastructure Financing District (EIFD)

1. **Legislative bodies of participating taxing entities (City Councils and/or the County Board of Supervisors) authorize formation of a public financing authority (PFA)**
2. **Approve Resolution of intention to form EIFD, including identification of boundaries, facilities to be financed, proposed projects, economic development goals for the district, and statement of intent to finance EIFD activities with incremental property tax revenues**
3. **Develop an Infrastructure Financing Plan (IFP), which includes proposed boundaries, public facilities and other planned developments, and financing plan**
4. **Hold a public hearing before each taxing agency's legislative body to adopt the IFP; once all local agencies have adopted the IFP the EIFD is officially formed**

EIFD Funding Opportunities

When an EIFD is established, existing tax revenues are set at a baseline level, and those revenues continue to be passed on to existing taxing entities over the course of the district's life. For jurisdictions that choose to participate in the EIFD, the growth in tax revenues above that baseline is then reserved for the uses laid out in the Infrastructure Financing Plan. At the decision of the PFA, and with the approval of registered voters within the district, this revenue stream can be bonded against to generate more up-front funding for projects.

Since the LA River runs through such a large portion of the county, the land immediately surrounding the river presents a sizable revenue-generating opportunity for value capture by way of an EIFD. To see the magnitude of this potential, we analyzed a hypothetical EIFD spanning the 51-mile length of the river and including all parcels located within 1 mile in either direction of the riverbank. Our assumptions for this exercise are that only local municipalities along the river are involved in the EIFD—meaning that all county revenues and those of other taxing entities like school districts and community colleges would continue to be passed through to those jurisdictions—and that approximately 15 percent of the 1% General Levy in LA County is returned to local jurisdictions. The following table shows tax revenue and bond revenue potential for an LA River EIFD:

Potential EIFD Tax Increment Generation (All parcels within one mile of LA River)

	2% CONSERVATIVE GROWTH RATE	3% ENHANCED GROWTH RATE
Current Local-Share Tax Revenue	$208,538,171	$208,538,171
Year 1 EIFD Tax Increment	$4,170,763	$6,256,145
Total 45-Year Tax Increment (Nominal $)	$5,608,156,608	$9,951,412,607
NPV of Total Increment (7% Discount Rate)	$849,372,536	$1,437,475,328

Note: A more complete analysis of the EIFD potential along the river is included in **Appendix A** available at **labcinstitute.org**

The logistics of creating an EIFD of this size, which also crosses multiple city boundaries, would prove extremely difficult, so the prospects for establishing a single river-wide district are slim. Nonetheless, the above exercise illustrates that there are billions of dollars in potential value-capture available along the river for cities to direct to riverfront restoration and infrastructure development. The Implementation section below sets forth strategies through which these dollars can be put to work.

Stormwater Retention Credits (Bank) / Stormwater Cap-and-Trade Program

The Los Angeles River Basin has an overwhelming level of untapped potential for the retention of stormwater, wastewater, and recycled water. According to the Department of Water and Power (DWP), the City of Los Angeles currently imports over 85 percent of its water, with just 11 percent originating from local groundwater supplies (Los Angeles Department of Water and Power, 2014). Increasing the share of water that is retained and used to recharge our supply of groundwater can dramatically reduce the amount we spend on imported water, and can help to significantly offset the costs of greening our river and our neighborhoods.

Over the long term (to year 2099), the DWP estimates that the city could double or triple its water capture rates, from a current rate of 11 percent to between 24 and 33 percent (Los Angeles Department of Water and Power, 2014)—increasing from 92,400 acre-feet[2] today to between 197,300 and 285,900 acre-feet in the future. With current Metropolitan Water District rates set at $923 per acre foot of treated imported water (Metropolitan Water District of Southern California, n.d.), this equates to an approximate annual savings of $90-$180 million in 2015 dollars. (Water costs have also increased faster than inflation in recent years).

Given that a sizable share of our water retention goals can be achieved through distributed infrastructure projects that are compatible with green building techniques—including rain gardens and bioswales, permeable pavement, ecosystem restoration, and parkway development—there exists a clear opportunity to offset the cost of these investments with a reduction in imported water expenditures. Investing in more sustainable communities can be a means not only to improve the social and environmental quality of our neighborhoods, but also to enrich them economically.

In addition to the development of large-scale stormwater, wastewater, and recycled water retention infrastructure and other publicly-funded investments—potentially funded by the EIFD mechanism noted above—**a stormwater retention credit system could spur cost-effective recapture investments at a smaller scale, on a parcel-by-parcel basis.**

Such credits could function similar to a cap-and-trade system, in which a pre-determined amount of stormwater capture would be required of new development throughout the geographical region. Owners and developers would be free to buy and sell credits to determine the least expensive means of achieving that goal, rather than being required to each meet some minimum threshold, regardless of the individual characteristics of their parcels. In this respect, the system would operate more efficiently and likely with overall greater gains in water recapture, than Low Impact Development standards in place today.

For an example, one can imagine the owner of a flat parcel of land with high soil porosity. That owner might choose to invest extra funds into stormwater recapture on her site due to the high efficiency of water retention per dollar invested. Having exceeded the average stormwater retention requirement for a parcel of her size, she could then sell a portion of her credits to the owner of a hillside parcel for whom investing in retention infrastructure would be costly and relatively ineffective. Under such a system both parties profit: The owner of the flat parcel is able to earn a profit on the sale of her stormwater retention credits (she earns more from sale of the credits than it cost to build the additional retention infrastructure), and the owner of the hillside parcel is able to purchase the credits at less expense than it would cost to build additional retention infrastructure on his unwieldy site. Communities and the local government also benefit: They achieve at least the same level of total water recapture as if each site had managed its stormwater recapture independently, and they reduce the risk that onerous environmental regulations will prohibit otherwise productive redevelopment that increases the supply of housing, creates jobs, and contributes to a stronger tax base.

The Role of a Stormwater Retention Credit "Bank"

Developers might initially be concerned with the lack of a track record for such an arrangement—that, if they spent extra on stormwater recapture, there would be no buyer for their excess credits. To avoid this problem the City or a JPA of the County and river-side cities could step in to establish a Stormwater Retention Credit "Bank". Such a bank could initially be funded through a capital expense set-aside tied to future savings on imported water costs, or more conventional sources such as from the recently-approved $7.5 billion state water bond, Proposition 1. The bank could benefit the cap-and-trade market in several distinct ways: By acting as a buyer for early-adopting developers to "make the market" before the program is self-sustaining; by serving as a clearinghouse and marketplace for landowners seeking to buy and sell credits; and by developing green infrastructure projects that go far above and beyond the on-site stormwater capture requirements, then selling the credits created by those projects to generate a new revenue source for future public projects.

[2] An acre-foot of water will cover one acre of ground to a depth of one foot, and contains 325,829 gallons.

Implementation Strategy: Identifying Pilot Districts

For a comprehensive LA River development strategy to have sustained success, long-term financing streams must first be identified, then complemented by planning and development tools that enable developers to make private investments that leverage public spending in the region. Successful plans must have both short-term and long-term strategies and achievable, quantifiable goals. The vast area covered by the river and its neighboring communities makes the prospect of crafting a single plan to enhance livable community development along its entire length daunting. Consequently, an ideal first step toward a comprehensive strategy would be to develop smaller geographic areas along the river—scalable "pilot districts" that serve as a proof of concept for financing, and development tools that can eventually be utilized along the entire river.

This report contemplates two such pilot districts that can be used as proving grounds for a river-wide development program. While these are by no means the only river-adjacent communities that stand to benefit from investment or contain the most development opportunity sites, our analysis of demographic and development trends point to these geographies as areas that are well-positioned o demonstrate the potential of a river-focused planning and policy agenda relatively quickly. The ultimate goal of these pilot districts would be to test the effectiveness of a comprehensive "developer's toolkit" that can then be scaled and applied to all suitable communities along the river. In selecting pilot district locations, we have considered the following criteria:

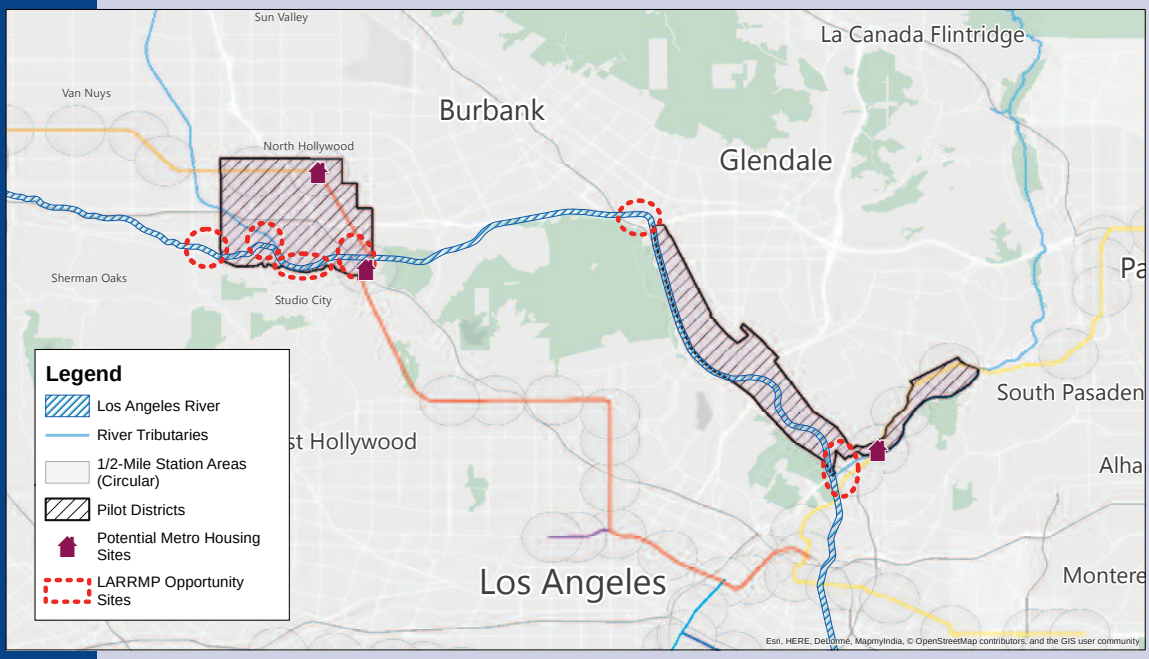
- **Demographic trends that show potential for sustainable growth.** These trends include increased employment, population and housing density, or propensity for use of transit and active transportation. While few areas throughout the city exhibit indicators of growth in all of these areas, those that do are more likely to embrace increased development around the river and near transit hubs, and to successfully integrate this new development into existing communities.
- **Intersection between the river, transit infrastructure, and community assets.** As illustrated in previous LABC Institute Livable Communities Reports, the right mix of uses and infrastructure is essential for the sustainable development of livable neighborhoods. The LA River, home to an extensive network of planned or completed pedestrian paths and urban trails, is a unifying connector that can extend the reach of transit into surrounding communities. In particular, areas near the river with existing growth near transit stops and stations are poised to leverage public investments effectively in the near term. In identifying potential pilot district locations, we searched for opportunities to connect transit lines with neighborhoods that have potential to grow and meet the region's development needs.
- **Developer sentiment and trends of recent or planned investment.** There are always "hot" neighborhoods that defy explanation by demographic trends alone. Development so often comes in waves, and one catalytic project can spark a market trend that spreads throughout the area. Though this criterion is more subjective and less quantifiable than the prior two, our pilot districts seek to identify areas that have either seen recent investment by developers or have a number of opportunity sites that may be attractive for development due to low land costs, proximity to other growing neighborhoods, or high quality transit connections.

Demographic trends presented earlier in this report pointed to three key nodes of growth activity along the LA River: the Warner Center area, Studio City-North Hollywood, and Downtown Los Angeles. The Warner Center Specific Plan is already in place and being used to manage a recent surge in development in that area, and Downtown LA proper has seen unprecedented growth without the need for sizable incentives beyond already-favorable zoning, so those two areas are not ideal for river pilot districts. Northeast Los Angeles (NELA), just outside of Downtown, and Studio City-North Hollywood, however, each provide unique opportunities to identify and implement successful strategies for river redevelopment.

Northeast Los Angeles (NELA) River District

The Northeast Los Angeles River District, as illustrated in the map below, is a relatively small, L-shaped area that extends along both sides of the river from the 134 Freeway on the north to the 110 Freeway on the south, then follows the path of the Gold Line light rail corridor along the 110 Freeway northeast to Highland Park station. Though the land area of the district is relatively small—just over 5 square miles—it serves as a crossroads between light rail transit and the active transit corridor

River Pilot Districts and Development Opportunity Sites



being developed alongside the river. The neighborhoods within this district are characteristic of the smaller-scale, underutilized development patterns seen surrounding many stretches of the river, and there are a number of opportunity sites for residential, office, and light industrial uses located within this small area. At the same time, many surrounding neighborhoods have seen significant private investment in recent years, providing excellent active streets, businesses, and community assets in close proximity to this pilot district.

In addition to market trends that may make the NELA River District attractive for investment, there is a substantial amount of overlap between the boundaries of this pilot district and the NELA Vision Plan described earlier in this report. The Vision Plan is an exemplary model of community engagement that can drive successful planning processes. That process has identified the key development priorities of the NELA riverfront communities that the pilot district should seek to address. Previous planning efforts along the river have conflicted with one another, at times, but this is an opportunity to build a pilot district on the foundation of visionary and strategic work already performed by public and community partners. This level of coordination will encourage new development that fits within the context of existing neighborhoods and discourages displacement of current residents and employees.

Studio City-North Hollywood River District

This district falls along a different point on the development spectrum than the Northeast LA District, with a substantially higher density of existing residential and commercial development, but is typical of a number of other communities along the river. This geographic area has seen some of the highest job and population growth of any riverside neighborhood over the past few years, and these trends are poised to continue as developers have honed in on this area for multifamily residential and commercial investment.

Studio City is located immediately adjacent to the river and contains several key development opportunity sites. North Hollywood, though located slightly farther from the river, is connected to Studio City through development patterns and transit, and is home to a large public transportation hub at the intersection of the Red Line subway and Orange Line bus rapid transit (BRT) corridor. These transit connections have led to real growth in the proportion of local residents using public transportation, walking, and bicycling for their daily commute trips.

Though there has been a high level of recent investment in this community, there are no current efforts to directly manage development in a fashion that integrates livable community development with the river infrastructure. As such, there is an opportunity for this pilot district to provide a comprehensive vision and set of tools to manage larger-scale development along or near the river.

The Developer's Toolkit

Identifying the geographical boundaries for the pilot districts described above is only the first step in the creation of a successful implementation strategy. The districts must be equipped with a set of financing options, planning tools, and development incentives to be able to achieve the stated goals for river redevelopment. The following "Developer's Toolkit" is a set of new funding sources and planning tools that are not yet available to developers and should be established within the river pilot districts to help incentivize catalytic developments, leverage public investment, and expand the supply of workforce housing in these areas. Since these recommendations are a departure from Los Angeles City Planning and Building and Safety policies, the institution of this Developer's Toolkit within pilot districts can be used by policymakers to evaluate which tools are most effective and which should be explored for expansion to other parts of the region.

Developer's Toolkit:

- **Project financing through establishment of EIFDs**
- **Design guidelines created with local stakeholder input**
- **Expedited plan check and permitting for projects complying with design guidelines**
- **True by-right development through revision of Site Plan Review process**
- **Increased density bonus incentives for projects that include workforce housing**

Project Financing: EIFDs

The value capture potential of an Enhanced Infrastructure Financing District along the entire length of the river was examined in the Revenue and Financing Opportunities section of this report, but here are numerous obstacles to establishing an EIFD that crosses so many jurisdictional boundaries. Focusing EIFDs on smaller pilot district geographies can more feasibly generate revenue streams to invest in local catalytic projects at the neighborhood level, and these smaller EIFDs could be more efficiently established and managed.

The chart below, along with **Appendix B and Appendix C** available at **labcinstitute.org,** show that even relatively small EIFDswithin pilot districts can generate significant revenue streams to pursue public-private development goals. The Year 1 Tax Increment in the table below provides a baseline revenue figure, which will be used by finance professionals to estimate future revenue streams and determine bond capacity; annual revenues grow rapidly, however, as the differential between baseline property tax rates and increasing property values grows larger. The Net Present Value ("NPV") of the 45-year tax increment is calculated to reflect a realistic (though conservative) estimate of bonding potential, based on the timing of revenue collections and the expected financial return on competing investment opportunities for potential bond buyers.

Potential EIFD Tax Increment Generation for River Pilot Districts

	NELA RIVER DISTRICT		STUDIO CITY-NORTH HOLLYWOOD DISTRICT	
	2% Growth	3% Growth	2% Growth	3% Growth
Year 1 Tax Increment (TI)	$91,101	$136,652	$453,567	$680,351
Total 45-Year TI	$122,498,189	$217,367,328	$609,882,514	$1,082,208,106
Net Present Value of TI at 7% Discount Rate	$18,552,727	$31,398,575	$92,368,579	$156,324,284

EIFDs within pilot districts can be combined with complementary financing tools to generate substantial public investment in green infrastructure, commercial development and workforce housing. While EIFDs are not a "silver bullet" for funding all local needs, tax-increment financing can be used with other incentives outlined in the developer's toolkit to leverage private investment. Further, implementation of pro-growth land use policies combined with the developer's toolkit and local funding will demonstrate a strong commitment to sustainable economic development, and may help secure additional funding from various local, state, and federal sources for projects within the pilot district.

Existing and Potential Complementary Funding Sources

- **State cap-and-trade proceeds (Affordable Housing and Sustainable Communities Program)**
- **State water bond (Proposition 1)**
- **California Active Transportation Program**
- **Congestion Mitigation and Air Quality Improvement (CMAQ) program**
- **Metro Call for Projects and Transit-Oriented Development Program**
- **Measure R 2.0 funds**
- **Quimby Fees**

Design Guidelines

The physical connections between new developments and the river, and the manner in which new construction near the river interacts with transit, storm and wastewater systems, existing neighborhoods, and other key infrastructure, are all integral to the sustained success of community revitalization. At the same time, as illustrated by the differing scale and intensity of development between the two pilot districts described above, each river-adjacent community has its own neighborhood context that must be taken into account when attracting new investment.

Consequently, each pilot district should have prescriptive design guidelines that are established with ample participation from both local residents and real estate industry professionals, helping developers readily understand exactly how their projects can fit in with their surroundings. As a starting point, pilot district communities may take cues from the LA River Improvement Overlay (LA-RIO) guidelines, building on them to develop more comprehensive, contextual specifications for neighborhood design and development. Design guidelines in other parts of Los Angeles are often viewed as an afterthought in the planning process, but guidelines for these pilot districts should be the jumping-off point for new development and should be tied to other benefits and incentives.

Expedited Plan Check and Permitting

Design guidelines established for each pilot district may need to be quite detailed in order to integrate project massing, public access, neighborhood aesthetics, and low-impact development standards. To attract developers to the districts, those projects that strictly abide by the guidelines must be given a "fast track" path to entitlement and permitting. This gives developers a set of clear expectations, rather than submitting projects to uncertain discretionary processes with significant risks as to final schedule and conditions of approval.

By-Right Development and Site Plan Review

In prior LABC Institute reports, we have brought attention to the need for true "by-right" development for projects that the City wants to incentivize in particular locations. In fact, an oft-cited challenge of doing business in Los Angeles is the City's arduous and unpredictable permitting and review process. The Department of Building and Safety is admirably working on policies and programs to reduce permitting obstacles for all development, including enhanced case management, customer service, and concurrent design, entitlements, and plan check processes, but more must be done to facilitate increased development in the river pilot districts.

The development community is also well aware of challenges of the California Environmental Quality Act (CEQA) compliance process, and pilot districts can look to the example set by the Warner Center Specific Plan to overcome these challenges. At Warner Center, the City underwent a Master Environmental Impact Review (EIR) process, studying the impacts of the most intensive development allowable under the new specific plan. Under this Master EIR, large new projects will be able to receive their entitlements under a Mitigated Negative Declaration (MND) rather than being forced to complete a full EIR, potentially saving incoming developers years on their schedules and millions of dollars in entitlements costs.

On a local level, the City's Site Plan Review process too often acts as a deterrent to new construction rather than as a guide for healthy development. Because any project that results in an increase of 50 residential units or 50,000 square feet of non-residential floor area is subject to Site Plan Review, which adds time, cost, and potential conditions of approval, the policy is detrimental to meeting Los Angeles' housing needs. Within pilot districts, projects that comply with underlying zoning, meet all of the design guidelines, and reach affordability goals appropriately set for each district, should either bypass the Site Plan Review process regardless of their size or only be subject to an administrative clearance by City Planning staff, with an expedited path to the plan check process.

[3] Estimating approximately 30,000 housing units in multifamily buildings with 10+ units built between 2008 and 2013, based on American Community Survey 5-Year Estimates for Selected Housing Characteristics.

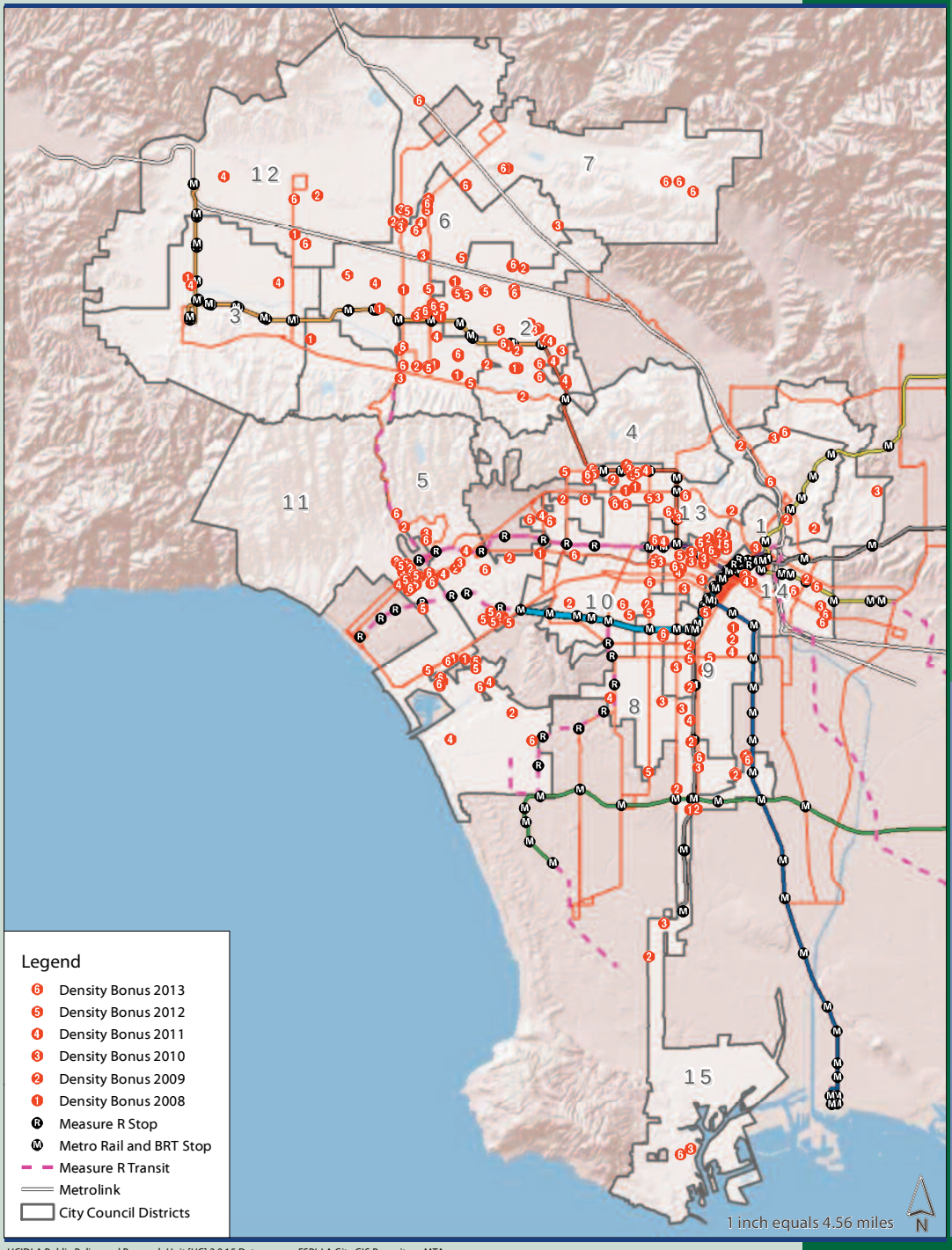
Density Bonus Incentives

California's state-mandated density bonus law provides incentives to developers who commit to building housing units at different affordability levels. In the City of Los Angeles, however, these bonuses have not been sufficient to yield a significant amount of additional affordable units in projects that would otherwise be all market rate housing. According to data from the City's Housing and Community Investment Department, between 2008 and 2013 only 187 market rate projects took advantage of the density bonus, providing a total of 1,406 residential units affordable to households earning 80% of Area Median Income (AMI) or less, and only 81 units affordable to those earning between 80% and 120% of AMI—what earlier LABC Institute reports have identified as workforce housing that is critical to a healthy regional economy. Unfortunately, these numbers pale in comparison to the number of affordable and workforce units that must be built annually to meet the city's needs, and accounts for only approximately 5 percent of the total multifamily units constructed over this time period[3].

The density bonus is a promising tool for encouraging development of more housing that s affordable to all Angelinos. However, the City must make substantial changes to the thresholds to be met for a project to qualify, and to the magnitude of the bonus once that threshold is reached or exceeded. Los Angeles should take the lead on pursuing meaningful analysis of existing density bonus policies to createa more useful tool that can better help the city meet its ambitious affordable housing goals.

CITY OF LOS ANGELES

Density Bonus Projects 2008-2013



HCIDLA Public Policy and Research Unit [HC] 3.2.15 Datasources: ESRI, LA City GIS Repository, MTA

Connecting The Dots: The Role Of Governance In A Successful Development Strategy

Earlier in this report we pointed out many of the plans and programs, each with their own geographies and jurisdictions, seeking to revitalize the LA River and the neighborhoods connecting this critical piece of infrastructure to the greater region. Without adequate planning, our recommended pilot district implementation strategy may only serve to muddy the waters even further. Therefore, quality partnerships and effective governance are essential to the long-term success of the region's development efforts along the river.

The pilot district program and the EIFD funding tool offer the City of Los Angeles an opportunity to take the lead in the creation of a governance structure that can bridge the many agencies and jurisdictions with a connection to the river. The Public Financing Authority required of an EIFD could be vested in an existing agency with the institutional experience to oversee funding and land use decisions, or with a new regional body with representation at the city and county level and authority to act in collaboration with other jurisdictions. This entity should be empowered beyond the management of EIFD funds, with land use authority and access to additional funding sources where appropriate. The LA River is an essential component of Los Angeles' long-term growth, and establishment of a governing body to make strategic development decisions with the greater river vision in mind will dramatically enhance the quality of that growth. The critical issue of governance along the river is a key area for further research by the LABC, and city and county partners.

Metrics for Success and Implementation Timeline

Recommendations found in this report have different effective timeframes, with some requiring substantial public processes that will take years to complete, and others capable of being implemented quickly within the existing policy framework. The following are short-, mid-, and long-term implementation strategies, along with quantifiable milestones against which to measure policy and programmatic success:

Metrics for Success

- **Open space and ecosystem recovery, measured by green space accessible to river-adjacent communities**
- **Improved neighborhood connections to the river, measured by the Mayor's "miles of LA River public access" metric**
- **Construction of new housing units, meeting stated targets for affordable and workforce units**
- **Adoption and expansion of stormwater credits and cap-and-trade program**
- **Increased mode shift to non-automobile transportation**
- **Equitable distribution of environmental benefits**
- **Job and tax base growth from new commercial development**
- **Private to public investment ratio in target communities, to measure leverage of public funding**
- **Minimized displacement by new development, measured by replacement units vs. demolished units at each affordability level**

Implementation Timeline

Short-Term (1-2 Years)

- Develop framework for stormwater credits / cap-and-trade system
- City of Los Angeles take the lead in coordinating with other jurisdictions to develop governance structure for managing river development
- Engage pilot district community members to develop district design guidelines
- Analyze existing neighborhood conditions and socioeconomic data to determine desirable affordable and workforce housing goals for pilot districts, to be tied to density bonuses

Mid-Term (Approx. 5 Years)

- Complete and approve specific plans and design guidelines
- Establish and manage pilot district EIFDs and PFAs to oversee funding; complete MOUs with other governing bodies to give PFAs additional authority over land use and development

Long-Term (15+ Years)

- If feasible, establish and manage EIFD for greater length of river to help fund regionally significant projects
- Review development trends in pilot districts on an annual basis to determine which developer tools should be replicated and expanded to other river-adjacent communities

A Revitalized LA River: The Time Is Now

There are widespread opportunities for livable, sustainable growth around the Los Angeles River, and now is the time to leverage the resources of the public and private sectors to make the most of them. This critical spine, running through the heart our county, should no longer be viewed as an obstacle to traverse, but rather a focal point for economic, community, and environmental revitalization—an essential resource for bringing vitality and sustainability to the region's diverse communities.

After many years of work on the part of stakeholders from across the region, a critical threshold of support for river revitalization has been reached. Now, the City of Los Angeles must build upon that strong foundation, taking the lead and establishing a comprehensive strategy and governance structure that can make the most of scarce resources to see projects such as the Army Corps of Engineers ecosystem restoration through to fruition, and to promote equitable investments in river communities throughout the city. A well-crafted plan, using new and innovative funding and policy tools, can take advantage of the region's greatest untapped resource, providing opportunities for new housing and commercial development and connecting abundant new green space with cleaner, healthier, more affordable transportation options. Now is the time to capitalize on this opportunity and help create LA River communities that will set the standard for sustainability and livability in the years to come.

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A more complete analysis of the EIFD potential along the LA River and in both pilot districts can be found in Appendix A, Appendix B, and Appendix C to this report at **http://labcinstitute.org/LABC-Institute-Research**, or by using the QR Code below.

Notes

The Taylor Yards Crossing Project won for this years' 2015 Los Angeles Architecture Awards for the Design Concept Category.

While the initial intention was to leave the riverbed uninterrupted, the mandated support becomes a catalyst for community interaction. In addition to permanent viewing decks, temporary event spaces can be installed and it is all powered through the solar panels on top of the bridge.

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GRACE ROBINSON HYDE
Chief Engineer and General Manager

August 28, 2015
File No. 31-370-40.4A

Via Electronic Mail
Mr. Samuel Unger
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Unger:

Comment Letter – LA County MS4 Permit EWMPs

The Sanitation Districts of Los Angeles County (Sanitation Districts) appreciate the opportunity to provide comments on the draft Enhanced Watershed Management Programs (EWMPs) submitted pursuant to the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit. The Sanitation Districts are a confederation of 24 independent special districts that provide for the water pollution control and solid waste management needs of approximately five million people in 78 cities and unincorporated areas of Los Angeles County. The Sanitation Districts own and operate 11 wastewater treatment plants and maintain approximately 1,400 miles of sewer lines, which convey flows from industries and municipalities within service areas to the aforementioned wastewater treatment plants. The Sanitation Districts have reviewed the various draft EWMPs as they pertain to our facilities. Specifically, we have comments regarding the Palos Verdes Peninsula Water Management Group (PV Group) EWMP relating to two of our facilities: the Joint Water Pollution Control Plant (JWPCP) and the Palos Verdes Landfill Main Site (PVLF Main Site), which are described below.

Joint Water Pollution Control Plant

As part of the water quality priority analysis, the PV Group EWMP completed a source assessment for the watershed management area. The source assessment identifies and describes various National Pollutant Discharge Elimination System (NPDES) sources and non-point sources. The Sanitation Districts' JWPCP is included in the NPDES sources discussion and is described as "…the Los Angeles County Joint Water Pollution Control Plant and discharges into the Santa Monica Bay." (page 2-33). The JWPCP discharges to the Palos Verdes Shelf; however, not the Santa Monica Bay as stated in the PV Group EWMP. As such, we request that the PV Group EWMP is amended to state "…the Los Angeles County Joint Water Pollution Control Plant and discharges ~~into~~ to the coastal waters of the ~~Santa Monica Bay~~ Palos Verdes Shelf." to accurately describe the discharge location.

Palos Verdes Landfill

The PV Group EWMP includes a section explaining the selection of water quality control measures, one of which is structural regional best management practices (BMPs). The PV Group EWMP identifies existing, planned, and proposed regional BMPs within the watershed management area. More specifically, the Machado Lake Watershed area includes a proposal to place treatment BMPs on or adjacent to the closed PVLF Main Site. We appreciate that the PV Group recognizes significant work is needed to investigate the feasibility of this proposal. If a BMP is considered on the PVLF Main Site, either a storage-and-treatment facility or a subsurface flow lined-wetland, implementation of the BMP will need to overcome significant land use and technical challenges. The Sanitation Districts are currently responsible for the operation and maintenance of the environmental control systems at PVLF Main Site under a Joint Powers Agreement with the County of Los Angeles. Additionally, the County of Los Angeles is ultimately responsible for the recreational development and use of the PVLF Main Site. As such, any project encompassing jurisdictional land use changes will require involvement and approval from the County of Los Angeles. Moreover, if implementation of the regional BMP results in interruption of the environmental control system or disturbance of the final landfill cover at the PVLF Main Site, all related geotechnical and environmental issues will require review and approval from the Department of Toxic Substances Control (DTSC) that provides regulatory oversight of the closed Palos Verdes Landfill. For the aforementioned reasons, the Sanitation Districts recommend that the PV Group coordinate with our agency as well as Los Angeles County, DTSC, and other pertinent agencies if the feasibility of PVLF Main Site Regional BMP is going to be further evaluated.

If you have any questions or need further information, please contact Shannon Bishop at (562) 908-4288, extension 2843 or sbishop@lacsd.org.

Very truly yours,

Ann T. Heil
Section Head
Monitoring Section

ATH:SAB:lmb

cc: Renee Purdy, Ivar Ridgeway

October 5, 2015

Via electronic mail

Mr. Sam Unger
Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Email: losangeles@waterboards.ca.gov

Re: Comments on Upper San Gabriel River Group's Revised Draft Enhanced Watershed Management Program and Revised Coordinated Integrated Monitoring Program (August 2015)

Dear Mr. Unger:

Thank you for the opportunity to comment on the Upper San Gabriel River (USGR) Group's revised draft Enhanced Watershed Management Program (EWMP) and Coordinated Integrated Monitoring Program (CIMP). This is to confirm that comments submitted on behalf of the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay on August 31, 2015 continue to apply to the revised USGR EWMP and CIMP. We look forward to working with staff to achieve compliance with permit terms and water quality protection.

Sincerely,

Becky Hayat
Staff Attorney
Natural Resources Defense Council

August 31, 2015

Via electronic mail

Mr. Sam Unger
Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Email: losangeles@waterboards.ca.gov

Re: Comments on Draft Enhanced Watershed Management Programs Pursuant to the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit), NPDES Permit No. CAS004001, Order No. R4-2012-0175

Dear Mr. Unger:

On behalf of the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (collectively, Environmental Groups), we are writing with regard to the draft Enhanced Watershed Management Programs (EWMPs) submitted by the Permittees pursuant to the Los Angeles County Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. CAS004001, Order No. R4-2012-0175 (2012 Permit or Permit). This comment letter addresses, in general, draft EWMPs for the following watershed groups: Upper Los Angeles River (ULAR),[1] Upper San Gabriel River (USGR),[2] North Santa Monica Bay Coastal Watersheds (NSMBCW),[3] and Beach Cities.[4]

[1] Permittees include Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Canada Flintridge, Los Angeles, Montebello, Monterey Park, Pasadena, Rosemead, San Gabriel, San Marino, South Pasadena, Temple City, Los Angeles County, and the Los Angeles County Flood Control District.
[2] Permittees include Baldwin Park, Covina, Glendora, Industry, La Puente, Los Angeles County, and the Los Angeles County Flood Control District.
[3] Permittees include Malibu, Los Angeles County, and the Los Angeles County Flood Control District.
[4] Permittees include Hermosa Beach, Manhattan Beach, Redondo Beach, Torrance, and the Los Angeles County Flood Control District.

We appreciate the opportunity to submit these comments to the Los Angeles Regional Water Quality Control Board (Regional Board). Given the large volume of material submitted by the Permittees, Environmental Groups were unable to review in detail all of the draft EWMPs. The lack of particular comments on a specific EWMP, however, should not be taken as indication of our agreement with the sufficiency or legality of those documents. In many cases, our specific examples are representative of deficiencies in all of the submitted draft EWMPs. As a result, we urge the Regional Board to review all 12 submitted management programs in light of our comments here.

I. Introduction

As an initial matter, Environmental Groups' comments on the draft EWMPs submitted by the Permittees should not be construed as approval or acceptance of the 2012 Permit terms. We continue to maintain that several provisions of the Permit are in violation of the federal Clean Water Act (CWA) and California Porter-Cologne Water Quality Control Act. Environmental Groups filed a petition for review of the 2012 Permit with the State Water Resources Control Board (State Board), which discusses, in detail, the ways in which the Permit violates both federal and state law. After making certain changes to the Permit and its accompanying Fact Sheet (none of which affected the provisions Environmental Groups contest as illegal), the State Board upheld the Permit on June 16, 2015. As a result, on July 24, 2015, Environmental Groups filed a petition for writ of mandate in a California Superior Court to challenge the State Board's decision to uphold the Permit with all of its illegal provisions. The Court has yet to make a determination on our petition.

Due to the deficiencies in the submitted draft EWMPs, many of which are detailed below, the programs do not ensure that discharges from the Permittees' MS4 systems will not "cause or contribute" to exceedances of Receiving Water Limitations (RWLs), including Total Maximum Daily Loads (TMDLs) in the 2012 Permit, and thus are in violation of Permit requirements. This letter is not intended to exhaust the reasons why the submitted draft EWMPs fail to meet Permit requirements and why the EWMPs will not ensure ultimate compliance with water quality standards.

II. Summary of Comments

Several of the draft EWMPs reflect significant effort on the part of the Permittees, mainly with respect to the level of specificity that is provided regarding the set of Best Management Practices (BMPs) proposed for reaching compliance. However, the submitted EWMPs, in numerous aspects, fail to meet the requirements of the 2012 Permit or are otherwise inadequate to control pollution and control the region's water quality. The Regional Board should not approve these programs until such deficiencies are corrected. Common issues with the submitted draft EWMPs include:

1. The proposed financial strategies are inadequate;

2. Proposed compliance schedules are in violation of state or federal law or are otherwise unreasonably long;

3. Permittees' use of the Exceedance Volume approach is flawed;

4. The implementation strategy relies too heavily on the adaptive management process, which itself relies on flawed and inadequate monitoring programs;

5. There is insufficient analysis to back up the claims about what can be achieved through green streets implementation and regional BMPs implemented on privately owned lands;

6. The EWMPs lack sufficient detail to achieve load reductions assumed from institutional BMPs;

7. In at least two instances, the RAA's model calibration regularly diverges from observed values at higher stream flows;

8. The analysis for LID BMPs is limited to the consideration of only two approaches: biofiltration and bioretention;

9. The assumptions regarding redevelopment are inadequate;

10. In at least two instances, there are several potential sources of error associated with the data underlying the model calibration;

11. The margins for error in reaching TLRs as a result of BMP implementation are extremely small;

12. In at least two instances, Permittees fail to consider the possible intermingling of privately owned stormwater infrastructure within the full MS4 system;

13. In at least one instance, no analysis of standards applicable to discharges to ASBS are included, and existing data for discharges to ASBS are not included in the modeling exercise or the EWMP;

14. There is insufficient data to demonstrate reasonable assurance of compliance with applicable dry weather Permit limits;

15. In at least two instances, there is very little to no discussion on how trash reduction requirements will be met; and

16. The claims about removal efficiencies by catch basin inserts are questionable.

III. Common Deficiencies Identified in Draft EWMPs

The 2012 Permit allows for Permittees to "develop Watershed Management Programs to implement the requirements of [the Permit] on a watershed scale through customized strategies, control measures, and BMPs." (2012 Permit, at VI.C.1.a.) Permittees that elect to participate in an EWMP must develop a plan that:

> comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area in a Watershed Management Area, for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain (i) all non-storm water runoff and (ii) all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply, among others.

(Id. at VI.C.1.g.) In areas of the Permittees' jurisdictions where retention of the 85th percentile, 24-hour storm event is not technically feasible, the EWMP "must include other watershed control measures to ensure that MS4 discharges achieve compliance with all interim and final WQBELs set forth in Part VI.E… and [] ensure that MS4 discharges do not cause or contribute to exceedances of receiving water limitations in Part V.A." (Id. at VI.C.1.g.v.) EWMPs are additionally required, among other provisions, to:

- identify water quality priorities through conducting a water quality characterization of the watershed, classifying water-body pollutant combinations (WBPCs), conducting a pollutant source assessment, and prioritizing pollution issues to be addressed (Id. at VI.C.5.a.);
- select watershed control measures, including identifying specific "strategies, control measures, and BMPs to implement their individual storm water management programs, and collectively on a watershed scale" (Id. at VI.C.5.b.);
- conduct a Reasonable Assurance Analysis (RAA) for each WBPC addressed by the EWMP, in drainage areas where retention of the 85th percentile, 24-hour storm event is not technically feasible (Id. at VI.C.5.b.iv(5), VI.C.1.g.v.);
- establish compliance schedules and interim milestones for achieving pollutant reduction goals (Id. at VI.C.5.c.);
- except where Permittees demonstrate technical infeasibility, "include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E. and do not cause or contribute to exceedances of receiving water limitations in Part V.A. by retaining through infiltration or capture and reuse the storm water volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the multi-benefit regional projects" (Id. at VI.C.1.g.iv.); and
- ensure that a financial strategy is in place to fund the implementation of identified control measures and projects.

In numerous regards, and as detailed further below, the Permittees appear to be proceeding with plans that fail to meet the above-referenced or other legal requirements.

A. The Proposed Financial Strategies are Inadequate

The 2012 Permit requires that Permittees participating in an EWMP maximize the effectiveness of funding, and "[e]nsure that a financial strategy is in place" to implement the pollution control measures identified by the RAA and EWMP process. (2012 Permit, at VI.C.1.g.vi., VI.C.1.g.ix.) This Permit provision underpins the State Board's rationale for approving the EWMP process. In its Final Order upholding the 2012 Permit including its EWMP provisions, the State Board concluded that "the WMP/EWMP approach is a clearly defined, implementable, and enforceable alternative to the receiving water limitations provisions… and that the alternative provides Permittees an ambitious, yet achievable, path forward for steady and efficient progress toward achievement of those limitations while remaining in compliance with the terms of the permit."[5] However, without an adequate financial strategy to properly execute the BMPs proposed by the EWMPs, compliance with RWLs and TMDL-specific limitations will *not* be ensured. Failure to demonstrate a real financial commitment for implementing the EWMP, therefore, goes against the State Board's clearly stated goal of the EWMP approach – that is, to achieve compliance with water quality standards.[6]

In all of the four EWMPs that Environmental Groups reviewed, Permittees' cost estimates for implementing the EWMP are substantial and orders of magnitude higher than have previously been committed by the agencies to their MS4 programs. For example, for the ULAR EWMP Group, the capital costs to address Water Quality Priorities by 2037 is estimated at over $6.0 billion, with total operations and maintenance costs exceeding $210 million per year once fully implemented.[7] For the USGR EWMP Group, the total cost for implementation of the EWMP through 2040, including operation and maintenance, is approximately $2.14 billion.[8] For the NSMBCW EWMP Group, the estimated total capital and operation and maintenance costs for proposed structural BMPs over 20 years are $54.2 million.[9] Lastly, for the Beach Cities EWMP Group, the total 20-year life-cycle costs to implement each structural BMP plus the associated annual operation and maintenance costs over 20 years are $150 million.[10] Currently, none of these four watershed groups have sufficient funds or dedicated funding streams to construct the projects proposed in their EWMPs; thus, all four EWMP Groups must pursue additional stormwater funding from multiple sources in order to ensure that the *additional* costs of compliance with the 2012 Permit as a result of EWMP implementation can be covered.

Unfortunately, none of the EWMPs that Environmental Groups reviewed provides a funding roadmap, let alone demonstrates a commitment to securing funds, to implement the proposed control measures as required for achieving Permit compliance. While the EWMPs identify, to varying degrees, the potential funding sources/projects needed to achieve compliance

[5] State Water Resources Control Board, Order WQ 2015-0075 (June 16, 2015), at 51 (Final Order).
[6] Id. at 14.
[7] Upper Los Angeles River EWMP, at ES-9.
[8] Upper San Gabriel River EWMP, at 111.
[9] North Santa Monica Beach Coastal Watersheds EWMP, at 138.
[10] Beach Cities EWMP, at 6-18.

with RWLs and TMDL-specific limitations, without an actual step-by-step *plan or strategy* to carry out the identified financial projects, however, the EWMPs are merely paper exercises. For example, the potential funding sources identified in the EWMPs generally included grants, bonds, State Revolving Funds, interagency partnerships, local funding opportunities, legislative or policy changes, and public private partnerships. A couple of the EWMPs also discuss, in general terms, barriers associated with some of the funding sources and ways those barriers might be overcome. However, all of the Financial Strategy sections reviewed end at the identification of these sources and barriers. To the extent any type of "strategy" is actually discussed, the draft EWMPs recognize the need for interagency collaboration and a coordinated, regional approach, but this need is merely described in a vague, cursory manner and again, with no specific details on how to accomplish the necessary interagency and regional collaboration.

Mere identification of potential funding sources, with no details whatsoever regarding the specific action steps that Permittees will need to take in order to carry out some of the funding strategies proposed, does *not* constitute a sound financial strategy sufficient to meet the Permit requirement. In order for Permittees to provide the level of assurance that the EWMPs will ultimately achieve compliance with water quality standards as required by the State Board, the Financial Strategy element of the programs must *actually* be "in place" before the Regional Board can approve the EWMPs. At a minimum, the Financial Strategy section must describe in detail the following elements:

1) Selection and prioritization of the multiple financial approaches identified;
2) Identification of current funding streams, for each of the EWMP Group Members, sufficient to implement existing stormwater projects;
3) An articulation of the relative financial responsibility and contribution of each of the EWMP Group Members to EWMP implementation, and the Memorandum of Understandings or other legal documents memorializing this organization;
4) An identification of the available grants, application timelines and requirements, and the lead EWMP Group Member(s) that will undertake and coordinate the grant-writing efforts;
5) Model legislation or ordinance, and a timeline for seeking municipal stormwater fees, if any;
6) A funding schedule, based on the interim and final compliance deadlines in the 2012 Permit, which sets forth the timeline for securing grants, loans, stormwater fees, or other funding mechanisms that will ensure funding is in place to timely implement the EWMP measures; and
7) A demonstration that the collective mix of funding sources identified in the Financial Strategy is sufficient to implement all of the proposed control measures in the EWMPs and consistent with the schedules established in the EWMPs.

The funding strategy aspect of the EWMP is one of, if not, *the most* important piece of the program because without an adequate financial strategy and commitment in place, it will be impossible for Permittees to successfully implement their EWMPs and thus the entire program development process would be a futile exercise and would only result in the delay of achieving ultimate compliance with water quality standards.

B. Proposed Compliance Schedules are in Violation of State or Federal Law or are Otherwise Unreasonably Long

i. Pollutants Subject to an Established TMDL

In several instances, Permittees incorrectly incorporate interim milestones and final compliance deadlines for certain WBPCs addressed by TMDLs. For WBPCs addressed by TMDLs, the 2012 Permit requires the Permittees to incorporate the compliance schedules found in Attachments L through R of the Permit into the EWMP, and where necessary, develop interim milestones and dates for their achievement. (2012 Permit, at VI.C.5.c.) A Permittee participating in an EWMP that does not thereafter comply with the compliance schedule must instead demonstrate compliance with its interim water quality-based effluent limitations (WQBELs) and/or RWLs of the Permit. (Id. at VI.E.2.d.i(4)(c).)

The ULAR EWMP sets interim and final compliance dates for the LAR Metals TMDL and Harbors Toxics TMDL based on their pre-established implementation schedules.[11] The pollutants addressed by these TMDLs, however, are regulated by the California Toxics Rule (CTR), which establishes water quality standards for priority toxic pollutants in California's inland surface waters and enclosed bays and estuaries.[12] The CTR also states that the compliance schedules for the regulated pollutants cannot extend for more than five years from the date of permit issuance; however, the provisions authorizing compliance schedules in the CTR expired on May 18, 2005.[13] This means that permits issued after that date may not incorporate compliance schedules for pollutants regulated by the CTR. As a result, EWMPs pursuant to the 2012 Permit may not incorporate compliance schedules for CTR-regulated pollutants, therefore the interim and final compliance deadlines for LAR Metals TMDL and Harbor Toxics TMDLs established by the ULAR EWMP are illegal because they violate the CTR. Permittees of the ULAR EWMP Group must instead demonstrate immediate compliance with the pollutants addressed by these TMDLs.

For the USGR EMWP, the same situation exists. The USGR EWMP illegally incorporates interim and final compliance deadlines for SGR Metals and Impaired Tributaries Metals and Selenium TMDL and DC and Greater LA and LB Harbor Water Toxic Pollutants TMDL[14] because the pollutants covered by these TMDLs are governed by the CTR. Because these TMDLs were established based on CTR criteria, the USGR EWMP (which is being developed pursuant to a permit issued *after* May 18, 2005) may not incorporate their implementation schedules, and instead, the Permittees must demonstrate immediate compliance with these CTR-regulated pollutants.

[11] Upper Los Angeles River EWMP, Table 3-1 at 3-2.
[12] See 40 C.F.R. § 131.38.
[13] Id. at § 131.38(e)(6), (e)(8).
[14] Upper San Gabriel River EWMP, Table 2-3 at 22.

In the Beach Cities EWMP, for the Dominguez Channel (DC) watershed, toxicity, copper, lead, and zinc are all addressed by a Regional Board-established TMDL and therefore their corresponding compliance schedules are incorporated into EWMP.[15] However, copper, lead, and zinc are pollutants covered by the CTR, therefore their compliance schedules are illegal.

ii. Pollutants in the Same Class as Those Addressed in a TMDL

In several instances, Permittees establish incorrect milestones and final compliance dates for WBPCs not addressed by a TMDL, but where the relevant pollutant is in the same class as a TMDL pollutant and for which the water body is identified as impaired on the State Board's CWA section 303(d) List. For these types of pollutants, the Permit requires the EWMP to incorporate a schedule consistent with the TMDL schedule for a pollutant of the same class. (Id. at Part VI.C.a.i.)

The ULAR EWMP lists the following pollutants as Category 2 WBPCs: dioxin, total mercury, copper, total thallium, and daizinon.[16] The ULAR EWMP defines Category 2 pollutants as those "pollutants on the State Water Resources Control Board 2010 Clean Water Act Section 303(d) List of Impaired Water Bodies or those constituents that have sufficient exceedances to be listed."[17] Table 3-5 indicates that the interim and final schedule milestones for dioxin are based on the dry and wet weather schedule for the LAR Bacteria TMDL. However, the LAR Bacteria TMDL is an incorrect compliance schedule source to use for dioxin because dioxin is not in the same pollutant class as bacteria. According to the Permit, pollutants are considered to be in the same class "if they have similar fate and transport mechanisms, can be addressed via the same types of control measures, and within the same timeline…" (Id. at fn 21). Dioxins do not have similar fate and transport mechanisms as bacteria and cannot be addressed by all the same control measures as bacteria. Although retention BMPs would treat for both, the ULAR EWMP does not commit to specific BMP types. Design of flow-through BMPs would likely be very different if the target pollutant is bacteria versus bacteria and dioxins.

In the Beach Cities EWMP, indicator bacteria has been defined as a Category 2 WMPC for the DC watershed. The 2012 Permit defines Category 2 pollutants as those "[p]ollutants for which data indicate water quality impairment in the receiving water according to the State's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State Listing Policy) and for which MS4 discharges may be causing or contributing to the impairment." (Id. at VI.C.5.a.ii(2).) The final compliance date for dry weather bacteria (year 2025) was selected to be consistent with the draft TMDL for indicator bacteria in the SGR Estuary and Tributaries, and the final compliance date for wet weather bacteria (year 2032) was selected to be consistent with the DC and Greater LA and Long Beach Harbor Toxic Pollutants TMDL.[18] However, selecting compliance schedules from TMDLs from other watersheds, or for

[15] Beach Cities EWMP, Table 4-2 at 4-3.
[16] Upper Los Angeles River EWMP, Table 3-5 at 3-10.
[17] Id. at ES-2.
[18] Beach Cities EWMP, Table 4-2 at 4-3 – 4-4.

pollutants of different classes, is inconsistent with the requirements of the Permit. The DC watershed discharges to Los Angeles Harbor, impacting the inner channel, and the San Pedro and Long Beach area beaches. Thus, a more appropriate bacteria TMDL compliance schedule for consideration in the DC watershed is the implementation schedule for the Los Angeles Harbor Bacteria TMDL, the Long Beach City Beaches and Los Angeles River Estuary Bacteria TMDL, and/or the Santa Monica Bay Beaches Bacteria TMDL.

iii. Pollutants Not in the Same Class as Those Addressed in a TMDL

In at least one instance, Permittees establish an incorrect compliance schedule for WBPCs not addressed by a TMDL, and not in the same class as a TMDL pollutant but for which the water body is identified as impaired on the State Board's CWA section 303(d) List. For these types of pollutants, if retention of the 85th percentile, 24-hour storm event is not feasible, the EWMP must either have a final compliance deadline within the 5-year permit term or Permittees are expected to initiate development of a stakeholder-proposed TMDL and incorporate a compliance schedule consistent with the TMDL. (Id. at VI.C.2.a.ii(5).)

The USGR EWMP states that indicator organisms (bacteria) are the sole Group B WBPC. The USGR EWMP defines Group B pollutants as those "pollutants that are not in the same class as those addressed in a TMDL for the watershed, but for which the water body is identified as impaired on the 303(d) List as of December 28, 2012."[19] The USGR EWMP then proposes a 25-year schedule for bacteria compliance in order to mimic the scheduling adopted in TMDLs developed for other areas of the Basin, namely the Los Angeles River Bacteria TMDL.[20] However, according to Permit requirements, the USGR EWMP Group must either propose a final compliance date within the 5-year term of the Permit, or initiate a stakeholder-proposed TMDL and incorporate the implementation schedule for that TMDL. Because the Regional Board recently approved a bacteria TMDL covering the SGR Watershed,[21] at a minimum, the USGR EWMP schedule for bacteria should be consistent with the Regional Board-adopted TMDL, which proposes a 20-year schedule for compliance, as opposed to the currently proposed schedule of 25 years from the Los Angeles River Bacteria TMDL.

iv. Exceedances of RWLs Not Addressed by a TMDL

Lastly, for exceedances of RWLs not addressed by a TMDL, the EWMP must include milestones based on measurable criteria or indicators and a schedule for achieving the milestones, and demonstrate that the RWLs will be achieved "as soon as possible." (Id. at VI.C. 5.c. iii.) The time between interim dates shall not exceed one year. Milestones shall relate to a specific water quality endpoint and dates shall relate to taking a specific action or meeting a milestone. (Id. at VI.C.2.a.iii(2)(c).)

[19] Upper San Gabriel River EWMP, at 17.
[20] Id. at 20.
[21] See TMDL for Indicator Bacteria in the San Gabriel River, Estuary and Tributaries, available at http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/tmdl_list.shtml.

For the ULAR EWMP, interim and final wet weather Category 3 WBPCs milestones are January 11, 2024 and January 11, 2028, respectively.[22] The ULAR EWMP defines Category 3 pollutants are defined as those "pollutants with observed exceedances that are too infrequent to be listed, and parameters that are not considered typical pollutants."[23] Permittees of the ULAR EWMP do not provide any explanation for why and how this schedule meets the "as soon as possible" standard; at the very least, some level of analysis should be provided to show how Permittees arrived at this schedule. Furthermore, Permittees fail to provide interim milestones, in violation of Permit requirements.

The USGR EWMP concludes that most of the WBPCs in Group C are of the same class as the SGR Metals TMDL WBPCs, therefore it is proposed that the Group C WBPCs be linked to compliance schedules established in the SGR Metals TMDL Implementation Plan.[24] The final compliance deadline for SGR Metals TMDL is 2032. The USGR EWMP defines Group C pollutants as those "pollutants for which there are exceedances of RWLs, but for which the water body is not identified as impaired on the 303(d) List as of December 28, 2012."[25] The Group C pollutants identified by the USGR EWMP are: sulfate, chloride, alpha-endosulfan, MBAS, and lindane.[26] However, fate and transport characteristics of these pollutants are different from that of metals, and potential control measures may be different, therefore these should not be categorized as being in the same class of pollutants as those addressed in the SGR Metals TMDL. Therefore, Permittees' reliance on the implementation schedule for the SGR Metals TMDL for Group C pollutants is misplaced.

C. Permittees' Use of the Exceedance Volume Approach is Flawed

For the ULAR and USGR EWMPs, Permittees use a concept called "Exceedance Volume"[27] to establish targets based on BMP capacity rather than strictly BMP load reduction. The Exceedance Volume was chosen based on an analysis of the 90th percentile 24-hour storm volume over a 10-year analysis period. The Exceedance Volume is the portion of the storm volume associated with concentrations exceeding WQBELs. Environmental Groups acknowledge that there are benefits to the Exceedance Volume metric, in particular with bacteria where concentrations are known to vary widely; however, this approach is nevertheless problematic for several reasons detailed below.

First, in parts of the EWMPs, for example for the interim targets, load reductions are used as a measure of progress. It is assumed that these load reductions are based on the load produced from the Exceedance Volume, but this is problematic because as the EWMPs acknowledge,

[22] Upper Los Angeles River EWMP, at 3-9.
[23] Id. at ES-2.
[24] Upper San Gabriel River EWMP, at 21.
[25] Id. at 17.
[26] Id., Table 2-4, at 25.
[27] Upper Los Angeles River EWMP, at 6-12; Upper San Gabriel River EWMP, at 70.

concentrations of pollutants may vary significantly from one storm to another.[28] In other words, the 90th percentile storm volume may not represent the 90th percentile load.

This issue is of particular concern since the EWMPs define the compliance strategy in terms of volumes of stormwater and non-stormwater to be managed rather than by specific project lists, and thus allow for a tremendous amount of flexibility with regards to project location and project type. As the two EWMPs note, "the identified BMPs (and BMP preferences) will likely evolve over the course of adaptive management…."[29] The EWMPs note that as projects change, the EWMP Groups will demonstrate equivalency between projects. While demonstrating this equivalency is critical to the success of the Exceedance Volume approach, the EWMPs fall short of providing precise details on how this will be accomplished. Of particular concern are situations where the actual BMP type is switched, for instance, from a retention-type BMP to a flow-through BMP. Establishing equivalency in this case necessitates some translation from volume managed to actual load reduced, but as noted above, it is not clear how this would be accomplished and whether the load associated with the Exceedance Volume is appropriate.

Further, and importantly, the Exceedance Volume approach fails to take into account differences in loading from different land uses – load reductions from BMPs tributary to primarily low density residential areas will not be equivalent to load reductions from BMPs tributary to primarily industrial land uses, for instance, regardless of whether their actual volumetric capacities are identical. If specific projects in specific locations were outlined in the EWMPs, this may not be an issue; however, as noted above, both EWMPs instead set targets of Exceedance Volume managed rather than specific project lists. Finally, because the EWMPs use the Exceedance Volume approach to set metrics for compliance rather than detailing specific projects, it is impossible to evaluate error in the proposed compliance strategy and thereby establish the degree of confidence in the proposed plans to achieve compliance with water quality standards.

D. The Implementation Strategy Relies Too Heavily on the Adaptive Management Process, Which Itself Relies on Flawed and Inadequate Monitoring Programs

Due to the fact that the ULAR and USGR EWMPs use the Exceedance Volume approach to establish a "recipe for compliance"[30] rather than name specific projects that will be implemented, the robustness of the adaptive management process is critical to success of the approach. As noted in the previous section, a detailed methodology must be developed to establish equivalency between projects selected and volume targets, particularly in cases where flow-through, rather than retention BMPs are proposed. The adaptive management sections in both EWMPs, however, do not come close to providing the level of detail necessary to achieve

[28] Upper Los Angeles River EWMP, fn 25 at 6-12; Upper San Gabriel River EWMP, fn 12 at 70.
[29] Upper Los Angeles River EWMP, at 7-2; Upper San Gabriel River EWMP, at 90.
[30] Upper Los Angeles River EWMP, at -24; Upper San Gabriel River EWMP, at 84.

these goals. These sections merely describe the need to show equivalency,[31] while failing to actually describe how this would be accomplished.

Another issue that is significantly related to the adaptive management process and critical to its success is the strength and adequacy of the Coordinated Integrated Monitoring Programs (CIMPs). In addition to the EWMPs, Permittees also develop CIMPs to collect water quality data and measure the effectiveness of the EWMPs. The CIMPs, therefore, is the ultimate driver for Permittees' decisions regarding future adaptive management of their EWMPs. However, as Environmental Groups have pointed out previously, the draft CIMPs developed by the EWMP Groups suffered from a litany of flaws.[32] Unfortunately, Permittees' revised CIMPs failed to address most of the Environmental Groups' concerns.[33] Despite the deficiencies that remain in the revised CIMPs, the Regional Board Executive Officer recently conditionally approved all of the revised monitoring programs; however, the conditions are themselves insufficient because they fail to address all of the CIMP inadequacies.[34]

While Environmental Groups have not seen the final draft CIMPs that were submitted by the EWMP Groups pursuant to the conditional approval letters (and we reserve the right to comment on those final CIMPs once they are issued to the public), the current state of the revised CIMPs is alarming because without an adequate CIMP in place, Permittees cannot engage in a meaningful adaptive management process. The State Board has stated that the adaptive management provisions of the 2012 Permit is one of the main reasons the EWMP process can ensure the necessary rigor and accountability to effectively and timely achieve water quality standards.[35] However, the success of the adaptive management process depends on the effectiveness of the CIMPs, therefore, at a minimum, the CIMPs must meet the substantive requirements of the Permit in order to ensure that Permittees can appropriately adapt the EWMP in response to monitoring results and make modifications only when necessary.

E. There is Insufficient Analysis to Back up the Claims About What can be Achieved Through Green Streets Implementation and Regional BMPs Implemented on Privately Owned Lands

The ULAR and USGR EWMPs rely on a tremendous amount of green streets implementation for compliance. While Environmental Groups are in favor of distributed projects conceptually, practically speaking, it is unclear whether the degree of implementation proposed is achievable. We do, however, commend the EWMP Groups for discussing the need for streamlining the process of green infrastructure project implementation, but more analysis is

[31] Upper Los Angeles River EWMP, at 8-6; Upper San Gabriel River EWMP, at 108.
[32] See Environmental Groups' Comments on Enhanced Watershed Management Program Work Plans and Monitoring Plans Pursuant to Requirements under the Los Angeles County Municipal Separate Storm Sewer System Permit, NPDES Permit No. CAS004001, Order No. R4-2012-0175, including attached Exhibits A-K (September 16, 2014).
[33] See Appendix A to this letter: Environmental Groups' Table of CIMP Deficiencies.
[34] Id.
[35] Final Order, at 38.

needed to demonstrate that the amount of proposed green street projects are actually feasible and achievable. In addition, the EWMPs also rely heavily on regional BMPs implemented on privately owned lands to achieve compliance, with this portion of the "recipe" accounting for around 30% of the total capacity. However, due to the uncertainty around the ability to acquire such lands as well as the associated costs of land acquisition, the practicality and achievability of this goal is questionable.

F. The EWMPs Lack Sufficient Detail to Achieve Load Reductions Assumed From Institutional BMPs

In all of the EWMPs reviewed by Environmental Groups, institutional BMPs are assumed to account for between 5% and 10% of the load reduction with no data to support these assumptions. These goals may be achievable but require a structure dedicated to their attainment. However, there is little evidence of the development of an institutional framework and programs to reach these levels, either in the EWMPs or, apparently, anywhere else in the jurisdiction's organizations. The mechanisms are straightforward technologically but much more complex institutionally. Applying them successfully relies on a host of actions broadly spread through the affected communities, the participation of various jurisdictional agencies and numerous agency personnel, and cooperation by many private citizens. Lacking a structure to implement them makes the assumptions questionable and requires evaluation of the consequences of not meeting the goals.

Further, the ULAR EWMP suggests that institutional controls will be sufficient to achieve compliance with Category 2 and 3 dry weather metals WBPCs,[36] while the USGR EWMP states that these will be sufficient to control all dry weather metals.[37] As stated above, there is little data and little structure built into the EWMPs to provide assurance that these load reductions will be achievable through these programs. In addition, it is not clear how it was determined that a 5% or 10% reduction would be what is required to achieve compliance with a number of the metals WBPCs since zinc, copper, and lead were the only metals that were modeled. The EWMPs state that this assumption is made in part due to the infrequency of dry weather metals exceedances,[38] but it seems that the ability for minimum control measures to address these exceedances should be more dependent on the actual magnitude of the exceedances rather than their frequency.

G. In at Least Two Instances, the RAA's Model Calibration Regularly Diverges From Observed Values at Higher Stream Flows

For the ULAR and USGR EWMPs, although the model calibration met the parameters specified in the RAA Guidelines,[39] it seems to regularly diverge from observed values at higher

[36] Upper Los Angeles River EWMP, at 6-15.
[37] Upper San Gabriel River EWMP, at 77.
[38] Upper Los Angeles River EWMP, at 6-15; Upper San Gabriel River EWMP, at 77.
[39] Los Angeles Regional Water Quality Control Board, *Guidelines for Conducting Reasonable Assurance Analysis in a Watershed Management Program, Including an Enhanced Watershed*

stream flows.[40] Both the ULAR and USGR EWMPs are designed around a relatively extreme condition (i.e., the 90th percentile storm), yet it is not clear whether an analysis was conducted to determine how the model would perform specifically at the stream flows expected from such a storm.

H. The Analysis for LID BMPs is Limited to the Consideration of Only Two Approaches: Biofiltration and Bioretention

In all of the draft EWMPs that Environmental Groups reviewed, the analyses assume low impact development (LID) BMPs would be a 50/50 split between biofiltration (underdrained) and bioretention (not underdrained). First, these two practices are not the only LID BMPs that might be chosen for the applications, yet others received zero consideration. Second, their capabilities differ considerably. Open-draining bioretention can infiltrate and evaporate a large fraction, even all, of the influent runoff, thus greatly or even fully diminishing pollutant loadings. The best evidence is that underdrained biofiltration, as normally constructed, is limited to withholding through evaporation roughly 30% of the runoff received.[41] Load reductions also benefit from pollutant concentration decreases but generally do not approach those achieved with open-draining bioretention.

Furthermore, there was no examination in the EWMPs of the feasibility of reaching 50% bioretention capability, or, alternatively, of surpassing it and doing better with load reduction. While the best procedure would be to conduct that examination, as well as to consider other LID BMPs, a substitute in the absence of these steps is to conduct a sensitivity analysis to examine the implications of other arrangements (e.g., a 70/30 or 30/ 70 split) and see how the results change. The purpose in this case would be to add assurance that the LID BMPs proposed would actually reach the target load reductions (TLRs) if field conditions ultimately dictate a different scenario than represented by the primary model assumption.

I. The Assumptions Regarding Redevelopment are Inadequate

For the NSMBCW and Beach Cities EWMPs, achieving TLRs further relies on BMP installation during redevelopment: (1) from 2003 to the present – as prescribed by the 2001 MS4 Permit's Standard Urban Stormwater Management Program (SUSMP) provisions; and (2) from

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Management Program (March 25, 2014), available at http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/municipal/watershed_management/docs/RevisedRAAModelingCriteriaFinal-withAtts.pdf.

[40] See Upper Los Angeles River EWMP, Figures A-10, A-12, and A-16; see also Upper San Gabriel River EWMP, Figures C-1-6, C-1-13, C-1-17, and C-1-19.

[41] Horner, R.R., Section 4-2, Protection and Restoration Strategies for Watersheds and Tributaries; Chapter 4: A Science-Based Review of Ecosystem Protection and Restoration Strategies for Puget Sound and Its Watersheds; Puget Sound Science Update., Puget Sound Partnership (2010)

the present forward – according to the 2012 Permit's LID requirements.[42] However, the Permittees did not conduct an examination of actual achievements of stormwater treatment BMPs in the past. For various reasons, regulatory requirements are usually not completely fulfilled. Furthermore, there was no particular attention given to an enhanced institutional framework and programs to advance application of the present Permit requirements. As with the assumptions regarding programmatic BMPs and residential incentives, lacking verification of historical performance and a solid structure to advance future implementation makes the assumptions uncertain and requires appraisal of the repercussions of that uncertainty.

Moreover, Permittees' reliance on the redevelopment rates used in the EWMPs lacks justification. For example, in the Beach Cities EWMP, BMPs added through redevelopment, in the past and projected in the future, were based on redevelopment rate data from the Cities of Hermosa Beach and Manhattan Beach and, otherwise, from the Los Angeles region.[43] There is little explanation of how the specific city rates were obtained, and no explanation at all for the regional ones. On the presumption that they are statistical means over some period, they have some statistical variance, particularly because the period over which they were likely to be derived experienced substantial economic fluctuations inevitably affecting redevelopment. This variance is one more source lending uncertainty to predictions that should be quantified and incorporated in the overall potential error analysis. For the other three EWMPs that Environmental Groups reviewed, BMPs added through redevelopment, in the past and projected in the future, were based on redevelopment rate data from the Los Angeles region.[44] Again, there is no explanation of how these rates were obtained, and as explained above, the statistic variance is problematic.

J. In at Least Two Instances, There are Several Potential Sources of Error Associated with the Data Underlying the Model Calibration

In the NSMBCW and Beach Cities EWMPs, there are several potential sources of error associated with the data underlying modeling, with no quantitative analysis of these sources and the associated level of certainty in the forecasts of load reductions and BMPs needed to accomplish them. Potential error sources include:

- For the NSMBCW EWMP, the model flow calibration was rated as "very good" according to the Regional Board's RAA Guidance, but still has associated potential error, as evident in the deviation of points from the diagonal line in Figure 10.[45] The same data was used in the model flow calibration in the Beach Cities EWMP, and the calibration was also rated as "very good" according to the Regional Board's RAA guidance, but similar to the calibration in NSMBCW's EWMP, has associated potential error, as

[42] North Santa Monica Beach Coastal Watersheds EWMP, at ES-5 – ES-6; Beach Cities EWMP, at ES-10.
[43] Beach Cities EWMP, at 2-45 – 2-46, 3-28.
[44] North Santa Monica Beach Coastal Watersheds EWMP, at 90; Los Angeles River EWMP, Table 6-7, at 6-21; Upper San Gabriel River EWMP, at 49.
[45] North Santa Monica Beach Coastal Watersheds EWMP, at 69.

evident in the deviation of points from the diagonal line in Figure 2-9 for the Santa Monica Bay (SMB) watershed and Figure 3-4 for the DC watershed.[46] These dispersions should be quantified (in terms of confidence limits or some other statistical measure of the excursion of model predictions from measured data) and taken into account in an overall analysis of the level of certainty in the model predictions and compliance demonstration.

- For the NSMBCW EWMP, the model water quality calibration is not as "good" as the flow calibration. Environmental Groups do not agree with the EWMP's conclusion that Figure 11 portrays "very good" agreement.[47] The distributions of modeled versus measured fecal coliform measurements actually deviate fairly substantially, especially in the higher portion of the data range. Again, this dispersion should be quantified and included in the overall certainty analysis.
- In Beach Cities' EWMP, there was no model water quality calibration for the SMB watershed because of lack of data for the relevant WBPC (fecal coliforms). The EWMP mentions possible calibration when CIMP data accumulate, but it should firmly commit to doing so. For the DC watershed, water quality calibrations were performed for fecal coliforms and total zinc, portrayed in Figures 3-5 and 3-6.[48] The fecal coliform calibration is fairly good, but the zinc calibration is not. Especially for zinc, this dispersion should be quantified and included in the overall certainty analysis.
- Neither EWMP directly models expected compliance with the bacteria exceedance day limits in the TMDL. Instead, a relationship was developed between fecal coliform loadings[49] and exceedance days, so that the latter can be estimated from a model prediction of the former variable. Figure 12 and Figure 2-10 present the relationship, a statistical regression equation, for the NSMBWC and Beach Cities EWMPs, respectively.[50] The R^2 value presented on the graphs indicates that loading explains 83% of the variance in exceedance days. While this represents a good relationship, it is not perfect and has potential error associated with it. It is also a product of only seven data points, and a relatively small data set itself spreads the confidence interval associated

[46] Beach Cities EWMP, at 2-28, 3-20.
[47] North Santa Monica Beach Coastal Watersheds EWMP, at 61.
[48] Beach Cities EWMP, at 20, 23.
[49] The entire subject of computing a loading for bacteria is questionable, which itself is a potential source of error. The questionable nature arises from the need to take only grab samples, and not flow-weighted composite samples, for bacteria, because of potential contamination and sample holding time considerations. Loading, being the multiplication product of concentration and flow volume, is most legitimately calculated with concentration measurements performed on a flow-weighted composite sample. However, unlike the other potential error sources discussed in this section, the error introduced by this procedure is not quantifiable. The best that can be done, short of a radical revision of procedure, is a judicious qualitative consideration of how it may affect the ultimate compliance demonstration after the quantifiable potential error sources are taken into account. Of course, the EWMP does neither.
[50] North Santa Monica Beach Coastal Watersheds EWMP, at 73; Beach Cities EWMP, at 2-30.

with a predictive relationship. As with the other potential error sources discussed, this one too should be quantified and brought into the overall certainty analysis.

- When it was necessary to convert *Escherichia coli* (*E. coli*) measurements to fecal coliforms (FC), a ratio of *E. coli*/FC = 0.85 was assumed.[51] A U.S. Geological Survey study found substantial variation in the ratio and quantified confidence limits.[52] This is an additional potential source of error that should be taken into account in forecasting load reductions and specifying BMPs sufficient to provide a low risk of not meeting target reductions.

K. The Margins for Error in Reaching TLRs as a Result of BMP Implementation are Extremely Small

As explained above, for the NSMBCW and Beach Cities EWMPs in particular, there are a number of assumptions and potential error sources embedded in the analyses that create uncertainty in the predictions of load reductions achievable with the BMPs thought to be in place and proposed for future implementation.

For NSMBCW, the Permittees did not make any attempt to quantify these uncertainties and their effects on the demonstration of compliance. Table 27 summarizes that demonstration.[53] Its last two columns show cumulative fecal coliform load reductions (resulting from all BMPs) and TLRs. Comparison of the data in these two columns shows very small margins for error in reaching the TLRs forecast to result from their implementation. For non-zero TLRs, the difference between load reduction provided and TLRs for the various analysis regions averages only 1.98%. As discussed above and shown in the table, substantial contributions to load reductions are from assumed 5% accruing from programmatic BMPs, 10% participation in home downspout disconnection, and BMPs already installed during redevelopment. The fifth column of Table 27 shows the load reductions estimated to occur as a result of downspout disconnection and redevelopment BMPs. The overall average is 4.91%. Thus, the unexamined assumptions together are credited for about 10% loading reduction. From the perspective of averages, if they fall short by just 2%, the very small 1.98% compliance margin will vanish.

Similarly, for Beach Cities, the Permittees made no attempt to quantify the uncertainties created by the EWMP's assumptions and potential error sources and their effects on the wet weather RAA demonstration of compliance. Tables 2-16 and 3-12 summarize that demonstration for the SMB watershed and DC watershed, respectively.[54] Columns toward the right side of each table show cumulative pollutant load reductions (resulting from all BMPs) and TLRs. Only two of 18 SMB watershed analysis regions were modeled to have fecal coliform TLRs. Comparison

[51] North Santa Monica Beach Coastal Watersheds EWMP, Table 13 at 59; fn 14 at 70; Beach Cities EWMP, Table I-1, fn e at I-2.
[52] Francy, D.S., D.N. Myers, and K.D. Metzker. *Escherichia coli* and Fecal Coliform Bacteria as Indicators of Recreational Water Quality, Water-Resources Investigations Report 93-4083, U.S. Geological Survey (1993), available at http://pubs.usgs.gov/wri/1993/4083/report.pdf.
[53] North Santa Monica Beach Coastal Watersheds EWMP, Table 27 at 108.
[54] Beach Cities EWMP, at 2-66, 3-42.

of the data for these two regions in Table 2-16 shows very small margins for error in reaching the TLRs forecast to result from BMP implementation – only 1% in one case and 4% in the other.[55] As discussed above and shown in the table, substantial, and questionable, contributions to loading reductions are from assumptions: (1) 5% accruing from programmatic BMPs, (2) 10% participation in home downspout disconnection, (3) BMPs already installed during redevelopment, and (4) assumptions that Caltrans and industrial areas will achieve their permit requirements. In the case with only 1% margin between load reduction (46% of base load) and TLR (45% of base load), these highly uncertain sources of reduced pollutant loadings are assumed to account in total for 11% of the 46%. In the case with 4% margin between loading reduction (50% of base load) and TLR (46% of base load), these highly uncertain sources of reduced pollutant loadings are again assumed to account in total for 11% of the 50%.

The DC watershed has zinc, copper, and fecal coliform WBPCs.[56] Only the Redondo Beach and Manhattan Beach portions of the watershed were modeled for the wet weather RAA. The Torrance part was not appropriately modeled or subjected to an adequate RAA, because beyond some non-structural measures, Torrance has committed only to catch basin inserts in a fraction (less than one-third) of its drain inlets. Because estimated load reductions are associated only with individual inserts, the estimates cannot be applied to the entire analysis region.[57] Failure to perform an adequate RAA for a significant part of the watershed is a violation of Permit requirements, and undermines the validity of the RAA and the EWMP.

For the Redondo Beach and Manhattan Beach portions of the DC watershed, Table 3-12 indicates the final copper and fecal coliform TLRs to be met handily, but the final zinc and interim fecal coliform TLR achievements to be marginal (0-0.1% difference in estimated load reduction and the respective TLRs for interim fecal coliforms and 3% for zinc).[58] The questionable assumptions regarding programmatic BMPs, home downspout disconnection, BMPs already installed during redevelopment, and the Caltrans and industrial permit compliance are credited for 20% of the 79% loading reduction forecast for zinc (against a TLR of 76%), with 6% from the latter exceptionably doubtful assumption. Thus, there is no real margin, the situation also existing for the interim fecal coliform requirements. The healthy margin for copper (23%) is heavily influenced by brake pad reduction, which is thus crucial to achieve. The margin for the final fecal coliform TLR is much greater (41%) and accounted for in large measure by new regional and distributed BMPs, the completion of which is thus also crucial.

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[55] Id. at 2-66.

[56] The EWMP did not model or complete a RAA for DC watershed medium-priority WBPCs (cyanide, pH, selenium, mercury, and cadmium), on the grounds of no evidence supporting linkage between the MS4 and exceedances of numeric limits for these pollutants. As a general matter, all have been detected in urban stormwater, particularly from industrial land uses. Cadmium is the fourth most commonly detected regulated metal in urban stormwater, after zinc, copper, and lead.

[57] See discussion of the inadequacy of catch basin inserts below.

[58] Beach Cities EWMP, at 3-42.

The larger point underlying all of the discussion in this section is that, as pointed out above, there are more potential sources of error (beyond the assumptions Environmental Groups have pointed out thus far). In the face of all this uncertainty, it is highly unlikely that the generally extremely slim margins allowed will lead to compliance. The responsible and essential procedure is to quantify all of these potential sources and determine what BMPs are necessary to give some set level of assurance (e.g., 90%) of achieving compliance.

L. In at Least Two Instances, Permittees Fail to Consider the Possible Intermingling of Privately Owned Stormwater Infrastructure Within the Full MS4 System

The analyses in the NSMBCW and Beach Cities EWMPs were based entirely on publically owned drainage outfalls, without consideration of intermingling of privately owned stormwater infrastructure with the MS4 system. The MS4 system is defined by the federal regulations as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)… [o]wned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created to or pursuant to state law) including special districts under state law such as a sewer district, flood control district or drainage district…"[59] Comingled "public" and "private" stormwater, therefore, is regulated by the Permit, and is the responsibility of the municipal Permittees. Thus, the NSMBCW and Beach Cities EWMPs illegally exclude the analysis of a significant source of pollutant loads to receiving waters, and thereby limit the analysis of reductions required on that basis. Without inclusion of all MS4 discharges, the EWMPs cannot ensure compliance with RWLs or TMDL-specific limitations, and therefore do not comply with the requirements of the 2012 Permit.

M. In at Least One Instance, No Analysis of Standards Applicable to Discharges to ASBS are Included, and Existing Data for Discharges to ASBS are Not Included in the Modeling Exercise or the EWMP

Beyond referencing the draft Compliance Plan and draft Pollution Prevention Plan (ASBS Plans), the NSMBCW EWMP ignores the standards applicable to the receiving waters, designated as Areas of Special Biological Significance (ASBS), as well as the data collected in the receiving waters pursuant to the State Board's ASBS program. The NSMBCW EWMP's approach to ASBS discharges is inadequate for at least two reasons:

1) The draft ASBS Plans are inadequate and do not meet the requirement of either the ASBS Exception[60] or the 2012 Permit;
2) The EWMP applies the wrong water quality standards, and ignores extensive available sampling data, rendering its analysis incomplete and inconsistent with Permit requirements.

[59] 40 C.F.R. §122.26(b)(8).
[60] State Water Board Resolution No. 2012-0012, as amended by 2012-0031 (ASBS Exception).

NRDC and Los Angeles Waterkeeper submitted comments on the draft ASBS Plans detailing their inadequacies in January 2015.[61] In summary:

- The ASBS Plans fail to address non-stormwater discharges, which are strictly prohibited into the ASBS. Dry weather discharges were observed by Permittees 73 times in 2012 and 2013, even with reconnaissance on only eight dates; yet, the ASBS Plans propose nothing beyond existing outreach and education programs.
- The ASBS Plans improperly exempt pipes smaller than 18 inches diameter from meaningful pollution control. This arbitrary and illegal definition eliminates dozens of MS4 discharge pipes from control.
- Receiving water sampling conducted pursuant to ASBS requirements demonstrate alteration of natural water quality concerning selenium, total polyaromatic hydrocarbon, and mercury. Although end-of-pipe sampling demonstrates exceedances of Ocean Plan[62] Instantaneous Maximum limits for ammonia and a number of metals, the ASBS Plans neither acknowledge these exceedances, nor propose to meet compliance, either by meeting Ocean Plan limits or reducing baseline pollutant discharges by at least 90%.

Rather than relying on these flawed plans, the NSMBCW EWMP must conduct its own RAA, based on all available data, and the applicable standards. Because the ASBS was the focus of regulatory attention at the State Board level for a number of years, considerable data is available. The State Board collected outfall and receiving water data in developing the ASBS Exception.Under the terms of the Exception, Los Angeles County and Malibu collected outfall and receiving water data beginning in 2013. However, the NSMBCW EWMP nowhere references this data – data collected by the municipalities conducting the EWMP analysis – and apparently failed to include the data in the modeling exercise. Further, the ASBS Exception requires that dischargers develop plans to achieve either: 1) Ocean Plan Instantaneous Maximum limits at all discharges points, or 2) 90% reduction in pollutant loads based on an articulated baseline calculation.[63] Compliance is required within six years, or 2019.[64] Again, the NSMBCW EWMP fails completely to consider these applicable standards, or the compliance deadline, as set out in the ASBS Exception.

Because the NSMBCW EWMP effectively eliminates consideration of ASBS data, or ASBS regulatory requirements, it fails to comply with state and federal law, and the requirements of the 2012 Permit.

[61] See Appendix B to this letter: NRDC and LA Waterkeeper Comments on ASBS 24 Draft Los Angeles County Compliance Plan and Pollution Prevention Plan (January 13, 2015).
[62] State Water Resources Control Board, Water Quality Control Plan: Ocean Waters of California (2012), available at http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/cop2012.pdf.
[63] ASBS Exception, Attachment B, at I.A.2.d.
[64] Id. at Att.B, at I.A.3.e.

N. There is Insufficient Data to Demonstrate Reasonable Assurance of Compliance with Applicable Dry Weather Permit Limits

For NSMBCW, the EWMP assumes reasonable assurance is demonstrated for a compliance monitoring location (CML) if any one of four criteria is met, namely:

- Diversion or infiltration eliminates all dry weather discharge, or disinfection is provided and is effective (claimed for two CMLs);
- There are no jurisdictionally owned MS4 outfalls (claimed for eight CMLs);
- If all bacteria exceedance day requirements are met in four of the past five years and in the last two years (claimed for one CML); and/or
- If dry weather discharges have been eliminated (claimed for 18 CMLs).[65]

Two of these claims are very questionable. Given the EWMP's failure to consider the interrelationship between private and public drainage, the second criterion and the claims asserted regarding it are problematic. Concerning the fourth criterion and the extensive claims associated with it, outfalls were screened on only eight dates in 2014 and 2015 for the EWMP effort. There is no detail on the observations, only the inclusion of a note to Table 29 stating that the associated column entry of "yes" indicates that no dry weather flows were present. However, the data collected in the ASBS assessment and summarized above shows extensive dry weather discharges occurring in the ASBS portion of the study area.

For the SMB watershed, the Beach Cities EWMP assumes reasonable assurance is demonstrated for a CML if any one of three criteria is met, namely:

- Diversion or infiltration eliminates all dry weather discharge, or disinfection is provided and is effective (claimed for eight CMLs);
- There are no jurisdictionally owned MS4 outfalls (claimed for two CMLs); and/or
- If dry weather discharges have been eliminated (not determined).[66]

The claim relative to the second criterion is questionable due to the EWMP's lack of consideration of the interrelationship between private and public drainage. Additionally, no screening has been conducted to apply the third criterion. As a result, the dry weather RAA could not be completed for three of 12 CMLs. An incomplete RAA is a violation of Permit requirements.

The DC watershed did not receive even this level of attention. The analysis is brief, qualitative, and unconvincing. Its primary basis is "… education, enforcement, and behavioral modification …"[67] in Torrance and, in each city, water conservation regulations. The only substantive provision is building two regional BMPs in Redondo Beach and Manhattan Beach,

[65] North Santa Monica Beach Coastal Watersheds EWMP, at 46-47.
[66] Beach Cities EWMP, at 2-19.
[67] Id. at 3-43.

installed primarily for wet weather control but also available for dry weather service. This single feature does not constitute a full RAA.

O. In at Least Two Instances, There is Very Little to No Discussion on How Trash Reduction Requirements will be Met

Both the NSMBCW and Beach Cities EWMPs are very weak on specifying how trash reduction requirements will be met. The plans say no more than there will be phased catch basin retrofits to meet the 20% per year reduction targets.[68] Moreover, the plans give no information, or any sign of thinking about, such subjects as: (1) what trash source controls might be brought to bear on the problem, (2) the equipment that will be used in the retrofits, (3) the rate at which it must be installed to meet the targets, (4) where and when it can be most strategically placed, and (5) what options there are if targets are not met.

P. The Claims About Removal Efficiencies by Catch Basin Inserts are Questionable

Appendix B of the Beach Cities EWMP covers the RAA for the DC watershed within the city of Torrance. The central feature of Torrance's proposed contribution to meeting TLRs is the installation of inserts in less than one-third of the catch basins in the subwatershed. The appendix cites insert manufacturers' literature, an unreliable gauge of performance without independent verification, and a few studies to claim questionably high catch basin insert removal efficiencies for the pollutants of interest.

Appendix B presents what it terms a "literature review" in its own Appendix B. However, this latter appendix omits some studies cited in the text and contains only some manufacturers' "fact sheets" and one very long report of a study completely concerned with removal of oil and grease, not one of the WBPCs. The items are just pasted into the appendix with no assessment of their contents and no development and justification of conclusions used in the RAA. It is thus not a literature review at all. The review also omits studies not supporting its claims. A particular example is the Caltrans BMP Retrofit Pilot Program.[69] This study found two different inserts to provide only 0-7% mass loading reduction efficiencies for copper, lead, and zinc. The inserts also needed substantial maintenance attention, including during storms; i.e., they did not operate passively and unattended. With this experience, Caltrans did not adopt inserts as an accepted BMP.

An additional weakness of the Torrance RAA coverage of drain inlet inserts is citing performance in terms of pollutant concentration reduction efficiency, instead of mass loading reduction efficiency as used by Caltrans. As has been widely discussed in the literature, percentage concentration reduction efficiency is a misleading concept. This measure can be manipulated by feeding high concentrations into the unit and measuring a respectable percentage reductions but still having relatively high concentrations in the effluent.

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[68] North Santa Monica Beach Coastal Watersheds EWMP, at 131; Beach Cities EWMP, Table ES-12, at ES-25.

[69] California Department of Transportation, *BMP Retrofit Pilot Program Final Report* (January 2004), available at http://www.dot.ca.gov/hq/oppd/stormwtr/Studies/BMP-Retro-fit-Report.pdf.

IV. Conclusion

Based on the deficiencies noted above, the draft EWMPs are not in compliance with the program development requirements pursuant to the 2012 Permit. The Regional Board should review all of the submitted EWMPs in light of our comments here, and should not approve any EWMPs that are in violation of Permit requirements. Environmental Groups appreciate this opportunity to comment on the draft EWMPs. Please feel free to contact us with any questions or concerns you may have.

Sincerely,

Becky Hayat
Staff Attorney
Natural Resources Defense Council

Rita Kampalath
Science and Policy Director
Heal the Bay

Daniel Cooper
Los Angeles Waterkeeper

APPENDIX A

ENVIRONMENTAL GROUPS' TABLE OF CIMP DEFICIENCIES

Environmental Groups' Comments from September 16, 2014	Analysis of Revised CIMPs	Conditional Approval Requirements
Upper Los Angeles River		
Forgoes sensitive species screening for toxicity and defers *C. dubia*	No correction made in revised CIMP	No requirements to address deficiency
No maps showing land use in monitoring location drainage areas, and no full map of storm drains and outfalls	No correction made in revised CIMP	No requirements to address deficiency
Proposes process for modifying CIMP in certain cases without Regional Board approval on an annual rather than biannual basis	No correction made in revised CIMP	No requirements to address deficiency
Upper San Gabriel River		
Proposes discontinuation of some monitoring sites or constituents based on results of monitoring	No correction made in revised CIMP	No requirements to address deficiency
Only includes one monitoring outfall per jurisdiction rather than one per jurisdiction per HUC-12	No correction made in revised CIMP	No requirements to address deficiency
North Santa Monica Bay Coastal Watersheds		
Scale of map makes review of adequacy of monitoring locations impossible	No correction made in revised CIMP	No requirements to address deficiency
Receiving water monitoring locations do not cover full watershed management area	No correction made in revised CIMP	No requirements to address deficiency
Only includes two outfall monitoring locations	No correction made in revised CIMP	No requirements to address deficiency
Legacy Park receiving water site only sampled when outfall is discharging	No correction made in revised CIMP	No requirements to address deficiency
Beach Cities		
Rotating, biannual sampling schedule is inappropriate	No correction made in revised CIMP	No requirements to address deficiency
Definition of significant non-stormwater discharge should not be based solely on surface flow	No correction made in revised CIMP	No requirements to address deficiency

APPENDIX B

NRDC AND LA WATERKEEPER COMMENTS ON ASBS 24 DRAFT LOS ANGELES COUNTY COMPLIANCE PLAN AND POLLUTION PREVENTION PLAN (JANUARY 13, 2015)

Dr. Maria de la Paz Carpio-Obeso
Chief, Standards Unit
California State Water Resources Control Board
Division of Water Quality
Watersheds, Oceans, and Wetlands Unit
P.O. Box 100
Sacramento, CA, 95812-0100
MarielaPaz.Carpio-Obeso@waterboards.ca.gov

Re: Los Angeles Waterkeeper and
Natural Resources Defense Council Comments;
ASBS 24 Draft Los Angeles County Compliance Plan,
Pollution Prevention Plan

Dear Dr. Carpio-Obeso,

In September of 2014, consistent with a one-year extension granted by State Board staff, Los Angeles County ("County") and the Los Angeles County Flood Control District ("Flood District") submitted a draft Compliance Plan ("CP") and a draft Pollution Prevention Plan ("PPP") pursuant to the requirements of the ASBS Exception, Resolution Number 2012-0012 as amended by 2012-0031 ("Exception").

Los Angeles Waterkeeper ("Waterkeeper") and Natural Resources Defense Council ("NRDC") have had an opportunity to review the draft plans. Unfortunately, the plans fail to comply with the requirements of the Exception in numerous basic ways that prevent them from providing a means of eliminating the discharge of Waste to the ASBS. In summary, while the plans identify 1) non-stormwater discharges to the ASBS; 2) alterations of natural water quality caused by storm water discharges; and 3) storm water discharges above Ocean Plan objectives, the plans fail to propose measures to address them.

Given these failures, the plans do not comply with the requirements of the Exception and cannot serve as a basis for the County and the Flood District's implementation of the Exception's other substantive provisions. Waterkeeper and NRDC request that the State Board reject the draft plans, with direction to the County and Flood District to correct the plans' deficiencies. Given that a Final CP is due in September of 2015 at the latest, Waterkeeper and NRDC request that State Board Staff act on this request promptly.

Waterkeeper and NRDC's detailed comments follow.

I. The CP and PPP Fail to Address Non-Stormwater Discharges

The Exception allows the discharge of Waste to the ASBS only when in compliance with the terms and conditions of the Exception. Exception Att. B at I.A.1.a-d. Further, the Exception does not cover non-stormwater discharges, except for six limited categories of dry weather discharges:

(a) Discharges associated with emergency fire fighting operations.
(b) Foundation and footing drains.
(c) Water from crawl space or basement pumps.
(d) Hillside dewatering.
(e) Naturally occurring groundwater seepage via a storm drain.
(f) Non-anthropogenic flows from naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

Exception Att. B at I.A.1.e. And in all events these authorized non-stormwater discharges cannot cause or contribute to violations of Ocean Plan objectives or contribute to alterations of natural water quality. Id.

Pursuant to the Exception requirements, a Compliance Plan must "describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated." Id. at I.A.2.b. The County and the Flood District's CP reports dry weather outfall inspections during January, February, March and April of 2012, and February, March, May and July of 2013. CP at 50-51, Table 3-3 and 3-4. The County observed dry weather discharges on 73[1] occasions on these inspections, many of them repeat observations. Some of these discharges are characterized as "Hillside dewatering," or "Natural stream," but the plan provides no data to support these characterizations, nor does it categorize any of the discharges as permitted or unpermitted. The CP also distinguishes, without basis, between discharges that land on the beach in the ASBS, and those that flow to the surf line. CP at 49. The CP proposes no measures beyond existing outreach programs to address these continuing violations of the Exception and Ocean Plan standards—particularly the numerous dry weather flows that the plan reports as not reaching the "surf."

The PPP reports no dry weather inspections, and as with the CP, proposes no additional measures to address non-storm water discharges.

Given the unabated dry weather discharges from the County and Flood District's outfalls to the ASBS, continuing the existing failed outreach and education programs will not achieve compliance with the Exception, the LA County MS4 Permit, and the Clean Water Act. The County must propose in the CP and PPP, and immediately implement, appropriate structural BMPs, such as infiltration swales, trenches, or basins, to stop dry weather discharges.

[1] This total includes non-stormwater discharges from 10 outfalls that the CP identifies as "ownership unknown." CP at 19.

II. The CP and PPP Fail to Address the County and Flood District's Contribution to Alteration of Natural Water Quality

The Exception prohibits discharges that alter natural water quality in an ASBS. Exception Att. B. at I.A.1.b; I.A.1.e.3. The Exception provides 6 years to achieve compliance with these prohibitions. Exception Att. B. at I.A.3.e. However, the draft CP must include a strategy to comply with all special conditions, including maintaining natural water quality. Exception Att. B. at I.A.3.b; *id.* at I.A.2, 2.d., and 2.g. The draft CP must describe a time schedule to implement structural controls to meet the special conditions, and ultimately be included in the County and Flood Districts' SWMP submitted pursuant to the County MS4 Permit. Id. at I.A.3.b.

Further, where receiving water monitoring indicates that storm water runoff is causing or contributing to alteration of natural water quality, the County and Flood District are required to submit an additional report within 30 days of receiving the results. Exception Att. B. at I.A.2.h. The report must:

1) identify the constituents in storm water altering natural water quality and the source of the constituents;
2) describe BMPs in place, proposed in SWMPs for future implementation, and any additional BMPs to prevent alteration of natural water quality; and
3) provide an implementation schedule. Id.

Based on safety limitations and lack of discharge to receiving waters, the CP and PPP report receiving water sampling primarily at one location, S02, at a 36 inch storm drain at Escondido Beach. A single sample was collected at S01, a 60 inch storm drain at Zuma Beach. S02 was sampled during storm events on 19 February and 8 March 2013, and 28 February 2014. S01 was also sampled on 28 February 2014. CP at 61-70.[2]

Using the analysis required by the Exception, the CP reports that stormwater discharges from S01 and S02 contributed to alteration of natural water quality for selenium, total PAH, and mercury. CP at 67-69.

Despite this admission by the County and the Flood District that discharges from their outfalls are causing or contributing to alteration of natural water quality, neither the CP nor the PPP propose any strategy to address this violation, let alone a time schedule to implement structural controls identified by that strategy, in violation of the Exception. Exception Att. B at I.A.1.b, I.A.2, I.A.3.b and e. The CP and PPP fail to address in any way this core requirement of the Exception. The County and Flood District seem to conflate two independent requirements of the Exception. One is not to alter natural water quality. *See id.* Another is to implement BMPs to

[2] This sampling scheme itself violates the Exception's monitoring requirement that three samples must be collected during "each storm season." *See* Exception Att. B. at IV.B.2.b. February 2013 and February 2014 are different storm seasons.

achieve Ocean Plan limits or a 90% pollutant load reduction. *See id.* at I.A.2.d. The County and Flood District instead assume that *if* natural water quality is exceeded, then *only* the constituents that exceed natural water quality must achieve Ocean Plan limits. *See* CP at 71, 76-77. That is a misreading of the Exception.

Further, information currently available to Waterkeeper and NRDC indicates that the County and Flood District have failed to submit to the State Board the report required by Exception section I.A.2.h, due within 30 days of receiving results indicating the alteration of natural water quality. At the latest the County and Flood District received the S01 and S02 sampling results 30 days after the February 2014 sampling event, or March of 2014. All documents relating to ASBS Exception compliance for the County and Flood District in the possession of the State Board were produced to Waterkeeper in September 2014 and no such report was included. Therefore the County and Flood District have not complied with this additional reporting requirement.

III. The CP and PPP Fail to Propose BMPs to Achieve Either Ocean Plan Limits or 90% Pollutant Reduction

The Exception requires that the CP include:

> BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm [that] shall be designed to achieve on average the following target levels:
>
> 1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
> 2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

Exception Att. B at I.A.2.d. The County and the Flood District conducted end of pipe monitoring in 2013 and early 2014 at between 17 and 21 outfalls to the ASBS, with smaller outfall samples analyzed for a limited range of constituents. CP at 71-75. In these samples the County and the Flood District report repeated exceedances of Ocean Plan Instantaneous Maximum limits, including ammonia, cadmium, chromium, copper, lead, nickel, zinc, and high concentrations of PAH, pyrethroids, and TSS. Id. The County had previously reported elevated concentrations of copper, chromium, and PAH in its exception application, and the State Board documented exceedances of Ocean Plan standards of these parameters, as well as acute and chronic toxicity, in County discharges to the ASBS. *See Program Final Environmental Impact Report, Exception to the California Ocean Plan for ASBS Discharge Prohibition for Storm Water and Non-Point Source Discharges, with Special Protections* (SWRCB, 21 Feb 2012) at 212-228.

Despite reporting sampling results documenting ongoing and alarming levels of toxic and conventional pollutants discharging to the ASBS, the CP and PPP propose no strategy either to

reduce baseline pollutant loads by 90%, or to meet Ocean Plan limits. Instead, the CP argues that because discharges from S01 and S02, the only two of the County's 57 outfalls to ASBS 24 analyzed, were determined to contribute to alteration of natural water quality for selenium, total PAH, and mercury, only those pollutants need to be addressed by comparing them to Ocean Plan limits. CP at 77. This cramped and erroneous interpretation is contrary to the plain language of the Exception, which makes no link between the design standard for BMPs in the CP, and the parameters identified in the natural water quality analysis.

Because the CP and PPP fail to include a BMP strategy designed to comply with the requirements of Section I.A.2.d of the Exception, they are inadequate and must be revised.

IV. The CP and PPP Attempt to Exempt Pipes Less than 18 Inches from NPDES Permit Requirements

Under the heading *Pollution Prevention Plan Objective and Scope,* the PPP states:

> This Plan focuses on source discharges not regulated under the National Pollutant Discharge Elimination System (NPDES) permit (SWRCB, 2012a). The Parties have prepared a Compliance Plan, under a separate cover, to evaluate sources regulated under the NPDES permit that include outfalls that have associated storm networks that drain significant areas and entirely or partially maintained by an agency. These NPDES permit regulated sources coincide with conveyances that are equal to or greater than 18 inches in size that discharge directly to the ASBS shoreline.

PPP at 1. The CP contains a similar statement. CP at 1 ("point sources identified in this document coincide with conveyances that are equal to or greater than 18 inches in size").

Based on this novel definition of point source discharge and an MS4 system under the Clean Water Act, the PPP includes storm water pipes or other man made conveyances (point sources) (see, e.g., PPP at 35)—a plan limited under the terms of the Exception to Nonpoint Source Discharges. Exception at Att. B at I.B.2.

Neither the LA County MS4 Permit (NPDES Permit No. CAS004001), nor the Clean Water Act definition of Point Source Discharges include an exemption for storm water pipes of 18 inches or less, or that drain "insignificant areas." *See* MS4 Permit, Attachment A (Definitions); 40 CFR 122.2; 40 CFR 122.26(b)(8)-(9). In fact 18 inch storm water pipes discharging to the Pacific Ocean are without question man made conveyances discharging to waters of the United States, and MS4 pipes covered by the LA County MS4 Permit. Similarly, gutters and drains are man-made conveyances of storm water. Further, any point source discharges not covered by the MS4 Permit are not eligible for coverage under the Exception. *See* Exception Att. B at I.A.1.a(1).

Because the PPP improperly includes point source discharges in a planning document limited to non-point source discharges, and the CP improperly excludes certain point source discharges, both the CP and the PPP are inconsistent with the requirements of the Exception.

V. Conclusion

The County and Flood District's draft Exception compliance documents are inconsistent with the requirements of the Exception, and as a result fail to achieve compliance with the immediate requirement for elimination of non-storm water discharges, and will fail to prevent alteration of natural water quality within the timeline set out in the Exception compliance schedule. Therefore Waterkeeper and NRDC request that State Board staff reject the plans, and direct the County and Flood District to redraft the plans to include:

1) An immediate plan to implement a comprehensive inspection program to identify all County and Flood District non-storm water discharges to ASBS 24;
2) An immediate plan to implement structural BMPs to eliminate non-storm water discharges to ASBS 24, including an implementation schedule not to exceed 12 months;
3) A plan to implement structural BMPs, including an implementation schedule, to achieve natural ocean water quality by 2018;
4) Submission of reports in accordance with Exception Att. B at I.A.2.h;
5) A plan to implement structural BMPs, including an implementation schedule, to achieve either compliance with Ocean Plan Objectives, or 90% reduction from baseline, on or before 2018, from *all* outfalls to the ASBS and for *all* parameters;
6) Proper inclusion of all point source discharges that are part of the County/Flood District MS4 in the CP, with only non-point source discharges in the PPP;
7) All revisions to be submitted within 120 days, to ensure approval of a compliance Final CP and PPP by September 2015.

Thank you again for your anticipated attention to this matter. Please call Liz Crosson, Executive Director of Los Angeles Waterkeeper at (310) 394-6162 x100 with questions about any of the above.

Regards,

Liz Crosson
Los Angeles Waterkeeper

Board Staff Comments on Draft EWMPs

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October 21, 2015

Permittees of the Upper Los Angeles River Watershed Management Group[1]
(See Distribution List)

REVIEW OF THE UPPER LOS ANGELES RIVER WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Upper Los Angeles River Watershed Management Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 25, 2015 by the Upper Los Angeles River Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Upper Los Angeles River Watershed Management Group EWMP include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Cañada Flintridge, Los Angeles, Montebello, Monterey Park, Pasadena, Rosemead, San Fernando, San Gabriel, San Marino, South El Monte, South Pasadena, and Temple City.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 25, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received three letters that contained comments specific to the Group's draft EWMP. These letters were from the Construction Industry Coalition on Water Quality; Ms. Joyce Dillard; and the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (jointly). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revisions to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 21, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Upper LA River EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Chris.Lopez@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv);
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit by electronic mail at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Upper Los Angeles River Watershed Management Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Upper Los Angeles River EWMP Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Water Body Pollutant Classification		
(1) Section 3	Part VI.C.5.a	Water Body-Pollutant Combinations Revise Section 3 of the draft EWMP: • Include the Water Body-Pollutant Categories summary tables from Appendix 3.A (i.e. Tables 3-6) in the main EWMP document; • List the applicable interim and final WQBELs and receiving water limitations for each identified Category 1, 2, and 3 pollutant.
(2) Section 3, Table 3-5, Table 3-6, and Appendix 3.A	Part VI.C.5.a	Compliance Schedule for Dioxin Revise the dry weather and wet weather compliance schedules for 2, 3, 7, 8-TCDD (dioxin) in LA River Reach 3 and Burbank Western Channel. The compliance schedules for these water body-pollutant combinations should reflect the 2024/2028 compliance schedule given to dioxin in LA River Reach 6 (Table 14).
Selection of Watershed Control Measures		
(3) Section 4.3	Part VI.C.5.b	Relative Capacities of Control Measures: Address the following inconsistency in Section 4: • Section 4-3 states that "as shown in Figure 4-3, regional projects on public land make up 26% of the total control measure capacity in the EWMP. Regional projects on private land make up an additional 31% of the EWMP capacity." However, Figure 4-3 lists regional BMPs on public land as 29% of the relative capacity (by adding Very High, High, and Medium projects) and regional BMPs on private land as 27% of the relative capacity. The Group must clarify this discrepancy. • Include the relative capacities and number of public and private regional projects needed for the 2037 compliance date (as opposed to only discussing the 2028 compliance

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		date). • Figure 4-3 must indicate the estimated acreage required for projects that comprise the "Regional BMPs (private)" control measure category in lieu of the number of projects provided for other Regional BMPs categories.
(4) Section 4.3 and Section 7.2	Part VI.C.5.b	<u>Regional Projects on Private Parcels</u> In the Group's EWMP Implementation Strategy, regional projects on private parcels make up 31% of the control measure capacity to be implemented by 2028. Furthermore, as noted in Figure 7-4, additional regional projects on private parcels are needed for final EWMP compliance in 2037. The Group needs to elaborate on the feasibility of such a strategy and detail its process for implementing these BMPs. The Group must explicitly describe any difficulties or issues that may be faced with this strategy and these types of projects. Furthermore, in the case where implementing the number of regional projects on private parcels as indicated in the EWMP Implementation Strategy is found to be infeasible, the Group shall identify potential alternative approaches that it can pursue and consider the following: • Are regional projects on private parcels (to the extent identified in the EWMP Implementation Strategy) ultimately necessary to achieve load reductions in the watershed? • Are there scenarios where the 31% implementation number can be reduced to a lower percentage of the EWMP's control measures (e.g. 10%, 20%, etc.)? And if so, what would be the change in implementation costs?
(5) Section 4.5	Part VI.C.5.b	<u>Signature Regional Projects</u> The Group must include the following additional information on the listed signature regional projects: • Provide milestones and timelines for each project; • Include the rainfall depth (in inches), rainfall volume, and storm water runoff volume associated with each project; • Identify the responsibilities of each participating Permittee for each project; • Clarify and/or correct the signature project fact sheets for Freemont Park and Sierra Vista Park (Figures 4-13 and 4-20), which appear to incorrectly list the Design Storm

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Event for these projects as "85th Percentile, 24 hr."
(6) Section 5.3	Part VI.C.5.b	Green Streets The "green street volume utilization" is either 50-75% or 75-100% in many areas within the watershed. The Group needs to elaborate on the feasibility of achieving such percentages within the watershed and describe any difficulties or issues that may be faced with implementation. In the program highlights box (pg. 5-5), the Group notes that "[d]ata limitations currently hamper decision making." The Group must elaborate on these limitations and how these limitations will be addressed.
(7) Section 7.5	Part VI.C.5.b	Additional Institutional Control Measures Revise Table 7-4 to include milestones and dates for achievement for the following controls measures • Train staff to facilitate LID and Green Streets implementation • Adopt Sewer System Management Plan (SSMP) • Incentives for irrigation reduction practices • Encourage retrofitting of downspouts (downspout disconnect) • Refocused outreach to target audiences and water quality priorities Additionally, address concerns related to the following control measures: • **Adopt Sewer System Management Plan (SSMP)**: Most public agencies that own/operate sanitary sewer systems should be enrolled under the Waste Discharge Requirements for Sanitary Sewer Systems, and should have already adopted and be implementing an SSMP. The EWMP should remove the listing of this as an additional institutional control or it must clearly demonstrate why these specific agencies should get credit for their SSMPs. • **Incentives for irrigation reduction practices**: Detail whether the City of South Pasadena is doing anything beyond the Metropolitan Water District program and provide rationale why the city should specifically get credit for an additional institutional control measure (as compared to other EWMP Group Members that are Member Agencies).

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
(6) Section 7.4	Part VI.C.5.b	Non-Stormwater Strategy and Control Measures Include additional information on the Group's dry-weather strategies: • Clarify whether the elimination of non-stormwater flows includes authorized and exempt non-stormwater discharges through the MS4. • Clarify how the non-stormwater elimination will be achieved as indicated in Figure 7-25 and Figure 3-2 of Appendix 6.B. It is unclear if the 100% reductions for the 2037 compliance date are solely based off of routing the dry weather runoff time series through the EWMP Implementation Strategy's BMP network. The Group should clearly state any assumptions it is making for this 100% reduction projection.
Enhanced Watershed Management Program Provisions		
(7) Section 4.4	Part VI.C.1.g	Retention of NSW runoff and 85th percentile: The Group identifies which of the signature regional projects are able to retain the 85th percentile, 24-hour storm event. For the remaining regional projects, clarify in Section 4.4 and/or Appendix 4.B when the Group will determine which projects will be able to retain all non-storm water runoff and the 85th percentile, 24-hour storm. It is acceptable to identify this in the future as part of the Group's general design and engineering analyses; however the EWMP must at least specify this.
(8) Section 9.2		EWMP Implementation Costs Clarify how the estimated EWMP implementation costs for regional projects are divided among Permittees—e.g. are costs split percentage-wise based on contributing drainage areas?
(9) Section 9.3	Part VI.C.1.g.ix	Financial Strategy The Group's financial strategy must be revised to provide more specific information: • The Group states that "[t]he EWMP Group as a whole, as well as individual Group members are currently prioritizing and selecting the specific financing strategies that best fit their needs." The revised EWMP must include this prioritization and selection of specific financing strategies, or provide a timeframe for completing the prioritization and selection of specific financing strategies.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		• The Group needs to provide more detail on the potential funding sources listed in Sections 9.3.1 through 9.3.3. The Group should evaluate the challenges, potential, and feasibility of securing each potential funding source. Furthermore, if possible, the Group should also quantify the funding available from each source. • The Group identifies components of a "Stormwater Program Financial Plan," including: Implementation of New Fee or Charge, Establishment of New Enterprise Fund, Cash and Debt Financing, Operating and Capital Reserves, and Cash Flow Modeling. The revised EWMP must include an update on what progress the Group has made on achieving these identified financial plan components. • The Group should specify sources of funding for signature regional projects and other near-term projects. If no funding is in place, the Group should identify their process for securing this funding.
(10) Appendix 4.B		For the Appendix C (Optimization Results by TetraTech) to Appendix 4.B, provide a definition for the term "PDR" used in the *Summary of Recommended Solutions* tables.
Reasonable Assurance Analysis (RAA)		
(11) Section 6.2.5.1 and Figure 6-6	Part VI.C.5.b.iv.(5)	<u>90th Percentile Exceedance Volume</u> The critical condition used for metals is the 90th percentile Exceedance Volume. The Group must add further clarification regarding this critical condition: • Provide detail on how the Exceedance Volumes were calculated. Explain whether actual or modeled flows and concentrations were used for these calculations. • Provide detail on how Exceedance Volumes are used in defining average conditions for interim limitations.
(12) Sections 7.1, 8.1., and 8.2		<u>EWMP Implementation Strategy Compliance</u> In explaining its EWMP Implementation Strategy, the Group states: "the network of control measures that provides reasonable assurance of achieving the Compliance Targets is referred to as the EWMP Implementation Strategy. The identified BMPs (and BMP preferences) will likely evolve over the course of the EWMP Implementation through an adaptive management paradigm and in response to "lessons learned." As such, it is anticipated the BMP capacities within the various subcategories will be

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		reported to the Regional Board but not tracked explicitly by the Regional Board for compliance determination. As BMPs are substituted over the course of EWMP implementation (e.g., replace green street capacity in a subwatershed with additional regional BMP capacity), the Group will show equivalency for achieving the corresponding Compliance Target." Give further detail on how equivalency will be calculated and determined and what kind of information will be provided to show equivalency. In addition, provide example calculations or methodology to go along with the scenarios described in Section 8.2.4.
(13) Section 7, Appendix 7.A, and Appendix 7.C		<u>EWMP Implementation Plan and Strategy for Lakes</u> It isn't clear which subwatershed IDs in the EWMP Implementation Plan (Appendix 7.A) are associated with Lake Calabasas, Echo Park Lake, and Legg Lake. Furthermore, the EWMP Implementation Strategy (as presented in Figures 7-5 through 7-21 and Appendix 7.C) does not appear to include control measure scheduling for these lakes. Revise these sections to address these water bodies. As noted in the EWMP, these water bodies are subject to TMDLs.
Other		
(14) Appendix 6H		<u>Miscellaneous</u> Clarify the following: • Page 6.H.4 appears to have been inadvertently added to the EWMP (e.g. Table 6H-1).

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Upper Los Angeles River
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on Section 6, Report of Reasonable Assurance Analysis (RAA) in the draft Enhanced Watershed Management Program (EWMP) for the Upper Los Angeles River Watershed Management Group dated June 2015.

1. The model results of hydrology calibration as shown in Table 6-1 indicated that the difference between modeled and observed values of annual storm volume is 22.9% for the LA River at Wardlow Avenue, while the difference between modeled and observed values for the highest 10% of flows is -21.1% for Santa Anita Wash and 20.4% for Compton Creek. Provide additional discussion regarding these differences – i.e., the over-prediction of annual storm volume in the LA River at Wardlow and in Compton Creek, and the under-prediction of the highest flows in Santa Anita Wash.

2. Explain the difference between the scale of normalized streamflow (e.g., Figure A-12 and similar figures) and the x-axis and y-axis scales of modeled and observed streamflow in the regression graph for the same stream gage.[1]

3. For water quality calibration, the differences in modeled and observed values for total zinc, total lead and E. coli are -27.7%, -32.5% and -32.1%, respectively. Provide additional discussion regarding the error between modeled and observed values for total zinc, total lead, and E. coli and potential explanations for the under-prediction of the modeled load relative to the observed load. Further, identify the data needed to improve model calibration for total zinc, total lead, and E. coli and include a commitment to collect the necessary data to refine the RAA through the CIMP and adaptive management process.

4. For zinc and other metals, the critical condition is defined as the 90th percentile Exceedance Volume (EV) as explained in Section 6.2.5.1. Board staff understands that this EV approach provides assurance that the receiving water limitations (RWLs) will be met instream. Please also provide a comparison of the EV by subbasin with the 90th percentile of pollutant (zinc) load to demonstrate that the EV approach is protective relative to other metrics including the 90th percentile pollutant load.

[1] Note that many of the text references to tables and figures in Appendix 6.A are not properly linked to the table or figure (i.e., "Error! Reference source not found" was observed in several places throughout the appendix). Please correct.

5. In addition to the EV statistics, please also provide the model results of the baseline condition in terms of runoff volume, pollutant concentration, and pollutant loadings based on the 90th percentile critical condition of runoff volume and pollutant concentration at each subbasin for each limiting pollutant. In addition, please provide the estimated allowable loads and required load reductions on a pollutant-by-pollutant basis.

   Although the pollutant concentration for metals, fecal coliform, and total phosphorous are provide in Appendix 6.A for Model Calibration and Parameters, the 90th percentile of the modeled concentrations for each pollutant should be included in the same graph of the model results as shown in Figure A-22 through Figure A-27 in the Appendix 6.A or pollutant concentration duration curves for all required pollutants should be provided instead.

6. In the report, a summary statistic of percent reduction is provided as shown in Table 6.D-4, however some numbers used to arrive at calculating the percentage are not easily identifiable. Provide the model results for the proposed control measures and potential BMPs to demonstrate the effectiveness of the proposed BMPs relative to the required pollutant load reductions and load reduction goals.

7. Finally, please provide an example validation for a representative waterbody within the ULAR or in another EWMP area where a similar RAA approach is being used that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, the RWLs will be achieved.

October 27, 2015

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REVIEW OF THE MALIBU CREEK WATERSHED DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Malibu Creek Watershed Management Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 29, 2015 by the Malibu Creek Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit.

Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board or by its Executive Officer on behalf of the Board.

As stated above, on June 29, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two letters that contained comments specific to the Group's draft EWMP. These letters were from Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay; and the Construction Industry Coalition on Water Quality. On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 27, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Malibu Creek Watershed EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Rebecca.Christmann@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachment M pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit by electronic mail at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

cc: Kelly Fisher, City of Agoura Hills
Alex Farassati, City of Calabasas
Joe Bellomo, City of Hidden Hills
Kelsey Erisman, City of Westlake Village
Giles Coon, County of Los Angeles, Department of Public Works

Enclosures: Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Malibu Creek Watershed Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
		There are inconsistencies between the EWMP and CIMP. The EWMP and the CIMP must align. The following, but not limited to, are inconsistencies between the EWMP and the CIMP: • Table 10 (EWMP) and Table 3 (CIMP) - Malibou Lake and Lindero Lake responsibility • Tables 11 and 12 (EWMP) and Table 5 (CIMP) - Category 3 Pollutants
		Although, Malibu Beach and Malibu Lagoon Beach lay outside of the EWMP Watershed boundaries, the MCW Group members are subject to the requirements of the SMB Beaches Bacteria TMDL in Attachment M, subpart A. See Regional Water Board letter dated October 28, 2003 and CIMP comment. Section 3.1 (TMDL) and all other applicable portions of the EWMP must be revised to include SMB Beaches Bacteria TMDL requirements.
Table 10 (page 16-18)		In Table 10, which summarizes the 2010 303(d) listings for the Malibu Creek Watershed, state the name of the TMDL that addresses the pollutant listed.
Section 6.2.3.1 (page 67)		Correct water year between “200 and 2010” to “2000 and 2010.”
Section 2.1.2		Provide an explanation of why proposals to divert flows to the LVMWD system and stormwater harvest and use projects in cooperation with LVMWD were determined to be infeasible.
Water Quality Characterization		
	Part VI.C.5.a.i (page 60)	The revised EWMP shall include characterization of stormwater and non-stormwater discharges from the MS4 as well as receiving water quality to support identification and prioritization/ sequencing of management actions, to the extent possible based on available data. In addition, the revised EWMP shall include a description of what data was used to characterize water quality, particularly in regard to Section 3.3 and Table 11. This could be addressed by reproducing Table 5 of the EWMP Work Plan, and indicating which of the monitoring programs/year(s) data collected were used to

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		identify Category 3 pollutants. The EWMP must also provide justification for using median concentrations and only considering pollutants with a minimum of five samples collected over the data period to identify Category 3 pollutants. Furthermore, the revised EWMP shall show the monitoring stations used to characterize water quality and derive the list of Category 3 pollutants, and shall discuss whether the locations are adequately representative of the waterbodies within the MCW (for receiving water data) and of Permittees' MS4 discharges (for stormwater/non-stormwater discharge data). This could be addressed using Figure 2 from the EWMP Work Plan, or a modification of that figure, as appropriate (i.e., to show only the monitoring stations used to identify Category 3 pollutants). The revised EWMP must indicate if the current compliance requirement of 60% trash reduction as of July 7, 2015 is currently being met; if not, the EWMP must indicate the current status of compliance with the required trash reductions per the Trash TMDL and actions to achieve compliance.
Water Body Pollutant Classification		
Table 10 (page16-18), Section 6.2.3 Table 33 (page 69)	Part VI.C.5.a.ii.(2) (page 60)	Table 10, which summarizes the 2010 303(d) listings for the Malibu Creek Watershed incorrectly identifies the following Category 2 Pollutants as "TMDL Developed." Correct the EWMP to reflect that the following water body pollutant combinations do not have a TMDL: • Malibu Creek-Fish Barriers (Fish Passage) • Malibu Creek-Invasive Species Further, Table 10 does not include Lake Sherwood, which is on the 303(d) list as impaired due to mercury, and is addressed by the LA Lakes TMDLs established by USEPA. Add Lake Sherwood to Table 10. The Group may note, as USEPA found in its TMDL, that there are no MS4 discharges to Lake Sherwood. Receiving water limitations for category 2 pollutants do not appear to be clearly listed in the EWMP. The revised EWMP must clearly list the applicable receiving water limitations for the Category 2 pollutants. Section 6.2.3, Table 33 (page 69) identifies the targets for priority water quality pollutants in the MCW for lead, mercury, selenium, and sulfate. The target calculated for lead based on a hardness of 730 mg/L exceeds the maximum hardness of 400 mg/L as defined by the California Toxics Rule. The revised EWMP shall recalculate

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		the target for lead based on a maximum hardness of 400 mg/L. Also, in Table 33, it appears that note 4 may be incorrectly associated with the lead dry weather target for RAA.
Table 12 (page 23) Table 11 (page 19)	Part VI.C.5.a.ii.(3) (page 60)	In Table 12, Cheseboro Creek is missing phosphate as P. In the MCW CIMP, chloride is listed as a Category 3 pollutant in Cheseboro Creek. However, chloride is not identified as a pollutant in Table 11 or in Table 12 within the EWIMP and no justification is provided for not including chloride as a Category 3 pollutant. Provide a justification for not including chloride as a Category 3 pollutant or list chloride within Table 11 and 12 in the revised EWMP.
Source Assessment		
	Part VI.C.5.a.iii.(1)(a)(i)-(iv) (pages 59-60)	The EWMP must make findings from the Permittee(s)' IC/IDE programs, Industrial/Commercial Facilities Pollutant Control programs, Development Construction programs, Public Agency Activities programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities. If no relevant information was collected from a review of these programs, the EWMP should clearly state so.
	Part VI.C.5.a.iii.(1)(a)(v) (page 61)	The EWMP must clearly include data and conclusions from TMDL source investigations regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters.
	Part VI.C.5.a.iii.(1)(a)(vi) (page 61)	The EWMP must include data and conclusions from watershed model results regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters.
	Part VI.C.5.a.iii.(1)(a)(vii) (page 61)	The EWMP must include data and conclusions from Permittee(s)' monitoring programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters.
	Part VI.C.5.a.iii.(1)(b) (page 61)	The EWMP must include a map(s) of the Permittee(s)' MS4, including all major outfalls and major structural controls for stormwater and non-stormwater. Some of the maps included in the CIMP may fulfill this purpose in part (i.e., Figures 8-11 include storm drains and open channels, but do not appear to include major MS4 outfalls and major structural controls).
Selection of Watershed Control Measures		
	Part VI.C.5.a.iv.(1) (page 61)	The Malibu Creek Bacteria TMDL compliance deadline for dry-weather has passed. The MCW EWMP Group requested a TSO, but a TSO has not yet been issued by the Regional Board. The revised EWMP must specify a strategy to implement pollutant controls necessary to achieve water quality-based effluent limitations and

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		receiving water limitations for E. coli during dry weather.
Table 17 (page 26)	Part VI.C.5.b.iv.(1)(a)(iii) (page 63)	No modifications to the Development Construction Program are proposed; however, the EWMP does not explicitly state that the provisions in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 shall be implemented. The EWMP must be revised to explicitly state whether the Program will be revised or implemented as written in the LA County MS4 Permit.
Table 15 (page 25)	Part VI.C.5.b.iv.(1)(a)(ii) (page 63)	No modifications to the Industrial/Commercial Facilities Program are proposed; however, the EWMP does not explicitly state that the provisions in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 shall be implemented. In addition, there is a blank cell in Table 15: Industrial/Commercial Facilities Program. The EWMP must be revised to explicitly state whether the Program will be revised or implemented as written in the LA County MS4 Permit.
Table 19 (page 27)	Part VI.C.5.b.iv.(1)(a)(iii) (page 63)	No modifications to the Illicit Connections and Illicit Discharge Elimination Program are proposed; however, the EWMP does not explicitly state that the provisions in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 shall be implemented. The EWMP must be revised to explicitly state whether the Program will be revised or implemented as written in the LA County MS4 Permit.
Table 18 (Page 27)	Part VI.C.5.b.iv.(1)(a)(iv) (page 63)	No modifications to the Public Agency Activities Program are proposed; however, the EWMP does not explicitly state that the provisions in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 shall be implemented. The EWMP must be revised to explicitly state whether the Program will be revised or implemented as written in the LA County MS4 Permit.
Table 13 (Page 24-25)	Part VI.C.5.b.iv.(1)(a)(v) (page 63)	No modifications to the Public Information and Participation Program are proposed; however, the EWMP does not explicitly state that the provisions in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 shall be implemented. The EWMP must be revised to explicitly state whether the Program will be revised or implemented as written in the LA County MS4 Permit.
Section 5.1 (page 24)	Part VI.C.5.b.iv.(1)(c) (page 63)	Through the EWMP, the MCW Permittees must implement the MCMs as set forth in the Los Angeles County MS4 Order No. R4-2012-0175 as amended by State Water Board Order WQ 2015-0075, not those of the 2001 LA MS4 permit, which is referenced in Section 5.1.1. Section 5.1.1 and Tables 13-19 must be revised as necessary to reflect the MCMs that each Permittee will implement per the 2012

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		permit, as amended.
Section 5.3.2 (page 32-36), Table 23, Table 28	Part VI.C.5.b.iv.(4)(b)-(c) (page 64)	Page 36, Section 5.3.2.3 states, "…the current street sweeping program will be enhanced with advanced sweeping technologies in residential areas that require additional pollutant reduction when the contract is re-bid." The revised EWMP must state when each Permittee will complete its evaluation of the potential for enhanced street sweeping and also when the street sweeping contract is up for re-bid for each Permittee. The EWMP must also specify what advanced sweeping technologies or methods (e.g., conversion to regenerative air sweepers, reduced speed of street sweepers) will be applied to reduce pollutants. A more detailed description of the BMPs listed in Table 23: Matrix of Associated Pollutants for Enhanced Institutional and Source Controls is provided in Section 5.3.2 Institutional and Source Control BMPs (pages 32-36); however, a description of the Increased Frequency of Catch Basin Cleaning and the Landscape/Gardner License Program must be included within the EWMP. A more detailed description of the proposed streamflow treatment/retention facility to be located at site MEC-12 must be included in the revised EWMP, particularly for the alternative in which streamflow would be removed from the creek, treated and returned to the creek. The volume of stormwater to be retained by the combination of regional BMPs and green streets, at various stages of implementation within each subwatershed, must be included within the EWMP. Although in Section 5.3.3 the eight regional projects listed in Table 28 seem to be defined to capture the 85th percentile, 24-hour storm event, the revised EWMP must specifically state if each of the planned regional projects will retain the volume associated with the 85th percentile, 24-hour storm event, and all non-stormwater runoff and indicate what that volume is for each project's tributary area. (Also include this information in Appendix A.) If the planned regional projects will not retain the 85th percentile, 24-hour storm event, the EWMP must ensure that the reasonable assurance analysis addresses the tributary area.
Table 40 (page 96)	Part VI.C.5.b.iv.(4)(d) (page 64)	Table 40: Proposed MCW EWMP Compliance Schedule lists compliance dates for TMDLs and proposes non-specific interim milestones to assess progress every two years. However, the revised EWMP must include more specific interim milestones and dates for completion, particularly for non-structural (institutional

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		and source) control measures to ensure progress toward TMDL compliance deadlines. Further, there is inconsistency in the EWMP regarding final implementation of all institutional and source controls. Table 40 establishes a final compliance date of December 2017, while Section 7.2.1 indicates an implementation date of 2020. Rather than a single compliance date for all non-structural controls, provide dates specific to each action in Table 39, as indicated above. Finally, provide the interim milestones relative to structural BMP capacity in Figures 35-39 in a single table organized by assessment area, Permittee and compliance deadline.
Table 23 Section 5.3.2 (pages 32-36)	Part VI.C.5.b.iv.(e) (page 65)	The responsible Permittees for each BMP proposed within Table 23: Matrix of Associated Pollutants for Enhanced Institutional and Source Controls must be specified.
Enhanced Watershed Management Program Provisions		
Section 5.3.3 (page 38), Section 5.3.3.1.5 (page 44)	Part VI.C.1.g (page 49)	Regional BMPs are defined as multi-benefit regional projects. However, the Group does not specifically identify which selected Regional BMPs will retain the 85th percentile, 24-hour storm event once the initial prioritization is completed. In section 5.3.3.1.5 the EWMP addresses that "this initial prioritization provided the baseline for identifying the sites with the greatest potential to retain the volume equivalent to the 85th percentile, 24-hour storm event." As commented above, the revised EWMP must identify which of the eight regional projects will retain the 85th percentile, 24-hour storm event and all non-storm water runoff.
Section 5.3.3.1.4 (page 44)		The EWMP states "…preliminary sizing was to maximize, site-by-site, the water quality benefits associated with implementing each BMP." (Pg. 44) The revised EWMP must state for each regional BMP if the sizing of the regional BMP will meet the applicable water quality based effluent limitations and/or the water quality design volume (as commented above).
Section 5.3.3.1.4	Part VI.C.1.g (page 49)	Section 5.3.3.1.4 of the EWMP, states "If site constraints prohibited retention, other BMPs were used, and the RAA was completed for the areas where retention is not feasible for the 90th percentile storm." (page 44) However, the EWMP does not clearly identify the drainage areas where retention of the 85th percentile, 24-hour storm event is not feasible. The revised EWMP needs to clearly identify the drainage areas within the watershed where retention of the 85th percentile 24-hour storm event is feasible and is not feasible. For the drainage areas where it is not feasible, then the RAA must demonstrate that the proposed watershed control measures will achieve the water quality based effluent limitations and receiving water limitations

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		(as indicated in the quote above).
Section 5.3.3.2	Part VI.C.1.g.iv. (page 49)	For each of the eight regional BMPs, the revised EWMP must elaborate on the other anticipated benefits the regional projects will achieve (e.g., flood control, water supply, flow reduction, open space, habitat, recreation, etc.).
Section 5.3.3.1.3	Part VI.C. 1.g.v (page 49)	A desktop survey using GIS and aerial imagery was used to identify public and private vacant parcels with nearby storm drains on fairly moderate to flat slopes and limited physical obstructions. Provide a map showing locations of the public/private, parcels considered. The revised EWMP must provide further explanation of the public/ private BMPs opportunities/incentives that will be offered to the public/private owners.
Section 7.4 (page 95)	Part VI.C.1.g.viii (page 50)	The EWMP must state that existing requirements to comply with technology based effluent limitations and core requirements (e.g., prohibiting non-stormwater discharges of pollutants through the MS4 and controls to reduce the discharge of pollutants in stormwater to the MEP) will not be delayed.
Table 45, Section 8 (page 98), Table 46,	Part VI.C.1.g.ix (page 50)	For each Permittee, the revised EWMP should state the amount of current monetary funds available for permit implementation. The EWMP should, where possible, identify potential sources of funds. The revised EWMP must specifically describe the financial strategy to secure funding in order to implement the BMPs proposed for the 2017 milestone, which is within the current permit cycle.
	Part VI.C.5.b.iv.(5)(c) (page 65)	The limiting pollutant selection in Section 6.2.4 and Table 35 does not address all Category 3 pollutants (e.g., TDS, specific conductivity, chloride). The EWMP must demonstrate that the BMPs proposed to address the limiting pollutants will also be sufficient to address all other Category 2 and Category 3 pollutants, or include additional BMPs and supporting analysis for the Categories 2 and 3 pollutants not addressed by the limiting pollutant analysis.
Section 7.6 (pages 96-97)	Part VI.C.5.c (page 66)	Section 7.6, Implementation Schedule shall incorporate the Trash compliance deadlines of: • 80% Reduction - July 7, 2016 • 100% Reduction - July 7, 2017 and the Bacteria TMDL Geometric Mean Deadline of • July 15, 2021 While the Regional Water Board has encouraged Permittees to look at previous TMDLs for milestone comparison, when assessing the timeline proposed in a TMDL the differences in waterbodies

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		and impairments must be kept in mind. The sediment toxicity and associated benthic community impairments in the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL are not comparable to the sedimentation and benthic community impairments in MCW. Therefore, it is not appropriate to use such a comparison to justify the proposed final compliance date of 2032 in the MCW. Provide alternative justification and modify the proposed final compliance date accordingly.
Section 9	Part VI.C.8 (pages 68-70)	Section 9 of the EWMP is unclear as to whether the adaptive management process will be completed every two years as required by the Permit or at the end of each Permit term. The revised EWMP must clarify the frequency of the adaptive management process.
Reasonable Assurance Analysis (RAA)		
Section 6 (page 58)	Part VI.C.5.b.iv.(5) (page 65)	The RAA needs to provide a discussion that non-stormwater discharges from the Permittees' MS4 are not causing or contributing to exceedances of water quality based effluent limitations or receiving water limitations. Alternatively, if non-stormwater discharges are causing or contributing to exceedances, the RAA must discuss the reasonable assurance that the BMPs proposed will adequately address the non-stormwater discharges. In addition, the revised EWMP needs to address the other comments provided in Enclosure 2.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Malibu Creek Watershed

Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains comments on Section 6, Reasonable Assurance Analysis (RAA) of the draft Enhanced Watershed Management Plan (EWMP) report for Malibu Creek Watershed dated June 25, 2015.

General comments on the RAA of the draft EWMP:

1. Section 3 Existing Water Quality Conditions
   - Include the effluent limits for total coliform, fecal coliform, and enterococcus for dry and wet weather listed on pages M-16 - 19 of the MS4 permit.
   - Include required interim and final water quality-based effluent limitations for trash as scheduled in the required annual trash reduction table on page M-20 of the permit.
   - Include in Section 3.1.5 on page 15 specific required reductions associated with the due dates as specified on page M-15 of the MS4 permit.

2. Section 6.2.4 Limiting Pollutant Selection
   - Table 35 on page 72 summarizes the Group's limiting pollutant selection and justification for its RAA. For selenium, the EWMP states that selenium is naturally occurring in the MCW due to local geology (USEPA 2011). The Group needs to commit to reevaluate this conclusion through its CIMP and the adaptive management process.

RAA Modeling comments:

1. The model results of water quality calibration for total sediment as shown in Table 32 indicate that the difference between modeled and observed values of total sediment is -35.8%. Note 2 to Table 32 states that bank erosion was not modeled in LSPC, and that shear stress will be used as a surrogate indicator for the sedimentation target. Provide additional explanation for the underestimation of modeled values for total sediment, identification of the data needed to improve model calibration for total sediment, and a commitment to collect the necessary data. Additionally, provide additional discussion of, and support for, shear stress as a surrogate indicator for the sedimentation target.

2. The EWMP separately defines critical conditions for the two categories of limiting pollutants, bacteria and nutrients. For nutrients, the critical condition is defined as the 90th percentile Exceedance Volume (EV) as explained in Section 6.2.3.1. Board staff understands that this "EV" approach provides assurance that the receiving water limitations (RWLs) will be met instream. Please also provide a comparison of the EV by assessment area with the 90th percentile of pollutant (total nitrogen and total phosphorus) load to account for conditions in which flow may be high but concentration may not exceed the RWL.

3. Please provide the model results for the baseline condition in terms of runoff volume, pollutant concentration and pollutant loading, as well as the estimated allowable loads and required load reductions, based on the 90th percentile critical condition of runoff volume and pollutant concentration, for each modeled subbasin for each pollutant modeled.

4. Finally, please provide an example validation for a representative waterbody within the MCW or in another EWMP area that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, will result in achieving the RWLs.

October 21, 2015

Permittees of the North Santa Monica Bay Coastal Watersheds[1]
(See Distribution List)

REVIEW OF THE NORTH SANTA MONICA BAY COASTAL WATERSHEDS GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART IV.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the North Santa Monica Bay Coastal Watersheds Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 29, 2015 by the North Santa Monica Bay Coastal Watersheds (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the North Santa Monica Bay Coastal Watersheds Group EWMP include: City of Malibu, County of Los Angeles, and Los Angeles County Flood Control District.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its the Executive Officer on behalf of the Los Angeles Water Board.

As stated above, on June 29, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two comment letters that were applicable to the Group's draft EWMP. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 19, 2015**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised North Santa Monica Bay Coastal Watersheds EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Deborah.Brandes@waterboards.ca.gov.

If the necessary revisions are not made, and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment M pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E. and set forth in Attachment M by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Mrs. Deborah Brandes of the Storm Water Permitting Unit by electronic mail at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 576-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: North Santa Monica Bay Coastal Watersheds Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

North Santa Monica Bay Coastal Watersheds Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
NA		ASBS Comments 1. As part of the EWMP, provide specificity on the number of MS4 outfalls and their ownership within the ASBS 24 area. Ensure consistency with "Area of Special Biological Significance 24, Compliance Plan for the County of Los Angeles and City of Malibu, September 20, 2015" (ASBS 24 Compliance Plan). 2. Integrate the ASBS 24 Compliance Plan into the EWMP. a. Particular attention should be paid to integrating the actions in sections 3 and sections 6 into the appropriate elements of the EWMP. b. Ensure the actions in the EWMP are in alignment with the schedule (section 8) in the ASBS Compliance Plan. 3. Discuss in the EWMP any unique watershed control measures to address MS4 discharges of non-stormwater and stormwater that are being taken within the ASBS 24 that are not being taken in areas outside of the ASBS but still within the NSMB EWMP area.
Table 1		Include beaches and SMB Nearshore & Offshore beneficial uses in Table 1. NSMBCW Water Bodies and Beneficial Uses Designated in the Basin Plan.
Table 5	Attachment M, Part C.2	Table 5, footnote b. Note that the grouped WLAs in the SMB PCBs/DDT TMDL are for the annual pollutant load discharged from the MS4s throughout the SMB WMA to SMB, directly or indirectly.
Throughout		Revise EWMP to ensure internal consistency, i.e., in a couple of places 1-2 outfalls are identified in the Topanga Creek Watershed, but in Section 7.1.2.3 the draft states that there are no Permittee owned major outfalls in the watershed. Clarify or correct.
Throughout		Revise EWMP to be consistent in acreage of Civic Center area that is tributary to Legacy Park; in various parts of the draft it is identified as 618 or 619 acres.
Figure 5, page 48		Second box from top. Add a footnote or add to text in section 4.1.1 to say what the "defined criteria" are, consistent with the CIMP.
Page 49, bottom		"The wet-weather RAA process consists generally of the following steps: • Identify WBPCs for which the RAA was performed;"

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		This seems to be defining RAA with RAA so recommend changing this to read "Identify WBPCs based on TMDLs, 303(d) list and category 3 pollutants."
Page 52		Section 4.3 SBPAT Model, 1st paragraph states, "The NSMBCW EWMP Work Plan (Appendix B) provides the rationale for the selection of SBPAT as the primary water quality modeling program used to perform the NSMBCW RAA." Appendix B of the NSMBCW EWMP Work Plan contains tables of BMPs. Please clarify or correct the reference.
Page 49, Table 10		The Pollutant column needs modification or clarification. The wet weather bacteria permit limits for Malibu Creek must be changed to E. coli per the Malibu Creek and Lagoon Bacteria TMDL (Reconsideration of Certain Technical Matters of the TMDL for Bacteria Indicator Densities in Malibu Creek and Lagoon, Resolution No. R12-009). The wet weather bacteria permit limits for Santa Monica Bay should be changed to include all of the following: total coliform, fecal coliform and enterococcus per the Santa Monica Bay Beaches Bacteria TMDL (Reconsideration of Certain Technical Matters of the Santa Monica Bay Beaches Bacteria TMDL; the Marina del Rey Harbor Mothers Beach and Back Basins Bacteria TMDL; and the Los Angeles Harbor Inner Cabrillo Beach and Main Ship Channel Bacteria TMDL, Resolution No. R12-007). If the table is indicating the modeled pollutant, please clarify that while fecal coliform is the modeled pollutant, that it is representative of the other indicator bacteria for which there are permit limits, as noted above.
Page 54		"School properties, which the NSMBCW EWMP Group does not have control over with respect to stormwater activities, were included in the RAA for consistency with other EWMPs." Clarify what is meant by "school properties", i.e., public and private. Clarify whether these school properties include Pepperdine University, specifically.
Page 55, Figure 9		NSMBCW Analysis Regions for RAA NSMBCW - The analysis regions and HUC-12 areas are difficult to differentiate on the map. Revise the map to provide greater clarity.
Table 5, page 25		The correct Effluent Limitation/Receiving Water Limitation is 1.0 mg/L not 0.65 mg/L for Total Nitrogen (summer) in Table 5 Final RWLs and WQBELs for NSMBCW TMDLs, page 25. The appropriate limits are in Table 10-4, page 10-19 of the "Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients to Address Benthic Community Impairments".
EWMP, page 91		Include a schedule for the 3.8% of Single Family Residential areas treated by bioswales per the public retrofit incentives (page 91) in the revised EWMP.
Page 26		The EWMP states, "Compliance monitoring locations identified as

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		MC-1, MC-2, and MC-3 in the Santa Monica Bay Beaches Bacteria TMDL CSMP are not included in Permit Attachment M and have therefore been excluded from the EWMP." These sites cannot be excluded unless they are included in the Malibu Creek EWMP/CIMP because they are subject to the grouped final single sample bacteria receiving water limitations for all shoreline monitoring stations along Santa Monica Bay beaches (Attachment M.A.4.d), except for those monitoring stations subject to the antidegradation implementation provision as established in the TMDL (Attachment M.A.4.f).
Page 31		A TMRP from the County of Los Angeles on behalf of itself and the Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village was approved on May 30, 2014. Implementation of the monitoring program should have begun as of that date. The first interim deadline for the trash/debris TMDL is March 20, 2016. Therefore, permittees must use whatever monitoring data are available (and should have been since May 2014) to assess and achieve compliance with the interim deadline of a 20% reduction of the baseline load by March 20, 2016.
Table 23 D.8. Construction (page 87)		Regarding Construction, include the developed/modified checklist that focuses on water quality priorities.
NSMBCW EWMP - Appendix D Minimum Control Measures		Wherever modified is checked for a requirement, include details of the how the MCM was modified in the Comment section.
Page 126		Revise Table 32 Water Body Pollutant Prioritization for the NSMBCW EWMP Area – by adding " & Final Geometric Mean" to the row under SMB Beaches, Wet Weather Bacteria, July 15, 2021: Final RWLs (AEDs).
pages 135-143	Part VI.C.1.g.ix, page 50	Provide estimated costs of the non-structural BMPs which includes Minimum Control Measures (MCMs). Also include a summary of existing/past funding sources/amounts in the revised EWMP. These funding sources may include general or dedicated funds from the City, County & FCD, as well as grants/loans. General funds are mentioned, but the amount of general funds must be quantified for the last several years (FY13-14, 14-15) by Permittee.
	Part VI.C.5.b.iv.(4)(e)	The plan does not clearly identify the responsibilities of each participating permittee. Ensure that the responsible entity for each watershed control measure (regional projects, distributed projects, public retrofit incentives, MCMs, etc.) is clearly identified in the revised EWMP.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Various	Part VI.A.2	Address any intermingling of discharges from privately owned stormwater infrastructure into the MS4 in the appropriate elements of the revised EWMP.
Pages 129-131 and Table 33	Attachment M	There is a discrepancy between the wet weather allowable exceedance days that Regional Board staff has calculated in the TMDL and that which is provide in section 7.2.1 of the EWMP (511 vs. 490, respectively). Clarify whether the allowable exceedance days at SMB 0-1 (Paradise Cove) and 0-2 (Puerco Beach) were left out in calculating the totals in the EWMP.
Water Quality Characterization		
page 31	Part VI.C.5.a.i.	The EWMP presents no monitoring data for trash. It states that a TMRP was not approved and therefore monitoring did not begin. This is not accurate for one was approved for SMB on 5/30/2014. (The approval letter is attached herein.)
Figure 3, page 28 and Figure 9 page 55	Part VI.C.5.a.i.	Ensure consistency among Figures 3 and 9 and the approved CIMP with regarding to compliance monitoring locations (receiving water and outfall).
Pages 98-105 and page 122		Ensure that all MS4 outfalls, as shown on Figure 23, are also included on all maps on pages 98-105 and page 122.
Water Body Pollutant Classification		
Table 5 (page 25)	Part VI.C.5.a.ii.(1), page 60	One error was found in Table 5 (page 25). For the last row entitled "Malibu Creek and Lagoon Benthic TMDL," Total Nitrogen (summer) should be 1.0 not 0.65 mg/L per table 10-4, page 10-18 of the USEPA Region IX Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients to Address Benthic Community Impairments.
Table ES-1, page ES-4	Part VI.C.5.a.ii. Waterbody-Pollutant Classification	The "Topanga Source ID Study Final Report, December 2012-August 2014, October 23, 2014" identified fecal indicator bacteria (E. coli) as a pollutant for Topanga Canyon Creek. E. coli is not on the 303(d) list and is not addressed by a TMDL. As such, it must be evaluated as a potential Category 3 pollutant.
Source Assessment		
EWMP Work Plan, page 21	Part VI.C.5.a.iii.(1)(a)(i)-(iv), pages 59-60	The EWMP Work Plan states "The following data sources will be reviewed as part of the source assessment for the Category 1 and 2 water body-pollutant combinations (i.e. regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities): 1.Findings from the Permittees' Illicit Connections and Illicit Discharge Elimination Programs (IC/ID); 2.Findings from the Permittees' Industrial/Commercial Facilities Programs; 3.Findings from the Permittees' Development Construction Programs;

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		4.Findings from the Permittees' Public Agency Activities Programs 5.TMDL source investigations; 6.Watershed model results; 7.Findings from the Permittees' monitoring programs, including but not limited to TMDL compliance monitoring and receiving water monitoring; and 8.Any other pertinent data, information, or studies related to pollutant sources. However, no such findings are presented in the EWMP from these programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities. The revised EWMP must detail what the results of the Group's investigations are. Further, it is not clear whether the Group considered the Topanga Creek Source ID Study, mentioned above, as it is not listed in the Reference section. Footnote a of Table 8 cites monitoring results from multiple MST (Microbial Source Tracking) studies in the EWMP area, but references a comment letter rather than the original sources. The revised EWMP must cite the original sources and include the references in the Reference section. The only additional discussion of MCMs focuses on the enhancements/modifications to the MCMs from the baseline requirements in the 2012 permit (Part VI.D).
NA	Part VI.C.5.a.iii.(1)(a)(vii)	The EWMP must more explicitly summarize findings from studies related to pollutant source information in the EWMP area. At a minimum, the following studies must be summarized: Source identification in Topanga; the link is http://www.rcdsmm.org/topanga-creek-watershed-research-reports Escondido and Ramirez Canyons; the link is http://www.sccwrp.org/ResearchAreas/BeachWaterQuality/UpperSantaMonicaBayMicrobialSourceTracking.aspx Additionally, summarize relevant work contained in the following two TMDL related reports/plans: • "Santa Monica Bay Beaches Wet-Weather Bacteria Total Maximum Daily Load Implementation Plan, Jurisdictional Groups 1 & 4" • "Quantitative Assessment Santa Monica Bacteria TMDL

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Implementation Plan, Jurisdictional Groups 1 & 4"
N/A	Part VI.C.5.a.iii.(1)(a)(vi), page 61	Modeling results from TMDLs are included but not those related to source assessment. The EWMP group must summarize relevant work contained in two TMDL related reports/plans: • "Santa Monica Bay Beaches Wet-Weather Bacteria Total Maximum Daily Load Implementation Plan, Jurisdictional Groups 1 & 4" • "Quantitative Assessment Santa Monica Bacteria TMDL Implementation Plan, Jurisdictional Groups 1 & 4" While some of the work may have been updated by more current efforts, it is important to reference and acknowledge previous work.
Page 112	Part VI.C.5.a.iii.(1)(b), page 61	Eighteen subwatersheds are described on pages 12-18, and for a number it is noted that there are no permittee-owned MS4 outfalls within the subwatershed. For those where there are MS4 outfalls, i.e., those where it is not stated that there are not any permittee owned MS4 outfalls, including Encinal, Trancas, Ramirez, Escondido, Corral, Malibu Creek (in Civic Center area, even though addressed by Legacy Park), Las Flores, Piedra Gorda, and Topanga, a table with details regarding the MS4 outfalls, organized by subwatershed, needs to be included in the revised EWMP to accompany Figure 23. If not all outfalls have been identified, a schedule for mapping the remaining MS4 outfalls needs to be included.
Pages 12-18	Part VI.C.5.a.iii.	For each paragraph on pages 12-18, be consistent in every case in identifying if there is, or is not, a MS4 outfall for each subwatershed.
Figure 23, Page 112	Part VI.C.5.a.iii.	Ensure that all MS4 outfalls (major and minor) are displayed on Figure 23, page 112. In addition, provide a table of all outfalls displayed on the figure, as noted above.
Selection of Watershed Control Measures		
	Part VI.C.5.b.	Regarding the Trash TMDL and its WQBELs, reference the following: "Santa Monica Bay Watershed Management Area (WMA) Trash Monitoring and Reporting Plan (TMRP) – Final" September 2012, Larry Walker Associates. Specifically refer to Table 4 on page 27 and the paragraph above Table 4 to describe the implementation requirements and the implementation schedule for compliance with the Santa Monica Bay Nearshore and Offshore Debris TMDL.
Page 10	Part VI.C.5.b	Include a detailed soils map indicating the infiltration rates for the various soil types in the EWMP area rather than the general description provided in Section 1.3.4 to support the group's conclusion that there is little opportunity for regional retention projects.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Table 29, page 111	Part VI.C.5.a.iv.(1), page 61	It is unclear, in footnote 3 to Table 29, whether observations were made at all MS4 outfalls in the subwatershed, or if the implication here is that there was no flow from the freshwater outlet to the surf zone. Clarify and provide supporting data from observations described in same footnote.
Appendix D	Part VI.C.1.g.viii, page 50	While not explicitly stated it appears that the MCMs as required in Part VI.D of the permit, per Appendix D, are either going to be implemented as required by the permit, enhanced, or appropriately modified. Confirm that the MCMs will be required, enhanced or modified. Ensure that the modifications and enhancements described in Table 23 of the EWMP (pages 85-87) for the Development Construction Program match those in Appendix D of the EWMP for the same program.
Page 31	Part VI.C.5.a.iv.(1), page 61	A TMRP from the County of Los Angeles on behalf of itself and the Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village was approved on May 30, 2014. Implementation of the monitoring program was required immediately. The first interim deadline for the trash/debris TMDL is March 20, 2016. Therefore, permittees should immediately use whatever monitoring data are available, since approval of the monitoring plan, to assess and achieve compliance with the interim deadline of a 20% reduction of the baseline load by March 20, 2016.
Page 31	Part VI.C.5.a.iv.(1), page 61	While the EWMP does not have to model trash, there should be a discussion in the EWMP about how the group intends to comply with the Santa Monica Bay Trash TMDL. Referencing the development and adherence to approved TMRPs/PRMPs by the required interim and final compliance deadlines is adequate.
Pages 81-82; Table 23; Appendix D	Part VI.C.5.b.ii.(1), page 62	Regarding preventing or eliminating non-stormwater discharges to the MS4 that are a source of pollutants from the MS4 to receiving waters , the plan does not specify measurable milestones within the permit term (specific actions, outcomes and deadlines). To the extent that these are covered in the CIMP through the non-stormwater screening, source investigation and elimination, and monitoring program, include a description of these elements and corresponding measurable milestones in the EWMP.
Table 23, pages 85-87 and Appendix D	Part VI.C.5.b.iv.(1)(a)(i)	Ensure that Table 23 (pages 85-87) and Appendix D are aligned. It appears that Table 23 should be a subset of the MCMs in Appendix D, i.e., those that are identified as "enhanced" or "modified" in Appendix D. The Group also needs to ensure that for each MCM, the Permittee(s) responsible for implementing it are clearly identified. If all MCMs will be implemented by all three permittees in all areas, note this.
Table 23, page 87	Part VI.C.5.b.iv.(1)(	Under Public Agency Activities the EWMP lists the following modification: "EWMP regional and distributed project selection

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
	a)(iv), page 63	process will be utilized to meet these requirements rather than implementing separate evaluations for retrofit opportunities." The justification says that "Separate procedures are not needed as these considerations are incorporated into the EWMP control measure selection process." Note however that the permit also requires that each permittee cooperate with private landowners to encourage site specific retrofitting projects (see Part VI.D.9.D.v of permit). Describe in greater detail how the group will encourage retrofitting of private properties and provide interim & final milestones for the implementation assumptions in section 5.2.3.3. (Table 23, page 87)
	Part VI.A.2.a.viii	Indicate how the Permittees will control the contributions of pollutants from MS4s owned by Caltrans and State Parks (if any in the EWMP area) to their MS4s through interagency agreements or other means.
pages 132-134	Part VI.C.8, pages 68-70	Part VI.C.8.a.i.(7) describes adaption of the EWMP to become more effective based on: "Recommendations for modifications to the Watershed Management Program solicited through a public participation process." A public participation process is not described in the NSMB EWMP description of the Adaptive Management Approach. Describe the group's intention regarding public participation in its adaptive management process. Include a commitment to address Part VI.C.8.a.iv.(1)-(7) of the LA County permit as part of the group's adaptive management process.
Pages 106-123	Part VI.C.5.b.iv.(4)(d), page 64	The EWMP does not address compliance vis-à-vis interim limits. Tables 27 and 31 discuss compliance but only with the final limits. Attachment C-1 provides further detail in terms of target load reduction by blocks of years (2003-2015 and 2015-2021) but it does not correspond with the next interim deadline for bacteria, which is 2018 for Santa Monica Bay. Revise the EWMP to include analysis demonstrating a reasonable assurance that interim limits for Santa Monica Bay Beaches bacteria will be met.
Pages 125-131	Part VI.C.5.c, page 66	Interim milestones and dates for their achievement need to be included for: - Proposed Distributed BMPs (Table 26) (i.e., area to be treated in acres within each analysis region by a date certain) - Public Retrofit Incentives (Section 5.2.3.3) – rate of conversion of SFR areas to disconnected downspout systems (need to include measurable metrics & dates for their achievement) - Proposed Regional BMPs (Section 5.2.4.3) – interim milestones for design and construction and dates for their completion for Topanga green street project along Viewridge

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Road.
Pages 89-90		Further substantiate or reference redevelopment rates on pages 89-90 of the EWMP. Redevelopment rates should be tracked and evaluated via the adaptive management process, to confirm or adjust initial assumptions.
Enhanced Watershed Management Program Provisions		
NA	Part VI.C.1.g, page 49	Provide a discussion on how the Group's comprehensive evaluation of opportunities for multi-benefit regional stormwater capture retention projects was conducted.
Appendix B, Workplan, pages 43-44.	Part VI.C.1.g, page 49	The NSMBCW EWMP Work Plan outlined a process for comprehensively evaluating opportunities within the participating Permittees' collective jurisdictional area in a Watershed Management Area, for collaboration among Permittees and other partners on multi-benefit regional stormwater capture/retention projects that involved the following four (4) steps.... (1) SBPAT catchment prioritization process; (2) Derive BMP opportunity scores (3) Desk-top GIS screening (4) Field reconnaissance of regional BMP sites, including prelim soil analysis & initial environmental study to support a feasibility analysis. Include a more thorough presentation of the results of each of these steps. If no field reconnaissance was done for any potential BMPs, a schedule for conducting the field reconnaissance needs to be included for each potential BMP.
EWMP, section 5.2.4.2, page 93	Part VI.C.1.g, page 49	The EWMP lists existing regional BMPs (section 5.2.4.2). Two of these are retention facilities – Trancas Canyon Park & Las Flores Creek Restoration & Park – and were designed to retain the 0.75-inch storm. Compare this to the 85th percentile storm for these two subwatersheds, and evaluate whether additional capacity could be added to achieve retention of the 85th percentile storm volume at these two projects.
EWMP, page 122	Part VI.C.1.g, page 49	For distributed green street BMPs, indicate that progress toward implementing these distributed BMPs based on the area treated will be reported annually.
NA	Part VI.C.1.g, page 49	Provide an explanation as to why Regional Projects, with the exception of Malibu Legacy Park, cannot treat the 85th percentile, 24-hour storm event.
Table 23, page 86	Part VI.C.1.g, page 49	Provide more details on how the Permittees' "Outreach to industrial/commercial facilities will focus on water quality priorities to most effectively utilize resources."
Page 87	Part VI.C.1.g, page 49	Revise the EWMP to describe how the construction checklist will be modified to focus on water quality priorities.
Pages 89-90	Part VI.C.1.g, page 49	Consider relabeling the section Quantified Non-structural BMPs (5.2.3), which describes programmatic BMPs, but also

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		redevelopment BMPs and public retrofit BMPs (page 89-91). The EWMP says that "Specific non-structural BMP model inputs are summarized in Table 25." However, media-filters, bioretention, biofiltration and bioswales are all structural BMPs. In addition, provide an explanation as to why these BMPs were selected for public retrofit and redevelopment and not others.
Page 82	Part VI.C.1.g, page 49	The EWMP states that "An approach for evaluating existing institutional MCMs was developed as part of the NSMBCW EWMP Work Plan (Appendix B) and was used to evaluate existing MCMs and develop the customized MCMs." The approach is outlined. The actual analysis/work to evaluate the MCMs (non-structural BMPs) is not shown in Appendix D-1. More explanation (beyond the comments in the last column) would be helpful particularly in the situations where there is no enhancement beyond what is required in the permit.
Page 94-95	Part VI.C.1.g, page 49	One newly proposed Regional BMP was evaluated and was referred to as "Analysis Region S1-18 (Topanga Canyon)". Provide additional detail on the anticipated volume and pollutant load reductions from this BMP. While the EWMP references section 5.3.1 as containing this information, it is not clear whether the values that correspond to the Row "S1-18" and the column "Proposed BMPs" represent the reductions from this regional BMP. Please clarify and provide additional detail for the proposed regional BMP as directed above. Also include a schedule for completion of this project (or an alternative project in this subwatershed).
Page 29, EWMP Work Plan	Part VI.C.1.g, page 49	Regional Projects Trancas-2 and Trancas-3 were discussed in the EWMP workplan which stated that they would be evaluated further in the EWMP RAA (page 29, EWMP Work Plan). Provide details of the evaluation.
NA	NA	For the Malibu Legacy Park project, specify the parameters associated with this storm event (e.g. estimated and measured rainfall depth, rainfall volume, stormwater runoff volume). Additionally, this should be done for the Broad Beach Biofiltration Project, Wildlife Road Storm Drain Improvements, Trancas Canyon Park & Las Flores Creek Park. Further, indicate whether the group evaluated whether these existing projects could be upgraded to fully capture the volume associated with the 85th percentile, 24-hour storm event.
Section 5.2.4.1	Part VI.C.1.g, iv, page 49	The EWMP must clearly outline the multiple benefits of each of the existing and proposed Regional BMPs.
Reasonable Assurance Analysis (RAA)		
Page 66		Clarify title of Table 18; is it presenting the IBD arithmetic means of the irreducible BMP effluent concentrations?
Table 29, page	Part	Include in the EWMP a plan to reevaluate the dry weather RAA

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
111	VI.C.5.b.iv.(5)	(analysis presented in Table 29, page 111) with updated data biennially per the adaptive management process where there are any MS4 outfalls (major and minor).

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

North Santa Monica Bay Coastal Watersheds
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on Section 4, Reasonable Assurance Analysis (RAA) of the draft Enhanced Watershed Management Program (EWMP) for North Santa Monica Bay Coastal Watersheds dated June, 2015.

General comments on the RAA section of the draft EWMP (Section 4 and Appendix C):

1. Section 4 RAA Modeling Tools and Approach

   Section 4.1 RAA Approach – Dry Weather: EWMP group's dry weather compliance approach is to eliminate 100% of non-exempt dry weather MS4 discharges and the proposed Non-Stormwater Outfall Screening Program (page 48) is used to demonstrate reasonable assurance of compliance for dry weather. The proposed program however only showed steps to conduct source investigations, referral to appropriate IC/ID Program, monitoring, and reporting. The EWMP must also include an evaluation of other control measures for non-stormwater discharges if they cannot be eliminated, including treatment or diversion.

RAA Modeling comments:

1. Present the model results of the baseline condition for daily runoff volume, bacteria concentration, and daily load relative to exceedance days during the critical year for each analysis region, including MCW, in the EWMP report or shown in Appendix C-RAA Summary Data.

2. Provide the flow duration curve of flow data in the receiving water body (Topanga Creek at gauge reference ID F54C-R) using the most recent 10-year period of data. Also provide the time series of flow data for this same location and 10-year period.

3. Provide the time series of runoff volume, pollutant concentration and pollutant load for lead in Topanga Creek for the critical year (1995).

4. For nitrate in Malibu Creek, make the comparison between the allowable load and the existing load based on the winter season (as defined in the TMDL) rather than the entire year.

May 30, 2014

Ms. Gail Farber
Director of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, CA 91803-1331

Dear Ms. Farber:

On May 1, 2008, the Los Angeles Regional Water Quality Control Board (Regional Board) adopted the Malibu Creek Watershed Trash TMDL. Subsequently, this Trash TMDL was approved by the State Water Resources Control Board on March 17, 2009, Office of Administrative Law on June 16, 2009, and United States Environmental Protection Agency (USEPA) on June 26, 2009. The Malibu Creek Trash TMDL became effective on July 7, 2009.

The requirements of this Trash TMDL are specified in Regional Board Resolution R4-2008-007, and Attachment A, Amendment to the Water Quality Control Plan Los Angeles Region (Basin Plan Amendment). The Trash TMDL requires responsible jurisdictions to submit and implement a Trash Monitoring and Reporting Plan (TMRP) according to the schedules provided in Table 7-31.2a and Table 7-31.2b, which separately describe the compliance requirements to install Full Capture Systems and/or implement the Minimum Frequency of Assessment and Collection Program.

On April 30, 2010, the Regional Board received a TMRP from the County of Los Angeles on behalf of itself and the Cities of Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village. Regional Board approves the submitted TMRP, and directs the County of Los Angeles and the Cities represented in the associated plan to begin implementation immediately.

As there are areas in the Malibu Creek Watershed with overlapping responsible jurisdictions, Regional Board advises that the County of Los Angeles and associated cities work cooperatively with other responsible parties that are implementing separate TMRPs to ensure that collectively, all TMRPs are meeting the monitoring requirements in the Malibu Creek Trash TMDL. This should be reflected in the annual reports submitted to Regional Board.

If you have any questions, please contact Stefanie Hada at (213) 576-6804, OR shada@waterboards.ca.gov.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

cc: Jim Thorsen, City of Malibu
Greg Ramirez, City of Agoura Hills
Dirk Lovett, City of Hidden Hills
Raymond B. Taylor, City of Westlake Village
Tony Coroalles, City of Calabasas
Jeff Pratt, Ventura County Public Works
Tully Clifford, Ventura County Watershed Protection District
Jay T. Spurgin, City of Thousand Oaks

October 21, 2015

Permittees of the Ballona Creek Watershed Management Group[1]
(See Distribution List)

REVIEW OF THE BALLONA CREEK WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Ballona Creek Watershed Management Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 29, 2015 by the Ballona Creek Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Ballona Creek Watershed Management Group EWMP include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Los Angeles, Beverly Hills, West Hollywood, Culver City, Inglewood, and Santa Monica.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 29, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received three letters that contained comments specific to the Group's draft EWMP. These letters were from the Construction Industry Coalition on Water Quality; Ms. Joyce Dillard; and the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (jointly). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 20, 2015**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Ballona Creek EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Chris.Lopez@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv);
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP. Additionally, provide a demonstration of compliance for interim and final trash WQBELs.

If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit by electronic mail at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Ballona Creek Watershed Management Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Ballona Creek Watershed Management Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Water Body Pollutant Classification		
(1) Section 1	Part VI.C.5.a	Applicable TMDLs and Implementation Schedules Make the following revisions to Section 1.3.3: • Update Table 1-4 (pg. 1-9) to acknowledge the recent revisions to the Ballona Creek Trash TMDL (Resolution No. R15-006 adopted on June 11, 2015). It should be noted that while the LACFCD is not assigned a WLA in the Ballona Creek Trash TMDL, per Resolution No. R15-006, the LACFCD is identified as responsible for certain actions related to TMDL implementation. • On page 1-9, the discussion at the top of the page needs to be corrected regarding the Santa Monica Bay Beaches Bacteria TMDL. WLAs are established for BC-1 (at Dockweiler Beach), which apply to the MS4 Permittees in the Ballona Creek Watershed. Accordingly, the SMB Beaches Bacteria TMDL should be included in Table 1-4 and 1-5 and the rest of the EWMP, as appropriate.
(2) Section 3	Part VI.C.5.a	Water Body-Pollutant Combinations Revise Section 3 of the EWMP: • Include the *Table 3 Summary of Ballona Creek Water Body-Pollutant Categories* from Appendix 3.A in the main EWMP document; • List the applicable interim and final WQBELs and receiving water limitations for each identified Category 1, 2, and 3 pollutant.
Selection of Watershed Control Measures		
(3) Section 4.3	Part VI.C.5.b	Regional Projects on Private Parcels In the Group's EWMP Implementation Strategy, regional projects on private parcels make up 52% of the control measure capacity to be implemented by 2021. The Group needs to elaborate on the feasibility of such a strategy

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		and detail its process for implementing these BMPs. The Group must explicitly state any difficulties or issues that may be faced with this strategy and these types of projects. Furthermore, the Group should identify potential alternative approaches that it can pursue and consider the following: • Are regional projects on private parcels (to the extent identified in the EWMP Implementation Strategy) ultimately necessary to achieve load reductions in the watershed? • Are there scenarios where the 52% implementation number can be reduced to a lower percentage of the EWMP's control measures (e.g. 10%, 20%, etc.)? And if so, what would be the change in implementation costs?
(4) Section 4.5	Part VI.C.5.b	<u>Information on Signature Regional Projects</u> The Group must include the following additional information on the listed signature regional projects: • Provide milestones and timelines for each project; • Include the rainfall depth (in inches), rainfall volume, and storm water runoff volume associated with each project; • Identify the responsibilities of each participating Permittee for each project; • In as much detail as possible, further articulate what the anticipated multi-benefits are for each project; • Clarify and/or correct the signature project fact sheets for Culver Boulevard Median, Plummer Park, Queen Anne Recreation Center, Poinsettia Park, and Lafayette Park (Figures 4-12, 4-20, 4-24, 4-28, and 4-36). These fact sheets appear to incorrectly list the Design Storm Event for these projects as "85th Percentile, 24 hr." Table 4-1 indicates that these projects do not retain the 85th percentile, 24-hour storm event.
(5) Section 5.3	Part VI.C.5.b	<u>Green Streets</u> The "green street volume utilization" is 60-80% in many areas within the watershed. The Group needs to elaborate on the feasibility of achieving such percentages within the watershed and describe any difficulties or issues that may be faced with implementation. In the program highlights box (pg. 5-4), the Group notes that "[d]ata limitations currently hamper decision making." The Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		must elaborate on these limitations and how these limitations will be addressed.
(6) Section 5.6	Part VI.C.5.b	<u>Enhanced Institutional Control Measures</u> Although the Group's Reasonable Assurance Analysis does not incorporate reductions from "enhanced" institutional control measures beyond the minimum control measures (MCMs), the Group mentions that it is anticipated that Group members "will consider and implement enhanced institutional control measures to reduce the level of structural control measures." If possible, the Group should provide additional information on these potential enhanced control measures, including: • The types of control measures being considered by Group members; • Any timelines for when these enhanced institutional controls will be considered.
(7) Section 7.4		<u>Non-Stormwater Strategy and Control Measures</u> Include additional information on the Group's dry-weather strategies described in Section 7.4: • Clarify if the Group is relying on its dry-weather bacteria strategy to address any pollutants aside from bacteria. If so, include the interim tasks and schedule for the North Outfall Treatment Facility (NOTF), Sepulveda Channel LFTF, and Centinela Creek Diversion Project BMPs as included in the Draft Pollution Prevention Plan for Time Schedule Order No. R4-2015-0108 submitted on July 13, 2015 to the Regional Water Board. • Clarify whether the elimination of non-stormwater flows includes authorized and exempt non-stormwater discharges through the MS4. • Explain the how the non-stormwater elimination will be achieved as indicated in Figure 7-15. In particular, explain what will produce the 2019 to 2021 reduction in volume (e.g. 40.9 acre-ft to 0 acre-ft for the City of Los Angeles). Additionally, clarify whether this figure assumes that the NOTF and the Sepulveda Channel LFTF will be diversion BMPs as opposed to treament BMPs; or if this figure is based wholly on the water use/wet weather BMP capacity analysis.
Enhanced Watershed Management Program Provisions		

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
(8) Section 4.5	Part VI.C.1.g	Retention of NSW runoff and 85th percentile: The Group identifies which of the signature regional projects are able to retain the 85th percentile, 24-hour storm event. For the remaining regional projects, clarify in Section 4.5 and/or Appendix 4.B when the Group will determine which projects will be able to retain all non-storm water runoff and the 85th percentile, 24-hour storm. It is acceptable to identify this in the future as part of the Group's general design and engineering analyses; however the EWMP must at least specify this.
(9) Section 9.3	Part VI.C.1.g.ix	Financial Strategy The Group's financial strategy must be revised to provide more specific information: • Given the Group's soon approaching final compliance date of 2021, the financial strategy needs to detail a process for securing the funding needed for the EWMP Implementation Strategy. • The Group should specify sources of funding for signature regional projects and other near-term projects. If no funding is in place, the Group should identify their process for securing this funding. • The Group states that "[t]he BC EWMP Group as a whole, as well as individual Group members, is currently prioritizing and selecting the specific financing strategies that best fit its members' needs." The revised EWMP should include this prioritization and selection of specific financing strategies. • The Group needs to provide more detail on the potential funding sources listed in Sections 9.3.1 through 9.3.3. The Group should evaluate the challenges, potential, and feasibility of securing each potential funding source. Furthermore, if possible, the Group should also quantify the funding available from each source. • The Group discusses the formation of a subcommittee on funding and identifies the components of a "Stormwater Program Financial Plan," including: Implementation of New Fee or Charge, Establishment of New Enterprise Fund, Cash and Debt Financing, Operating and Capital Reserves, and Cash Flow Modeling. The revised EWMP should provide detail regarding the actual establishment of this subcommittee and the actual progress on achieving the identified financial plan components.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Reasonable Assurance Analysis (RAA)		
(10) Section 6.2.4		<u>BC Wetlands TMDL for Sediment and Invasive Exotic Vegetation</u> Provide an explanation how the EWMP/RAA addresses the waste load allocation for sediment established in the Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation.
(11) Section 6.2.5.1 and Figure 6-6	Part VI.C.5.b.iv.(5)	<u>90th Percentile Exceedance Volume</u> The critical condition used for metals is the 90th percentile Exceedance Volume. The Group must add further clarification regarding this critical condition: • Provide detail on how the Exceedance Volumes were calculated. Explain whether actual or modeled flows and concentrations were used for these calculations. • Provide detail on how Exceedance Volumes are used in defining average conditions for interim limitations.
(12) Sections 7.1, 8.1., and 8.2		<u>EWMP Implementation Strategy Compliance</u> In explaining its EWMP Implementation Strategy, the Group states: "the network of control measures that provides reasonable assurance of achieving the Compliance Targets is referred to as the EWMP Implementation Strategy. The identified BMPs (and BMP preferences) will likely evolve over the course of the EWMP Implementation through an adaptive management paradigm and in response to "lessons learned." As such, it is anticipated the BMP capacities within the various subcategories will be reported to the Regional Board but not tracked explicitly by the Regional Board for compliance determination. As BMPs are substituted over the course of EWMP implementation (e.g., replace green street capacity in a subwatershed with additional regional BMP capacity), the Group will show equivalency for achieving the corresponding Compliance Target." Give further detail on how equivalency will be calculated and determined, and what kind of information will be provided to show equivalency. In addition, provide example calculations and/or methodology to go along with the scenarios described in Section 8.2.4.
Other		
(13) Section 9.2		<u>Existing Stormwater Programs Costs</u> Clarify this section to include the costs of Coordinated Integrated

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Monitoring Program (CIMP) monitoring. It is not clear if the monitoring costs noted for the City of Los Angeles and Unincorporated LA County already include Ballona Creek CIMP costs.
(14) Various Sections		Miscellaneous Clarify the following: • Section 6.2.5.1 (pg. 6-11) states: "In turn, the BC RAA analyzes the volume of runoff during each rolling 24-hour period of the 10-year simulation when water quality targets were exceeded, referred to as the 'Exceedance Volume' (see Figure 6-4)." It appears that the quote should reference Figure 6-6 instead. • Table 8-1 (pg. 8-2) is titled: *"WMP Control Measures to be Assessed for Compliance Determination with ULAR EWMP if..."* The underlined should be changed to "BCWMG EWMP."

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Ballona Creek Watershed
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on Section 6, Reasonable Assurance Analysis (RAA), in the draft Enhanced Watershed Management Program (EWMP) for Ballona Creek Watershed dated June 2015.

1. The model results of water quality calibration for total sediment as shown in Table 6-2 indicated that there is a difference in modeled load versus observed load for total sediment of -33.5%. In addition, the difference in modeled and observed values for E. coli is -31.6%. Therefore, additional discussion should be provided regarding the greater error between modeled and observed values for total sediment and E. coli and potential explanations for this discrepancy. Further, data needed to improve model calibration for total sediment and E. coli should be identified along with a commitment to collect the necessary data and recalibrate the model using these data.

2. Correct titles of Figures 6A-26 and 6A-27, which are plots of fecal coliform not total lead.

3. The critical condition for metals defined as 90th percentile Exceedance Volume (EV) as explained in Section 6.2.5.1. Board staff understands that this EV approach provides assurance that the receiving water limitations (RWLs) will be met instream. Please also provide a comparison of the EV by subbasin with the 90th percentile of pollutant concentration and load to demonstrate that the EV approach is protective relative to other metrics including the 90th percentile pollutant load. For toxics, provide data to support the selection of the 2007/2008 water year as the critical year, such as rainfall, daily storm volume and toxics concentration data or other data as appropriate. As such, provide statistical analyses including: 1) frequency curves for the data above and 2) flow/load duration curves in the receiving water body by using the most recent 10-year period of data to confirm that the 2007/2008 water year is an appropriate condition.

4. In addition to the EV statistics, provide the model results of the baseline condition in terms of runoff volume, pollutant concentration, and pollutant loadings based on the 90th percentile critical condition of runoff volume and pollutant concentration at each subbasin for each limiting pollutant. In addition, please provide the estimated allowable loads and required load reductions on a pollutant-by-pollutant basis.

5. Finally, please provide an example validation for a representative waterbody within the Ballona Creek Watershed, or in another EWMP area using a similar RAA approach, that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, the RWLs will be achieved.

October 26, 2015

Permittees of the Santa Monica Bay Jurisdictional Group 2 and 3[1]
(See Distribution List)

REVIEW OF THE SANTA MONICA BAY JURISDICTIONAL GROUP 2 AND 3 DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Santa Monica Bay Jurisdictional Group 2 and 3:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 25, 2015 by the Santa Monica Bay Jurisdictional Groups 2 and 3. This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Santa Monica Bay Jurisdictional Group 2 and 3 EWMP include the City of Los Angeles, the County of Los Angeles, the Los Angeles County Flood Control District, the City of Santa Monica and the City of El Segundo.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the of the Board.

As stated above, on June 25, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two comment letters that were applicable to the Group's draft EWMP. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 26, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Santa Monica Bay Jurisdictional Groups 2 and 3 EWMP" with a copy to:
Ivar.Ridgeway@waterboards.ca.gov and Deborah.Brandes@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Mrs. Deborah Brandes of the Storm Water Permitting Unit by electronic mail at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 620-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Santa Monica Bay Jurisdictional Groups 2 and 3 Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Santa Monica Bay Jurisdictional Groups 2 & 3

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
EWMP, page 12		Correct omission of REC-1 and REC-2 designations in Table 2-1 Beneficial Uses of Water Bodies and Coastal Features Designed [sic] in the Basin Plan for Santa Monica Bay – Nearshore Zone, which should have been assigned "E" for the REC-1 and REC-2 beneficial uses.
EWMP, page 54		On Figures 4-12 to 4-14 (EWMP, pages 54-56) there are two colors of blue in the key and it is hard to differentiate in the figure which of the two blues is being used and if there is an overlap of colors. Revise maps for clarity. Also, storm drain/line labels on some maps are hard to read due to the font size & color. Please check other figures for legibility as well.
Appendix G		Proofread and correct grammatical and punctuation errors in Appendix G.
EWMP, page 68		Correct the header on pages 69-76. It says "EWMP Implementation Costs and Financial Strategy," but that section is Section 7, which begins on page 77.
EWMP, page 73		Under Section 5.5, for clarity, create a sub-header for compliance with the debris TMDL and one for the SMB TMDL for DDTs and PCBs.
EWMP, All Appendices		Put appendix letter in either footer or header so it is easier to find the appendix the reader needs. It is very difficult to navigate as is. In addition (if possible) please put in page numbers within each Appendix (e.g. for Appendix A, A-1, A-2, etc.) so that pages can be referenced in the review process.
EWMP, Appendix A, page 31 and other pages with similar maps		The drainage area of RBMP23 2-2 Parking Lot is very hard to distinguish (Figure 7, Appendix A, page 31). Check all maps with this same color coding for legibility (i.e., a light orange).
EWMP, Appendix A, section 4.3, page 59		Regarding debris, the XXX should be replaced with actual numbers of catch basins.
EWMP, page 7	NA	Regarding page 7 of the EWMP, the first and second paragraph discuss the compliance deadlines associated with the Trash and Bacteria TMDLs. Reference or provide these dates and specify whether the dry weather bacteria TMDL compliance dates are for

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		summer or winter. Table 2-3 should also be referenced for completeness. In addition, eliminate redundancy in paragraphs 1 and 2 regarding the discussion of final compliance. Additionally, correct the title of Table 1-3.
EWMP, Table ES-5, page xvi; EWMP, Table 2-3, page 13; and EWMP, Appendix A, Table 1	NA	In Table ES-5 (EWMP, page xvi), Table 2-3 (EWMP, page 13) and Table 1 in Appendix A correct the Winter dry weather bacteria final compliance date to read November 1, 2009 and not July 15, 2009. (Final Basin Plan Amendment Santa Monica Bay Beaches Bacteria of Resolution R12-007 (page 8)). Also, correct footnote 2 in each and the discussion on page xiii; the TMDL revisions became effective on July 2, 2014.
Water Quality Characterization		
EWMP, pages 14-16	Part VI.C.5.a.i.	The EWMP provides some information on the sources of bacteria, PCBs & DDTs, and lead, and the relative contribution of these sources, but the EWMP does not provide any numeric information in terms of loading or concentration data. Where data or studies are cited and contain loading or concentration data, a summary of the data must be provided.
EWMP, Figure2-1, page 11	Part VI.C.5.a.iii.(1)(b)	More clearly delineate the boundaries of J2/J3 in Figure 2-1 Receiving Waters in the SMB EWMP Group Area). A dark black outline around the borders of the J2/J3 boundaries would be helpful.
Water Body Pollutant Classification		
EWMP, pages 10-16	Part VI.C.5.a.ii.	It is not clear from the EWMP what analysis was conducted to identify potential Category 3 pollutants (those which are not 303(d)-listed, but which exceed applicable receiving water limitations contained in the Permit and for which MS4 discharges may be causing or contributing to the exceedance). Explain what process/analysis was used to reach the conclusion that there were no pollutants to be placed in category 3.
Source Assessment		
EWMP, page 16	Part VI.C.5.a.iii.(1)(a)(v)	<u>DDT and PCB</u> The EWMP states: "With respect to stormwater, the TMDL does not specifically characterize MS4 loadings, though it does recognize that "DDT and PCBs are no longer detected in routine stormwater sampling from Ballona Creek or Malibu Creek." However, the TMDL also states that current detection limits[1] used to analyze DDT and PCB concentrations are too high to appropriately assess the water quality. Stormwater inputs are assumed to come from urban areas, as the TMDL specifically states that rural areas in NSMBCW are not likely to be a major source of PCBs or DDT (USEPA, 2012)."

[1] Current detection limits refers to detection limits at the time the TMDL was written. Since that time, new methods are able to detect much lower levels of DDT and PCBs.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Provide justification why DDT and PCB do not need to be addressed based on USEPA's Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs (Pages 32-34 and 37). Data that must be considered from the USEPA TMDL are: 1. Sampling data at MS4 monitoring sites located at Ballona Creek (since 1994) and Malibu Creek (since 1997). 2. DDT and PCB loading data from the early 70s through around 2006. Report the average concentrations estimated by Curren et al. (2010) - 6.2 g for DDT and 32.9 g for PCBs. (Both of these estimates are for Ballona Creek only, which is adjacent to SMB J2/J3). 3. Use the estimated loads of DDT and PCBs from all urban areas to Santa Monica Bay calculated by USEPA's DDT/PCB TMDL for Santa Monica Bay (28 g/yr for DDT and 145 g/yr for PCBs) as a guide in developing the appropriate loads to the J2/J3 area. 4. Sediment data from the, the City of LA presented in Table 4-3 (page 34 of the SMB DDT and PCBs TMDL). (in conjunction with the method outlined in #5 above) to estimate the PCB and DDT average loads to J2/J3. (#1-4 above came from the Santa Monica Bay Total Maximum Daily Loads for DDTs and PCBs, pages 32-34) Because of the conclusion in the USEPA SMB TMDL for DDTs and PCBs, as indicated above, the EWMP group must collect data under its CIMP to assess contributions of DDTs and PCBs from the J2 & 3 EWMP area to Santa Monica Bay, and re-evaluate the categorization and prioritization of DDTs and PCBs on the basis of the CIMP data. See also comments on RAA regarding DDTs and PCBs, below.
EWMP, page 16	Part VI.C.5.a.iii.(1)(a)(v)	Lead must continue to be monitored under the CIMP to assess whether it is meeting WQBELs. While lead is a Category 2 pollutant in Santa Monica Canyon Channel and it was determined through an RAA calculation to require a TLR of 0, it is a metal that is characteristically derived from urban watersheds. Reference the TMDL for Metals in Ballona Creek and the following findings which may be applicable to the SMB J2&J3 EWMP area: 1. During wet weather, runoff from industrial sites has the potential to contribute metals loadings to the creek. This finding is supported by Stenstrom et al. in their final report on the industrial storm water monitoring program under the existing general permit. The report found that the mean value for lead was 2960 ug/L (Stenstrom et al.,

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		2005). 2. The most prevalent metals in urban stormwater are consistently associated with suspended solids (Sansalone and Buchberger 1997, Davis et al. 2001). These metals are typically associated with fine particles in storm water runoff (Characklis and Wiesner 1997, Liebens 2001), and have the potential to accumulate in estuarine sediment posing a risk of toxicity (Williamson and Morrisey (2000). 3. During 1991-1996 92% of lead annual watershed loads came from wet-weather runoff. (Ballona Creek Metals TMDL, pages 27-28)
NA	Part VI.C.5.a.iii.(1)(a)(vii)	Include all available data and conclusions on DDTs or PCBs from Permittee(s)' monitoring programs.
Selection of Watershed Control Measures		
EWMP, page 30	Part VI.C.5.b	Clarify the relationship between Section 4.1 and Appendix F, Section 6 and reference Appendix F, Section 6 as appropriate in the main body of the EWMP. In addition, clarify whether the bulleted items on pages 33-34 of Appendix F of the EWMP are meant to summarize the MCMs required *until the EWMP is approved* (2001 MCMs) or the MCMs required *after the EWMP is approved* (2012 MCMs). If the former, add a parallel bulleted list that summarizes the additional MCM elements that will be implemented after EWMP approval.
EWMP, page 39	Part VI.C.5.b.iv.(4)(a), page 64	A total of 36 regional/centralized BMPs required for compliance were outlined in Table 4-6. Of the 36 projects, it appears that 17 were mentioned in the SMB Bacteria TMDL Implementation Plan, while 10 do not appear in the Plan and it is uncertain whether 9 appear in the plan or not. Indicate which of the projects were derived from the SMB Bacterial TMDL Implementation Plan and which are newly identified projects.
Various	Part VI.C.5.b.iv.(4)(e)	Ensure that the plan clearly identifies the responsibilities of each participating permittee for each watershed control measure, including non-structural BMPs (e.g., programmatic, institutional, source control, etc.).
EWMP, Appendix A, page 17	Part VI.C.5.b.iv.(5)(c)	Show work for deriving the modeled 90th percentile daily concentration of 21 µg/L for lead.
Adaptive Management Provisions		
Section 6		Itemize specific analyses that will be reevaluated as data become available and during adaptive management, which may include but

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		are not limited to: water quality calibration; PCB baseline loading and target load reductions; and Pb baseline loading and target load reductions in Santa Monica Canyon.
Enhanced Watershed Management Program Provisions		
Section 4.2.4		Provide a description/itemization of the anticipated multiple benefits of each of the eight regional BMPs.
EWMP, page 20, EWMP, Appendix A, page 4	Part VI.C. 1.g.iv, page 49	As the RAA approach for dry weather relies on a demonstration of certain conditions at CMLs and their drainage areas, such as "there are no MS4 outfalls owned by the SMB EWMP Group agencies within the CML's drainage area" and "there are no non-stormwater MS4 outfall discharges within the CML's drainage area," substantiate these findings for each CML with a map of the drainage areas associated with each CML that includes all MS4 outfalls (major and minor) and observations conducted at CMLs and MS4 outfalls.
EWMP, page 20	Part VI.C. 1.g.iv, page 49	Ensure that the CMLs subject to the antidegradation provisions per the SMB Beaches Bacteria TMDL (Resolution No. R12-007) are clearly identified in the EWMP.
EWMP, Appendix F, page 29	Part VI.C. 1.g.vi, page 50	Table 5-1 - Regional Project Evaluation Criteria, in a memo entitled "Existing and Potential Control Measures Technical Memorandum" provides different criteria for consideration in evaluating the Regional projects to propose. Criteria include: cost effectiveness (capital cost, funding options), stormwater capture goals (water quality, volume of water captured), environmental, public policy institutional issues (political constraints, partnerships), land ownership (public vs. private), ease of implementation (permitting, constructability). Provide ranking of potential regional projects, including those proposed in the EWMP and others that were evaluated but not selected for inclusion in the EWMP, if any, per these evaluation criteria.
NA	Part VI.C.1.g.viii, page 50	Provide a clear discussion of how the program ensures that existing requirements to comply with technology based effluent limitations and core requirements (e.g., prohibiting non-stormwater discharges of pollutants through the MS4 and controls to reduce the discharge of pollutants in stormwater to the MEP) are not delayed.
EWMP, pages 79-80	Part VI.C.1.g.ix, page 50	Document existing sources of funding more precisely at the Permittee level (see Table 7-4). Include data/information for El Segundo, which is currently missing from Table 7-4. In addition, clarify the column "Existing Utility" in Table 7-4.
EWMP Section 7.1		Provide documentation on how centralized and distributed projects will be integrated into, or aligned with, existing CIPs for each Permittee. Indicate whether this alignment could off-set capital costs (such as for green streets) and, if so, by how much.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
EWMP Section 7.4.4		Provide a timeframe(s) for developing a more detailed financial plan to implement the EWMP.
EWMP, Table 4-6	Part VI.C. 4.b.iii.(5), page 56	Clarify the completion date for RBMP10_PenmarPh2 and define the "*" associated with this project in Table 4-6.
EWMP page 6	NA	In Table 1-2 303(d) – Listed Water Bodies in the SMB Watershed (EWMP, page 6) it says the pollutant "debris" in Santa Monica Bay Offshore/Nearshore is addressed by the "Trash TMDL". Revise the last column "Notes" for accuracy to state that it is addressed by the "Debris TMDL."
Reasonable Assurance Analysis (RAA)		
Executive Summary	Part VI.C.5.b.iv.(5) (page 65)	The draft EWMP, in Section 5.5, states the following: *"Therefore, consistent with the TMDL, it is assumed that there is a zero load reduction required for PCBs and DDTs in MS4 discharges, and reasonable assurance is demonstrated."* However, the SMB DDTs/PCBs TMDL on page 49 states the following: "*The estimates of total suspended solids (TSS) are based on LSPC model outputs for the years 2000 to 2010 based on Ackerman and Schiff (2003). Using this method the theoretical maximum allowable stormwater loads would be 506 g/yr for DDT and 154 g/yr for PCBs (Table 6-3). However, estimates of current stormwater loads are much lower. Estimates based on the median value from Curren et al. (2011) extrapolated to the other watersheds based on percent urban area were 28 g/yr for DDT and 145 g/yr for PCBs. The highest loadings were from Ballona Creek, Hermosa Beach and Santa Monica Canyon watersheds. These three watersheds are highly urbanized and combined they represent 94% of the developed area draining to Santa Monica Bay. With the exception of PCBs from these three watersheds, all other estimates of current loading are lower than the allowable loadings.*" For PCBs, an RAA must be conducted to estimate the pollutant load reduction for PCBs. Using TSS as a surrogate pollutant for PCBs is an acceptable approach for the purposes of conducting an RAA. Note that the WLA for PCBs (140.25 g/yr) applies to the entire Santa Monica Bay Watershed. The Group is subject to a proportional percentage of the WLA relative to the percent area within the watersheds draining to Santa Monica Bay. If a pollutant load reduction is required for PCBs, additional BMPs must be proposed to address it. Revise relevant tables and text as applicable. The Group must also, during the adaptive management process, commit to re-evaluating DDT and PCB loadings using data from the

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		CIMP (from receiving water and/or outfall monitoring sites) and subsequently conducting an RAA with the available data.
Appendix F, Section 5		Include full citation for Thoe et al. 2015 in Reference section, or correct date of publication. Citation on page 4 of Appendix F does not match citation in Reference section.
Appendix F, Figure 1		Clarify distinction between S-2-15 and SMB-2-15 and W-2-01 and SMB-2-01 analysis regions.
Appendix F, Table 15, footnote **		Fill in dates of observations in table note "**".
Appendix F, Table C-4		Correct title of table.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Santa Monica Bay Jurisdictional Group 2 and 3
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

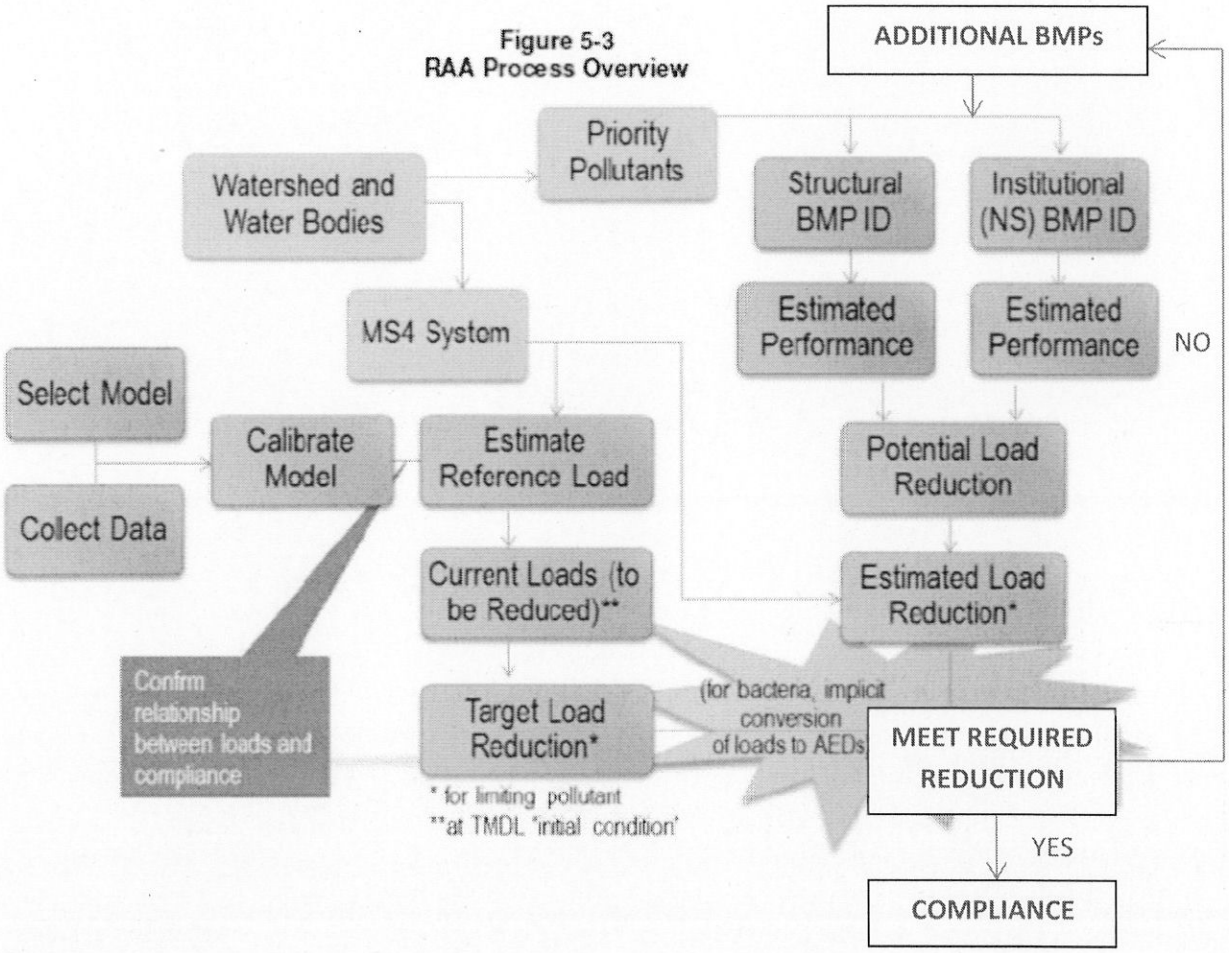
This memorandum contains the comments on Section 3, Reasonable Assurance Analysis (RAA) in the draft Enhanced Watershed Management Program (EWMP) for Santa Monica Bay Jurisdictional Group 2 and 3 dated June 29, 2015.

General comments on the Section 3, RAA:

1. Section 3.1 Modeling System to be used for RAA and BMP Selection
- In Section 3.1 of the main body of the EWMP, provide reference to Appendix A, section 2.3.3, including Tables 3 and 4 and Figure 4, which describes the analysis conducted to select the critical condition for the RAA.
- Model simulation integrates Monte Carlo methods that rely on repeated random sampling to calculate a distribution of outcomes. Describe how this is used relative to evaluation of required water quality outcomes under critical conditions as well as average conditions.

2. Revise the RAA process described in Section 3.2.2 of the draft EWMP consistent with the revised Figure (from the EWMP Work Plan) to provide a clear RAA process to ensure required reductions shall be met.

Figure 5-3
RAA Process Overview



RAA Modeling comments:

1. Provide a graph of the time series results, between 2001 and 2012, of modeled runoff volumes with observed runoff volumes and a statistical analysis of the comparison of modeled and observed values for runoff volume.

2. The model results of the baseline condition (loads are included in Table 10 of Appendix A) in terms of runoff volume and pollutant concentration are not provided in the EWMP. Per the RAA Guidelines, present the model results of the baseline condition for runoff volume, pollutant concentration and pollutant loadings (based on the 90th percentile critical condition at each analysis region for each pollutant of concern).

3. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the effectiveness of the proposed BMPs that would achieve the required pollutant load reductions and load reduction goals (as described in Appendix A and presented in Table 11 and Table 12). As such, the detailed reasonable assurance analysis (RAA) results for the proposed BMPs specifically for each analysis region should be provided in terms of 1) influent volume, concentration and load; 2) treated volume, concentration and load; and 3) effluent

volume, concentration and load through BMPs in the EWMP report to demonstrate the effectiveness of the proposed BMPs.

4. An example illustrating the modeling results of the bacteria in the receiving water at the downstream outlet of the watershed system should be presented to demonstrate the effectiveness of all BMPs in place (when compared with those of the baseline condition, for which all BMPs are not in place) and to demonstrate the compliance with final water quality limits (WQL) under the selected critical year.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

October 22, 2015

Permittees of the Beach Cities Watershed Management Group[1]
(See Distribution List)

REVIEW OF THE BEACH CITIES WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Beach Cities Watershed Management Group:

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The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Beach Cities Watershed Management Group EWMP include the Cities of Redondo Beach, Hermosa Beach, Manhattan Beach, Torrance, and the Los Angeles County Flood Control District.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

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Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two letters that contained comments specific to the Group's draft EWMP. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. During its review, staff of the Los Angeles Water Board had a meeting on October 15, 2015, telephone exchanges, and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments and potential revisions to the draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 20, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Beach Cities EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Erum.Razzak@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachments M and N pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments M and N by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis
Beach Cities Watershed Management Group Distribution List

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Beach Cities Watershed Management Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Page ES-3 and Figure ES-1; Page 1-4 & Figure 1-1		Clarify whether the Del Amo Basin also has no outlet, as it appears from Figure ES-1 and Figure 1-1 to also be excluded from the EWMP.
Table ES-8		Revise Table ES-8 of the draft EWMP to clarify that for metals, the WLA assigned to MS4 discharges is a mass-based allocation based on the freshwater targets for Dominguez Channel and Torrance Lateral (using ambient hardness at the time of sampling) multiplied by the daily volume and is shared amongst all MS4 Permittees that discharge to the freshwater portion of Dominguez Channel and Torrance Lateral. The table may include a note that MS4 Permittees may demonstrate compliance with the freshwater metals allocations for Dominguez Channel and Torrance Lateral may be demonstrated via any one of three different means: a. Final allocations are met. b. CTR total metals criteria are met instream. c. CTR total metals criteria are met in the discharge.
Section 3.6.4		Correct the typographical error in Section 3.6.4 subsection Powerline Easement Filtration of the draft EWMP to substitute "Error! Reference source not found." with the applicable figure reference.
Table 4-2 footnote 2		Correct the typographical error in Table 4-2 of the draft EWMP where the reference to footnote 2 is missing from the table.
Figure ES-2, 2-5, Table ES-4, & 2-6		Add outfall SMB O-07 to Figure ES-2, Figure, 2-5, Table ES-4, and Table 2-6 of the draft EWMP.
Table ES-5, ES-10, & 6-2		Clarify that the storage volume in Table ES-5, ES-10, and 6-2 of the draft EWMP are design storage volumes (i.e., effective depth X footprint of the BMP).
Table 2-11 & 2-13		Update Table 2-11 and 2-13 of the draft EWMP to correctly label "Treatment Volume" as "Design Storage Volume".
Water Quality Characterization		
Section 2.2.1 & 3.2.1	Part VI.C.5.a.i (page 60)	Section 3.2.2 under subsection Category 3 – Medium Priority in part summarizes the evaluation of data that were considered for Dominguez Channel Watershed. Section 2.2.1 and 3.2.1 of the draft EWMP must specify if the EWMP includes an evaluation of existing water quality conditions, including characterization of

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		stormwater and non-stormwater discharges from the MS4 as well as receiving water quality to support identification and prioritization/sequencing of management actions, to the extent possible based on available data. Describe what data were used (e.g., wet and dry weather mass emissions station and tributary monitoring in Dominguez Channel per 2001 Permit, TMDL monitoring, regional monitoring conducted through the Bight monitoring program, bioassessment monitoring data).
Water Body Pollutant Classification		
Executive Summary	Part VI.C.5.a.ii (page 60)	The last sentence of the Executive Summary under the Dominguez Channel Watershed section of the draft EWMP states the following: "*These parameters will be monitored under the Beach Cities' CIMP and if future monitoring data suggest that the Beach Cities' MS4s may cause or contribute to* ***cadmium*** *exceedances in the receiving water, the EWMP will be revised to address these pollutants.*" It is unclear if the re-evaluation of CIMP data applies to only cadmium exceedances as aforementioned or it also applies to ammonia (for Dominguez Channel) and category 3 pollutants for Torrance Lateral. Clarify that the re-evaluation of CIMP data applies to all category 2 and category 3 pollutants.
Table ES-7, 3-4, ES-8, 3-6, ES-12, 4-2 & Section 3.2.2	Part VI.C.5.a.ii.(1) (page 60)	As per Attachment K Table K-13, the City of Torrance is subject to the Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL (Harbor Toxics TMDL) for Dominguez Channel Estuary. Therefore, revise Table ES-7, Table 3-4, Table ES-8, Table 3-6, Table ES-12, Table 4-2, and Section 3.2.2 subsection Category 1 of the draft EWMP to include the Water Body-Pollutant Combinations (WBPCs) for Dominguez Channel Estuary. Additionally, revise relevant sections of the EWMP (e.g., source assessment, watershed control measures, RAA, etc.) to address WBPCs for Dominguez Channel Estuary. Alternatively, provide a rationale and support for why Dominguez Channel Estuary WBPCs will not be addressed in the EWMP.
Section 2.2.2 footnote 9	Part VI.C.5.a.ii.(1) (page 60)	Section 2.2.2, footnote 9 of the draft EWMP shall also address the sediment toxicity 303(d) listing for Santa Monica Bay by summarizing USEPA's data evaluation, which showed only 3 out of 116 samples exhibited toxicity. USEPA made a finding in the TMDL that, following the California listing policy, Santa Monica Bay is meeting the toxicity objective and there is sufficient evidence to delist sediment toxicity. EPA therefore concluded in the TMDL that there is no significant toxicity in Santa Monica Bay and recommended that Santa Monica Bay not be identified as impaired by toxicity in the California's next 303(d) list.
	Part VI.C.5.a.ii (page 60)	Revise the draft EWMP to clearly specify all applicable interim and final numeric Water Quality Effluent Limits/Receiving Water Limits (WQBELs/RWLs) (for both dry weather and wet weather, where

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		applicable) for Category 1, 2, and 3 WBPCs.
Executive Summary, Table ES-7, 3-4, & Section 3.2.2	Part VI.C.5.a.ii.(2) (page 60)	Revise Table ES-7, Table 3-4, and Section 3.2.2 of the draft EWMP to include ammonia as a category 2 pollutant for Dominguez Channel (including Torrance Lateral), while referring to the discussion on pages ES-17 and page 3-6 in the main body of the EWMP. Include the monitoring data from monitoring sites S28 and TS19 referenced on page ES-17 and page 3-6 that indicates that ammonia objectives are being achieved. The group may also present data and information regarding the contribution, or lack thereof, of ammonia from MS4 discharges to Dominguez Channel, if available. Additionally, in the Executive Summary under the subsection for Dominguez Channel Watershed and in Section 3.2.2, include a brief discussion to explain why diazinon is not included as a category 2 pollutant for Dominguez Channel (including Torrance Lateral), by citing findings in the Harbors Toxics TMDL Staff Report, which states, "*Whereas elevated diazinon levels had been observed concurrently with toxicity in 2002-2005 wet weather samples and therefore diazinon was presumed to be contributing to adverse toxicity results; post-2005 results show no diazinon concentrations above the freshwater guideline. Therefore, it is appropriate to develop freshwater metals and toxicity TMDLs for wet weather; however, the more recent toxicity results are not attributable to diazinon and therefore no diazinon TMDLs have been developed for Dominguez Channel*" (Section 2.6.1 of TMDL Staff Report).
Source Assessment		
Section 3.2.3	Part VI.C.5.a.iii.(1).(a) (page 60-61)	Section 3.2.3 of the draft EWMP must include a source assessment discussion on 303(d) listed pollutants ammonia and diazinon. (See comments above.)
Selection of Watershed Control Measures		
Executive Summary	Part VI.C.5.b (page 62-66)	The Executive Summary under BMPs – Santa Monica Bay states that "*It should be noted that if at any time in the future, specific distributed green streets or regional/centralized BMPs are found to be infeasible for implementation, alternative BMPs or operational changes will be planned within the same subwatershed and within the same timeline, to meet an equivalent subwatershed load reduction. In addition, if monitoring data indicate that more easily implementable, alternative BMPs can provide equivalent (or superior) load reductions, these alternative BMPs may be implemented at the discretion of the WMG Agencies.*" Likewise, the Executive Summary in the BMPs – Dominguez Channel section of the draft EWMP states the following: "*It should be noted that if at any time specific distributed green streets or regional/centralized*

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		BMPs are found to be infeasible for implementation, or new innovative BMPs are developed, alternative BMPs or operational changes will be planned within the same analysis region and within the same timeline, to meet an equivalent analysis region load reduction. The performance of the proposed catch basin inlet filters within the City of Torrance will also be evaluated as potential alternatives to the proposed structural BMPs within the Cities of Redondo Beach and Manhattan Beach." This is a reasonable approach. However, the Group should provide timely notification to the Regional Board of any project substitutions and provide project details.
Executive Summary footnote 2 & Section 1.2 footnote 8	Part VI.C.5.b.iv.(3) (page 64)	The Executive Summary footnote 2 and Section 1.2 footnote 8 of the draft EWMP states that "*[f]or reference, the [Machado Lake Nutrients and Toxics TMDL] Implementation Plan is attached to this EWMP as Appendix D, but it should be reviewed separately from this EWMP.*" Therefore, the EWMP does not address Machado Lake TMDLs (i.e., trash, nutrients, pesticides, and PCBs). Although the implementation of the Machado Lake Implementation Plan is an acceptable approach, the Machado Lake BMP Implementation Plan (October 2014) as a stand-alone document does not adequately address all the requirements of an EWMP. Note that as per Attachment K Table K-4 of the LA County MS4 Permit, the City of Redondo Beach and the City of Torrance are subject to the Machado Lake TMDLs. Additionally, as per the LA County MS4 Permit, the Group must incorporate control measures that have been identified in applicable implementation plans. Therefore, the Machado Lake Implementation Plan should be considered a part of the EWMP where Machado Lake TMDLs should be addressed by the EWMP for the City of Redondo Beach and City of Torrance. If the Machado Lake Implementation Plan already addresses the applicable sections of the EWMP, the EWMP should summarize that section and reference the appropriate section in the Machado Lake Implementation Plan. Note that if the Machado Lake WBPCs (Category 1, 2, and 3) are not addressed in the EWMP, those WBPCs will be subject to baseline requirements of the LA County MS4 Permit, including Part V.A and Part VI.E and corresponding attachments.
Figure ES-3, ES-5, & 4-1	Part VI.C.5.b.iv.(4).(d) (page 64)	As per Figure ES-3 of the draft EWMP, 6 out of the 7 proposed BMPs will be implemented starting 2017. Clarify whether this implies that the construction of those 6 BMPs will be completed by 2017. If not, include clear completion dates for each of the BMPs. Likewise, as per Figure ES-5 of the draft EWMP, all proposed BMPs will be implemented starting 2020. Clarify whether this implies that the construction of these BMPs will be completed by 2020. If

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		not, include clear completion dates for each of the BMPs. Additionally, clarify the same as above for Figure 4-1 of the draft EWMP.
Table ES-12 and 4-2	Part VI.C.5.b.iv.(4).(d) (page 64)	For category 3 pollutants, Table ES-12 and Table 4-2 of the draft EWMP states that "*As required by the Permit, monitoring for these pollutants will occur under the CIMP. If monitoring data suggest that the Beach Cities Agencies' MS4s may cause or contribute to exceedances of these pollutants in the receiving water, these contributions will be addressed through modifications to the EWMP as a part of the adaptive management process, as described in Permit section VI.C.2.a.iii.*" This is an acceptable approach. However, the Group should consider that proposed BMPs for metals and bacteria may address category 3 pollutants (cyanide, pH, selenium, mercury, and cadmium). Therefore, Table ES-12 and Table 4-2 must list a milestone for category 3 pollutants consistent with the Harbor Toxics TMDL. As already stated in Table ES-12 and Table 4-2, CIMP data can be evaluated and modifications can be made through adaptive management.
Table ES-12 and 4-2	Part VI.C.5.b.iv.(4).(d) (page 64)	Table ES-12 and Table 4-2 of the draft EWMP list December 2016 and December 2017 as milestones to provide documentation supporting MCM enhancements implemented over the past year to address wet weather bacteria in Dominguez Channel. Clarify whether all MCM enhancements to address bacteria in Dominguez Channel will be implemented by December 2017.
Table ES-12 and 4-2	Part VI.C.5.b.iv.(4).(d) (page 64)	Table ES-12 and 4-2 of the draft EWMP list "Current" as a milestone for the Harbor Toxics TMDL interim metals WQBELs (wet weather) for Dominguez Channel and Torrance Lateral. Indicate with a footnote in Table ES-12 and Table 4-2 if the Group is currently in compliance with the interim WQBELs. If not, the Group shall commit to evaluating compliance through the CIMP.
Table 2-7	Part VI.C.5.b.iv.(4).(d) (page 64)	Table 2-7 of the draft EWMP lists proposed MCM enhancements. Include milestones for the proposed MCM enhancements or indicate for each, whether the MCM enhancement is already being implemented by the Permittee(s).
Section 2.3.3 & 3.3.3	Part VI.C.5.b.ii.(1) (page 62)	In the non-stormwater sections of the EWMP, it is unclear if dry weather BMPs proposed reduce dry weather bacteria loads and/or eliminate or prevent non-stormwater discharge. For specificity, state in Section 2.3.3 and 3.3.3 of the draft EWMP that watershed control measures proposed for non-stormwater discharges meet the requirements as set forth in Parts III.A and VI.D.4.d and VI.D.10 of the LA County MS4 Permit. Additionally, propose milestones to prevent and/or eliminate all non-stormwater discharges.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Section 2.6.4, Table ES-11, & 3-12		Table ES-11 and Table 3-12 of the draft EWMP show that mainly, catch basin inlet filters will be used to achieve the target load reduction for metals and bacteria in the City of Torrance. Footnote 3 states the following: "*Load reduction sum cannot be estimated at this time. The individual load reduction for each inlet filter's drainage area is shown under the "Distributed BMPs" column. Initially, 200 of 643 catch basins are planned to be retrofitted in high priority catchments. Therefore, the total load reduction from inlet filters will be evaluated in the future through monitoring, and the BMPs will be modified through the adaptive management process, with additional filters installed as necessary to meet the TLRs by the compliance deadlines.*" Additionally, Section 3.6.4 subsection Proposed Distributed BMPs includes a discussion on catch basin inlet filters and Appendix B provides documentation that was used for reference. Although the manufacturer's guidelines and several studies are referenced and relied on, the efficiency of these catch basin inserts to remove pollutants from the MS4 must be re-evaluated using data from the CIMP during the adaptive management process. At that time, additional structural/non-structural BMPs must be proposed as needed to achieve the target load reduction required to meet water quality objectives.
Section 3.7.1	Part VI.C.5.a.iv.(2).(a) (page 62)	Section 3.7.1 of the draft EWMP shall state if watershed control measures proposed using zinc as a controlling pollutant in the Dominguez Channel watershed address not only other Category 1 pollutants, but also all Category 2 and Category 3 pollutants in Dominguez Channel.
Section 3.3.3	Part VI.C.5.b.ii.(1) (page 62)	Section 3.3.3 of the draft EWMP under Non-Stormwater Discharge Measures refers to Section 2.3.3 of the draft EWMP. However, the 7 LFDs referenced in Section 2.3.3 eliminate non-stormwater discharges in the Santa Monica Bay watershed. It is uncertain if the aforementioned LFDs eliminate non-stormwater discharge to the Dominguez Channel watershed. Therefore, include a discussion in Section 3.3.3 of the draft EWMP to elaborate on how non-stormwater discharge is addressed in the Dominguez Channel watershed.
Enhanced Watershed Management Program Provisions		
Table ES-5, ES-10, & 6-2	Part VI.C.1.g (page 49)	Table ES-5, ES-10, and 6-2 of the draft EWMP must specify with a footnote if all the listed projects were modeled in the RAA and sized to meet Water Quality Based Effluent Limits (WQBELs) and receiving water limits (RWLs).
Section 1.3	Part VI.C.1.g.ii (page 49)	Section 1.3 of the draft EWMP must specify if applicable if other State agency priorities are addressed (e.g., drought response, increased capture of stormwater for beneficial use per the

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Recycled Water Policy, Strategic Plan priorities, California Water Action Plan priorities, etc.). If so, elaborate.
	Part VI.C.1.g.vi (page 50)	The draft EWMP must state if the cost analysis done in the EWMP maximizes the effectiveness of funds through the analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance. If so, elaborate.
Section 2.6.4 & 3.6.4	Part VI.C.1.g (page 49)	Section 2.6.4 under subsection Summary of Proposed Regional BMPs states the following: "*Four regional BMPs are proposed in the Santa Monica Bay Watershed portion of the Beach Cities EWMP Area. None of these projects could be feasibly sized to meet the 85th percentile design criteria.*" Similarly, Section 3.6.4 under subsection Summary of Proposed Regional BMPs states the following: "*Two regional BMPs are proposed in the Dominguez Channel portion of the Beach Cities EWMP Area. None of these projects could be feasibly sized to meet the 85th percentile design criteria.*" State if the proposed regional BMPs that were modeled were sized to meet target load reductions necessary to achieve applicable water quality based effluent limitations and receiving water limitations.
Section 2.8 and 3.8	Part VI.C.1.g (page 49)	Include a discussion of the anticipated multiple benefits for each of the four regional BMPs proposed in the Santa Monica Bay Watershed and the two regional BMPs proposed in the Dominguez Channel Watershed.
Section 2.6.4	Part VI.C.4.b.iii.(5) (page 56)	Update Section 2.6.4 under Existing Regional BMPs subsection Analysis Region SMB-6-01 to include the project completion dates for Annie, Henrietta, and Entradero Detention Basin Enhancement projects.
Section 7	Part VI.C.1.g.ix (page 50)	Section 7 of the draft EWMP inadequately addresses the Group's financial strategy. Include the following in Section 7 of the revised EWMP: • Amount and source of current monetary funds to install and implement the BMPs proposed for the milestones in the current permit cycle for each Permittee. • Selection and a prioritization process for obtaining funding that includes the selection of financing strategies that best fit the Groups' needs (e.g., step 1: apply for X grants, step 2: apply for loans, etc.). • A timeline to search for funding with consideration of the milestones indicated in the EWMP. • Articulation of who is responsible for seeking funding (e.g., the lead permittee, all the group members). If most or all Group members will be seeking funding, specify the

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		responsibilities of those members. It should also outline steps toward, for example: • development of a stormwater Capital Improvement Plan and/or asset management plan, • integration of proposed EWMP projects with other street/sewer/water CIPs and asset management plans (e.g., Pavement Management Systems, etc.) • establishing a constant revenue stream for the stormwater CIP/asset management plan, which may include rate studies.
Reasonable Assurance Analysis (RAA)		
Executive Summary	Part VI.C.5.b.iv.(5) (page 65)	The draft EWMP, in the Executive Summary under Santa Monica Bay Watershed, states the following: "*The MS4 compliance targets for dichloro-diphenyl-trichloroethanes (DDTs) and polychlorinated biphenyls (PCBs) established in the Santa Monica Bay DDT & PCB TMDL were based on the assumption that the existing stormwater pollutant loads for DDT and PCBs were lower than what was needed to protect the Santa Monica Bay from these legacy pollutants (i.e., based on data used in the TMDL, no MS4 pollutant load reduction is expected to be required). Therefore, no reductions in DDT and PCB loading from the Beach Cities WMG MS4s are required to meet the TMDL and therefore, no Reasonable Assurance Analysis is required.*" The SMB DDTs/PCBs TMDL on page 49 states the following: "*The estimates of total suspended solids (TSS) are based on LSPC model outputs for the years 2000 to 2010 based on Ackerman and Schiff (2003). Using this method the theoretical maximum allowable stormwater loads would be 506 g/yr for DDT and 154 g/yr for PCBs (Table 6-3). However, estimates of current stormwater loads are much lower. Estimates based on the median value from Curren et al. (2011) extrapolated to the other watersheds based on percent urban area were 28 g/yr for DDT and 145 g/yr for PCBs. The highest loadings were from Ballona Creek, Hermosa Beach and Santa Monica Canyon watersheds. These three watersheds are highly urbanized and combined they represent 94% of the developed area draining to Santa Monica Bay. With the exception of PCBs from these three watersheds, all other estimates of current loading are lower than the allowable loadings.*" Therefore, the assumption that DDT requires no reduction is reasonable. However, for PCBs, an RAA must be conducted to estimate the pollutant load reduction for PCBs. Using TSS as a surrogate pollutant for PCBs is an acceptable approach for the purposes of conducting an RAA. Note that the WLA for PCBs

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		(140.25 g/yr) applies to the entire Santa Monica Bay Watershed. The Group is subject to a percentage of the WLA relative to the percent area within the watersheds draining to Santa Monica Bay. If a pollutant load reduction is required for PCBs, additional BMPs should be proposed to address it. Please revise relevant tables and text as applicable. Alternatively, the EWMP must provide a rationale why the aforementioned requirements cannot be fulfilled (i.e., insufficient data, RAA limitations for modeling PCBs, etc.). The Group must also, during the adaptive management process, commit to re-evaluating DDT and PCB loadings using data from the CIMP (from receiving water and/or outfall monitoring sites) and subsequently conducting an RAA with the available data.
Section 2.4	Part VI.C.5.b.iv.(5) (page 65)	As stated in the Executive Summary and Section 2.2.2 of the draft EWMP, include a qualitative discussion on how the Group will comply with the Santa Monica Bay Nearshore and Offshore Debris TMDL (SMB Debris TMDL) in Section 2.4 of the EWMP and include references to the Trash Monitoring and Reporting Plans (TMRPs) and the Plastic Pellet Monitoring and Reporting Plans (PMRPs). Note that the TMRP and PMRPs will be implemented by reference as part of the EWMP and CIMP.
Section 4.1.2	Part VI.C.5.b.iv.(5).(c) (page 65)	The Harbor Toxics TMDL final compliance date for wet weather is March 23, 2032. However, Table ES-11 and Table 4-2 of the draft EWMP propose December 2032 for addressing wet weather bacteria in Dominguez Channel with footnote 1 and 2 respectively indicating that this date was selected to be consistent with the Harbor Toxics TMDL. Provide justification in Section 4.1.2 of the draft EWMP why the proposed milestone for Dominguez Channel bacteria in wet weather is 6 months after the final compliance date of the Harbor Toxics TMDL. Alternatively, change the milestone for Dominguez Channel wet weather bacteria to March 23, 2032 for consistency with the Harbors Toxics TMDL compliance dates.

CALIFORNIA Water Boards

Edmund G. Brown Jr. GOVERNOR

Matthew Rodriquez SECRETARY FOR ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Beach Cities Watershed Management Area Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on Sections 2.4 - 2.7 and 3.4 - 3.7, Reasonable Assurance Analysis (RAA) of the Enhanced Watershed Management Program (EWMP) for the Beach Cities Watershed Management Area dated June 2015.

1. Provide a graph of the time series results, between 2001 and 2012, of modeled runoff volumes with observed runoff volumes and a statistical analysis of the comparison of modeled and observed values for runoff volume.

2. The model results of the baseline condition (loads are included in Table ES-4 and Table 2-6 for Santa Monica Bay Watershed; Table ES-9, Table 3-8 and Table 3-9 for Dominguez Channel Watershed) in terms of runoff volume and pollutant concentration are not provided in the EWMP report. Per the RAA Guidelines, present the model results of the baseline condition for runoff volume, pollutant concentration and pollutant loadings based on the 90th percentile critical condition at each analysis region for each pollutant of concern.

3. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the effectiveness of the proposed BMPs that would achieve the required pollutant load reductions and load reduction goals. However, as presented, the model results in Table 3-12 for Dominguez Channel Watershed of the EWMP report do not sufficiently demonstrate the effectiveness of the proposed BMPs. As such, the detailed reasonable assurance analysis (RAA) results for the proposed BMPs for each analysis region should be provided in terms of 1) influent volume, concentration and load; 2) treated volume, concentration and load; and 3) effluent volume, concentration and load through BMPs for the selected critical year in the EWMP report to demonstrate the effectiveness of the proposed BMPs.

4. An example illustrating the modeling results of pollutant concentrations in the receiving water for all pollutant of concern at the downstream outlet of the watershed system should be presented in the EWMP report to demonstrate the effectiveness of all BMPs in place when compared with those of the baseline condition for which all BMPs are not in place and to demonstrate the compliance with final water quality limits (WQL) under the selected critical year.

October 27, 2015

Permittees of the Marina del Rey Watershed Management Group[1]

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REVIEW OF THE MARINA DEL REY WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Marina del Rey Watershed Management Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 29, 2015 by the Marina del Rey Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

[1] Permittees of the Marina del Rey Watershed Management Group include the County of Los Angeles, the cities of Los Angeles and Culver City, and the Los Angeles County Flood Control District.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 29, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received three letters that contained comments specific to the Group's draft EWMP. These letters were from the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay; the Construction Industry Coalition on Water Quality; and a private citizen, Joyce Dillard. On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary

revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 27, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Marina del Rey EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Rebecca.Christmann@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit by electronic mail at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Marina del Rey Watershed Management Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

cc: Angela George, County of Los Angeles, Department of Public Works
Paul Alva, County of Los Angeles, Department of Public Works
Bruce Hamamoto, County of Los Angeles, Department of Public Works
Hubertus Cox, City of Los Angeles
Damian Skinner, City of Culver City

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Marina del Rey Watershed Management Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Table 5-11, Section 5.5	*Part VI.C.5.b.iv.(4)(b)-(c), page 64*	While a 5-10% load reduction is generally agreed upon for non-structural BMPs in an EWMP, provide the basis for the contaminant reductions anticipated from non-structural BMPs identified in Table 5-11, if available, and supporting citations, which may include analysis contained in the Multi-Pollutant TMDL Implementation Plan.
Section ES.5	*Part VI.C.5.b.iv.(4)(d), page 64*	There is conflicting information within the EWMP regarding the proposed implementation schedule. The EWMP compliance strategy schedule in Figure ES-5 (Section ES.5, pg. ES-10) appears in conflict with the RAA Load Reduction Schedule in Figure ES-4 and Table 7-3. The schedule in Figure ES-5 backloads the majority of BMP implementation rather than applying a phased approach and does not enable the meeting of the interim deadlines in the toxics TMDLs. This approach does not allow adequate time for adaptive management prior to the final TMDL compliance deadline. This schedule does not appear to meet the TMDL requirements and must be revised.
Section 5.2.4.2.5 and Sections 7.2-7.3		The draft EWMP makes reference of additional projects but does not provide details regarding their cost or readiness for implementation. Further contingency planning, including additional milestones for gauging the necessity for additional BMPs, and improving the readiness to proceed with additional BMPs, must be included in the EWMP. These additional milestones may be included in an expanded Section 9, Assessment and Adaptive Management Framework.
Section 5.2.3.2	*Part VI.C.5.b.iv.(4)(e), page 65*	It appears that the Venice Neighborhood Project may overlay with SR 187, an area with Caltrans jurisdiction. Elaboration is needed regarding the potential role, if any, of Caltrans in this project and, if necessary, a statement regarding whether Caltrans has agreed to permit the project.
Section 3.2	*Part VI.C.5.c, page 66]*	Implementation planning for meeting both the toxics and bacteria TMDLs are based on zinc being the limiting pollutant and assuming that all other pollutant reductions will be attained by BMPs that will address zinc in the watershed. A clear presentation and discussion of the data-driven analysis used to support this conclusion must be included in the draft EWMP to provide assurance that all TMDL deadlines will be achieved for the indicator bacteria and toxics TMDLs. While a demonstration for bacteria is provided in Appendix C, section 7, a discussion of the bacteria analysis as well as the analysis for other toxic pollutants must be provided in Section 6 of the main body of the EWMP and must reference the appendix or include the supporting data analysis for the other pollutants addressed by the EWMP.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		As the Marina del Rey watershed is included in the Ballona Creek Trash TMDL (see January 16, 2004 TMDL Staff Report, section III.A and Figure B), provide a discussion of the status of compliance with the trash WQBELs per the Ballona Creek Trash TMDL for the Marina del Rey watershed area, including subwatershed 2 (Ballona Lagoon and Venice Canals). Additionally, update Table 3-2 and other tables in the EWMP as appropriate to include the Ballona Creek Trash TMDL and the corresponding compliance schedule. The Santa Monica Bay TMDLs for DDTs and PCBs include WLAs for all MS4 discharges to Santa Monica Bay, including those from the Marina del Rey watershed. Therefore, the EWMP must address the SMB TMDLs for DDTs and PCBs. For subwatershed areas that are addressed by the Marina del Rey Toxics TMDL, provide a comparative analysis of the DDTs and PCBs WLAs assigned to MS4 discharges in each TMDL (including the numeric targets that form the basis for the WLAs) to demonstrate that implementation of the MDR Toxics TMDL requirements will achieve the requirements of the SMB DDTs and PCBs TMDLs. However, subwatershed areas not addressed by the MDR Toxics TMDL – namely, subwatershed 2 which is the drainage area to the Venice Canals/Ballona Lagoon – must also be addressed relative to the requirements of the SMB TMDLs for DDTs and PCBs. Make the necessary modifications to the EWMP, including the addition of the SMB TMDLs for DDTs and PCBs to the appropriate sections and tables regarding 303(d) listings and applicable TMDLs for the MDR watershed (e.g., Section 3.2, Table 3-1, etc.).
Appendix F, pg 75	*[Part VI.C.1.f.v, page 49]*	The EWMP Work Plan, provided as appendix F to the EWMP, states that a stakeholder workshop/meeting was held on April 10, 2014 and that two other meetings were anticipated to occur prior to EWMP submittal. Provide current details in the EWMP itself regarding the stakeholder input in developing the EWMP.
Water Quality Characterization		
Section 4.1, 4.2, and Table 4-2,	Part VI.C.5.a.i	Where possible, distinguish stormwater and non-stormwater discharges in the water quality characterization. Document whether permittees evaluated all pollutants included in the relevant studies and program monitoring efforts, or only a subset of pollutants of concern. The figures in Table 3-4 require clarification. Per Regional Board Time Schedule Order No. R4-2014-0142, MdRH-1 shall not exceed interim WQBELs in excess of allowable exceedance days through *daily* sampling while the other monitoring stations shall not exceed interim WQBELs through *weekly* sampling. This distinction must be noted in the table to avoid confusion or the values shall be adjusted for consistency based on weekly or daily only. The draft EWMP does not include a discussion of debris or trash. These pollutants must be addressed as Category 1 pollutants throughout the EWMP, as the Marina del Rey Watershed is subject to Trash and Debris TMDLs (see previous comment). Make modifications throughout EWMP as necessary (e.g., Tables ES-1, 3-1, 3-2, 4-2).

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Water Body Pollutant Classification		
Section 4.3 and Table 7-1	Part VI.C.5.a.ii.(1)	Pollutants included in the Marina del Rey Harbor toxic pollutants TMDL are listed as Category 1 pollutants (Section 4.3.1, Table 4-2, p.22). The 303(d) list includes sediment toxicity and fish consumption advisory as impairments in Marina del Rey Harbor. Both are addressed in the toxics TMDL and must also be listed as Category 1 pollutants in the draft EWMP. The MdRH and Ballona Lagoon/Venice Canals are waterbodies within Santa Monica Bay WMA and the permittees within that subwatershed area shall comply with interim and final WQBELs for trash in the Ballona Creek Trash TMDL and Santa Monica Bay Debris TMDL. As such, trash and debris must also be included within the table for Category 1 pollutants in MdRH and Ballona Lagoon/Venice Canals. The U.S. EPA Santa Monica Bay TMDLs for PCBs and DDTs assigned WLAs to the Los Angeles County MS4 for DDT and PCBs. DDT and PCBs must be included as Category 1 WBPCs in the draft EWMP for all subwatersheds within the MDR watershed, including subwatershed 2, and addressed throughout the draft EWMP (see previous comment). Most of the draft EWMP pertinent to the Marina del Rey Harbor Toxic Pollutants TMDL is based on the 2014 revision, which became effective on October 16, 2015, after the draft EWMP was submitted. The numeric target for PCBs in fish tissue included in the draft EWMP is from the original Marina del Rey Harbor Toxic Pollutants TMDL and was effective prior to October 16, 2015. The loading capacity and waste load allocations for PCBs in sediment are included from the revised TMDL. Utilizing the numeric target from original TMDL is acceptable as it is the current basis for the WQBEL; however, draft EWMP planning should also consider that the revised TMDL is effective and the new numeric target shall be incorporated into future MS4 permits. Table 7-1 (Section 7.0, p.75) lists required load reductions by sub-watershed necessary to comply with the toxics TMDL. This table will need to be verified and possibly updated once comments regarding the RAA are addressed.
Section ES.2 and 4.1	Part VI.C.5.a.ii(2) and (3)	It is unclear whether all WBPCs were assessed based on the readily available data described. Section 4.2 and Appendix F emphasize Category 1 pollutants, but do not discuss other WBPCs. Bight data, previous MS4 monitoring, annual monitoring by ABC Laboratories, as well as any other watershed monitoring should be considered to determine if other WBPCs need to be included in the EWMP. A discussion of this data review must be added to the EWMP. Also, the draft EWMP does not describe beach bacteria monitoring results or any relevant trash data.
Source Assessment		

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Section ES.2, 5.0 to 5.3	Part VI.C.5.a.iii.(1)(a)(i)-(iv)	The draft EWMP does not include findings based on the Permittee(s)' IC/IDE programs, Industrial/Commercial Facilities Pollutant Control programs, Development Construction programs, Public Agency Activities programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities. The EWMP must state whether these findings were considered and if they were not considered, provide justification as to why they were not.
Section 4.4	Part VI.C.5.a.iii.(1)(a)(v)	A source assessment was carried out and is described. The discussion presented is qualitative and seems generally consistent with TMDL findings; however, sources are not cited for where much of the information was obtained. Citations supporting the source assessment discussion must be added to the draft EWMP. There is insufficient evidence to rule out Oxford Basin as a source of metals to Marina del Rey Harbor. Regardless, the Oxford Basin Multi-Use Enhancement Project is anticipated to mitigate pollutants entering Marina del Rey Harbor from Oxford Basin and post-project monitoring required through the CIMP should enable evaluation of pollutant loading from Oxford Basin to Marina del Rey Harbor and BMP performance. The draft EWMP does not mention or summarize the findings from the MdR Vessel Discharge Report, the Small Drain Study, or describe any source investigations for trash.
Figure 5-1	*Part VI.C.5.a.iii.(1)(b)*	The draft EWMP does not include a map of the permittees' MS4, storm drain lines or major outfalls, but includes maps of some existing control structures. The revised EWMP must provide a complete map within the body of the document or submit GIS files containing the Permittees' storm drain lines and major outfalls, along with existing control structures, as part of the revised EWMP submittal.
Prioritization		
Executive Summary, Figures ES-4 and ES-5; Section 7.2 Tables 7-2 and 7-3	*Part VI.C.5.b.ii.(1), page 62*	The draft EWMP does not clearly state whether planned implementation will prevent or eliminate non-stormwater discharges to the MS4 that are a source of pollutants from the MS4 to receiving waters. The executive summary of the draft EWMP contains two conflicting graphs regarding implementation timing. Figure ES-4 (pg. ES-9) shows the RAA load reduction schedule. Figure ES-5 (pg. ES-10) shows the draft EWMP compliance strategy schedule. BMP implementation in the draft EWMP compliance strategy schedule is delayed relative to the RAA load reduction schedule. The draft EWMP compliance strategy schedule indicates that the final compliance date may be met for the toxics TMDL but that interim compliance deadlines will not be met. These graphs from the executive summary are not presented elsewhere in the draft EWMP. Explanation is necessary regarding what information was used as the basis for these graphs and clarification is required as to whether or not the timeline proposed is intended to meet all TMDL compliance deadlines. (See previous comment.)

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Tables 7-2 (pg. 77) and 7-3 (pg. 78) contain information on the RAA reduction schedule. It is unclear from the discussion in the executive summary if the RAA schedule is the intended implementation schedule. Clarify. Also, clarify the figures and calculations in Tables 7-2 and 7-3, it appears that figures for individual subwatersheds (1A, 3, 4) should sum up to totals shown for Back Basins, but they do not appear to add up correctly.
Selection of Watershed Control Measures		
Section 3.2.1 page 11 and Appendix F section 2.2.1 page 9.	*Part VI.C.5.a.iv.(1), page 61*	The draft EWMP references that "trash WLA applicable to the MS4 Permittees shall be complied with through the Ballona Creek Trash TMDL ..." To the extent that final compliance with the trash WQBELs has not been achieved to date (with a final compliance deadline of 9/30/15), the draft EWMP must describe the proposed method of compliance and corresponding implementation strategies and milestones for the Trash TMDLs. The revised EWMP must clarify that the MdR Watershed Permittees are implementing trash controls as required by the Ballona Creek Trash TMDL and corresponding Compliance Schedule in the LA County MS4 Permit.
Section 6.0	*Part VI.C.5.b.iv.(1)(a)(i-v), page 63*	The draft EWMP states that: "Participating agencies are continuing to implement the MCMs required under the 2001 MS4 Permit. Applicable new MCMs will be implemented by the time the draft EWMP is approved by the Regional Board." Provide details in the draft EWMP regarding whether default provisions or further enhancements from the 2012 MS4 permit are being utilized. The draft EWMP must specify the particular control measures/MCMs/non-stormwater discharge control measures that will be used in the watershed beyond, or different than, those specified in the 2012 MS4 permit.
Section 7.3	*Part VI.C.5.b.iv.(1)(c), page 63*	The draft EWMP states, "All MCMs that are required by the 2012 Permit will be implemented." The statement is vague and the draft EWMP does not further describe which Minimum Control Measures (MCMs) will be addressed nor how they will be addressed. Clarification is required in the EWMP to determine if any MCMs will be eliminated or modified by any Permittee(s).
Section 6.3	*Part VI.C.5.b.iv.(4)(a), page 64*	Control measures potentially necessary to comply with the Santa Monica Bay TMDLs for DDT and PCB are not discussed in the draft EWMP. An evaluation of these TMDLs must be included in the draft EWMP. Dependent on the results of this evaluation, additional control measures may be necessary for subwatershed 2.
Enhanced Watershed Management Program Provisions		
Section ES.2, 5.2, 5.5, and Appendix F section 9.2.8	Part VI.C.1.g,	Schools were excluded as potential BMP sites due to concern over public acceptance; however, it is unclear whether this was vetted with the community. Provide supporting details to support this claim. The role of the public and environmental groups in evaluating opportunities with the Watershed Management Area must be clearly

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		discussed in the final draft EWMP. Based on the information provided in the draft EWMP and Appendix C, it cannot be determined whether all the multi-benefit regional projects will retain the storm water runoff from the 85th percentile, 24-hour storm event from drainage areas tributary to the project. Clarify which of the multi-benefit regional projects will retain the stormwater runoff from the 85th percentile, 24-hour event from the drainage area tributary to the project. Clarify whether these regional projects will also retain all non-stormwater runoff from the drainage area tributary to the project. Also, provide a description of the multiple benefits anticipated from each project for each of the two regional priority projects, the green streets, and each of the four parks. Effectiveness demonstrations in the draft EWMP focus on TMDL compliance rather than capture of the volume of the 85%, 24-hour storm. Details must be added regarding the potential of each anticipated BMP to meet the 85%, 24-hour storm. (See previous comment.) Also, provide an overarching discussion of where it is, and is not feasible, within the watershed to capture or infiltrate the stormwater volume associated with the 85%, 24-hour storm. See also Enclosure 2 RAA Modeling comments.
Section 5.2.2 and Table 17 in Appendix F, pg. 39	Part VI.C.1.g, iv	The draft EWMP states: Benefits may include community enhancement through beautification, property value increase, improved beach tourism, ecosystem protection, and groundwater recharge. Groundwater recharge capacity of BMPs is incorporated in modeling. Clarify how much groundwater recharge is expected to result from implementation of BMPs in the Marina del Rey Watershed.
	Part VI.C. 1.g.ii	Indicate whether State agency input on priority setting and other key implementation was considered in the draft EWMP.
Section 8.0 – 8.4	*Part VI.C. 1.g.vi*	The draft EWMP describes costs per each structural and non-structural BMP but does not analyze project alternatives or BMP selection and sequencing to maximize effectiveness or cost savings (e.g., timing green streets implementation to coincide with regular street replacement). Also the draft EWMP has described "potential" funding options through grants, fees, and legislative strategies but provides no analysis on planning, timing, resources allocated, expected funding, or strategies for obtaining estimated amount of monies described in table 8-4 to 8-10 to implement, operate, or maintain the described BMPs and programs. Include the following in the revised EWMP: • Amount and source of current monetary funds to install and implement the BMPs proposed for the milestones in the current permit cycle for each Permittee (including breakdown of funds provided by Costco and funds already secured for the Oxford

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Basin Multi-Use Enhancement Project). •Selection and a prioritization process for obtaining funding that includes the selection of financing strategies that best fit the Groups' needs (e.g., step 1: apply for X grants, step 2: apply for loans, etc.). •A timeline to search for funding with consideration of the milestones indicated in the EWMP. •Articulation of who is responsible for seeking funding (e.g., the lead permittee, all the group members). If most or all Group members will be seeking funding, specify the responsibilities of those members. It should also outline steps toward, for example: •development of a stormwater Capital Improvement Plan and/or asset management plan, •Integration of proposed EWMP projects with other street/sewer/water CIPs and asset management plans (e.g., Pavement Management Systems, etc.) •establishing a constant revenue stream for the stormwater CIP/asset management plan, which may include rate studies.
Section 5.1.1	*Part VI.C.1.g.viii*	Provide additional discussion of control of non-stormwater discharges, including but not limited to existing BMPs (e.g., LFDs, Lot 5 and 7 project, and Oxford Basin) and MCMs. The revised EWMP should be revised to specify how non-storm water discharges will be addressed, e.g., "implementation of Regional BMPs and Green Streets will address non-storm water as well as storm water runoff to comply with WLAs and RWLs."

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Marina del Rey
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on Section 6, Reasonable Assurance Analysis (RAA) and Appendix C of the draft Enhanced Watershed Management Program (EWMP) for the Marina del Rey watershed dated June 25, 2015.

1. In the model calibration, the correction factors were used for runoff volume, zinc loading and TSS loading. The correction factors were computed based on a comparison of measured values to modeled results. The model inputs were revised as necessary by adjusting appropriate model parameter, such as impervious cover and sediment wash-off potency factor, and then the model was run and compared with measured values. Include the values used for percentage of impervious area for each land use (as adjusted) and the sediment wash-off potency factor for each sub-watershed (as adjusted). The correction factor for TSS was applied to model output using a post-process adjustment. Provide the spreadsheet that contains this post-process adjustment. Further, data needed to improve model calibration for runoff volume, zinc loading, and TSS as well as MDR specific data to recalibrate the model for bacteria should be identified along with a commitment to collect the necessary data.

2. The critical condition for toxic pollutants was determined to be the year 2009 based on the MDR Toxics TMDL. Provide a statistical analysis, including a frequency curve of historical rainfall depth and rainfall intensity relative to the average and 50^{th} percentile values for each metric to confirm that 2009 represents an appropriate condition for the RAA per the TMDL.

3. The model results of the baseline condition in terms of pollutant loading are provided in Table 10 through Table 14 of the Appendix C. However, the model results of the baseline condition in terms of runoff volume and pollutant concentration are missing in the report. Provide the model results of the baseline condition in terms of runoff volume and pollutant concentration as well. In addition, the duration curves or frequency curves of runoff volume, pollutant concentration and pollutant loading for the baseline condition at each analysis region for each pollutant of concern should be presented in the EWMP report to demonstrate that the model results of baseline condition are based on the TMDL-derived critical condition.

4. Provide the estimated allowable loads and required load reductions for each sub-watershed area on the same duration curves for baseline condition to illustrate the

estimated allowable loads and load reductions relative to and consistent with the TMDL derived critical condition.

5. In the report, summary statistics of load reduction and percent reduction for different control measures is provided as shown in Table 6-8. However, some numbers to arrive at the modeled values of load reduction and percentage are not readily identifiable. Clarify the data and analysis used to derive the numbers in Table 6-8. Ensure that the model results are presented in terms of 1) influent volume, concentration and load; 2) treated volume, concentration and load; and 3) effluent volume, concentration and load through a system of BMPs at the downstream of BMP systems for the selected critical year in the EWMP report to demonstrate the effectiveness of the proposed BMPs.

6. Finally, please provide an example validation within the Marina del Rey Watershed, or in another EWMP area where a similar RAA approach is used, that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, will result in achieving the RWLs.

7. Discuss whether the model can be used to simulate non-stormwater runoff and to demonstrate that proposed volume retention BMPs will capture 100 percent of non-stormwater that would otherwise be discharged through the MS4 in each watershed area.

8. The continuous simulation model (CSM) was used to analyze the load reductions that may be achieved through various types of BMPs during the critical condition. Provide the detailed methodology of the CSM in the report and reference or include the model parameters used for each BMP as well.

October 26, 2015

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REVIEW OF THE PALOS VERDES PENINSULA WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Palos Verdes Peninsula Watershed Management Group[1]:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 26, 2015 by the Palos Verdes Peninsula Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

[1] Permittees of the Palos Verdes Peninsula Watershed Management Group include the cities of Rancho Palos Verdes, Palos Verdes Estates and Rolling Hills Estates, the County of Los Angeles, and the Los Angeles County Flood Control District.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 26, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received three letters that contained comments specific to the Group's draft EWMP. These letters were from the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay; the Construction Industry Coalition on Water Quality; and the Sanitation Districts of Los Angeles County. On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the

enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 26, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Palos Verdes Peninsula EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Rebecca.Christman@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachments M and N pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit by electronic mail at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

cc: Andy Winje, City of Rancho Palos Verdes
Sheri Rapp Loadsman, City of Palos Verdes Estates
Greg Grammer, City of Rolling Hills Estates
Yolanta Schwartz, City of Rolling Hills
Angela George, County of Los Angeles, Department of Public Works
Paul Alva, County of Los Angeles, Department of Public Works

Enclosures: Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Palos Verdes Peninsula Watershed Management Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Definitions, Acronyms, and Abbreviations		Ensure that definitions are consistent with those in Attachment A of the 2012 LA County MS4 Permit.
Section 1		Note that the purpose the LA County MS4 Permit and of the EWMPs is broader than acknowledged in Sections 1.1 and 1.5.2 of the draft EWMP. Align description of the purpose of the EWMP with Part VI.C.1 of the permit.
Section 1.7		Define the Group's use of the phrase "iterative process" under Adaptive Management, or revise to specify an "adaptive management process".
Section 2.2, Footnote 3		Footnote 3 on page 2-6 of the EWMP states that, "As recognized by the footnote in Attachment K-4 of the MS4 Permit, the Peninsula WMG members have entered into an Amended Consent Decree with the United States and the State of California, including the Regional Board, pursuant to which the Regional Board has released the Peninsula WMG members from responsibility for Toxic pollutants in the Dominguez Channel and the Greater Los Angeles and Long Beach Harbors. Accordingly, no inference should be drawn from the submission of this EWMP Work Plan or from any action or implementation taken pursuant to it that the Peninsula WMG members are obligated to implement the DC Toxics TMDL, including this EWMP Work Plan or any of the DC Toxics TMDL's other obligations or plans, or that the Peninsula WMG has waived any rights under the Amended Consent Decree." Revise Footnote 3 on page 2-6 of the EWMP to omit the strike out portion of the sentence: "Accordingly, no inference should be drawn from the submission of this EWMP or from any action or implementation taken pursuant to it that ~~the Peninsula WMG members are obligated to implement the DC Toxics TMDL, including this EWMP Work Plan or any of the DC Toxics TMDL's other obligations or plans, or that~~ the Peninsula WMG has waived any rights under the Amended Consent Decree".
Section 3.2		A summary of existing and planned Regional BMPs within the Peninsula EWMP area is summarized in Figure 3-1 and Table 3-4. Section 3.2.4.2.3 includes a description of the evaluation process

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		that the group undertook to identify opportunities for regional, multi-benefit stormwater retention projects capable of retaining the volume associated with the 85th percentile, 24-hour storm event for the Palos Verdes Peninsula, which resulted in the projects identified in Figure 3-1 and Table 3-4. Include in this description, the storm event size corresponding to the 85th percentile, 24-hour event for the Palos Verdes Peninsula WMG area. Also, include a discussion of drainage areas and/or any projects that were initially identified, but ultimately not proposed due to project constraints.
Section 3.2.4.2		The EWMP provides list of existing/planned/proposed regional BMPs and some basic information in Section 3.2.4.2. Casaba Estates Subdivision and the Western Drainage area of the Chandler Quarry Project appear to be the only regional projects that will retain and infiltrate runoff in a volume greater than the 85th percentile, 24-hr storm event. Confirm. Also, clarify for the other planned/proposed regional BMPs the amount of runoff that will be retained relative to the 85th percentile, 24-hour storm event for specific drainage areas tributary to the projects. Also, clarify for each whether the regional project is capable of retaining all non-storm water runoff for the drainage areas tributary to the projects.
Water Body Pollutant Classification and Prioritization		
Section 2.1; Table 2-1		Revise Table 2-1 to remove redundant pollutant listings (e.g., PCBs and DDTs are thrice listed under Category 1, while chlordane is twice listed under Category 1).
Section 2.2		Section 2.2 Water Quality Characterization only includes summary of pollutants listed in existing TMDLs and 303(d) listings. The prioritization process lists water body pollutants into Categories 1 and 2 only. Data and a justification must be added to this section to clarify why Category 3 WBPCs were not identified. (See information provided in Appendix 5. RAA Summary – Table 1, page 4.)
Section 2.2.3, Table 2-5		Table 2-5, which lists the water bodies and beneficial uses within the area addressed by the PV Peninsula EWMP Group needs to include “Coastal Streams of Palos Verdes,” “Canyon Streams of Palos Verdes,” and “Point Vicente Beach.” In addition, the revised EWMP needs to clarify if the first row “Los Angeles Coastal” is referring to the" Nearshore Zone” or the “Offshore Zone.” Both the Los Angeles County Coastal Nearshore Zone and the Los Angeles County Coastal Offshore Zone have designated REC1 and REC2 beneficial uses (BUs) as listed in Table 2-1a of the Water Quality Control Plan, Los Angeles Region (Basin Plan) and additional BUs as listed in Table 2-3 of the Basin Plan, and both should be included in Table 2-5.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Selection of Watershed Control Measures		
Section 3.1.3.1		The EWMP states, "This provision [MS4 Permit §VI.D.9.h.vii.(1)] will be supplanted by the statewide trash amendments" (pg. 3-5). Note, however, that the statewide trash amendments are not self-implementing, and will therefore need to be incorporated into the LA County MS4 Permit before other related provisions are supplanted by the statewide amendments. Depending on the timing of final approvals of the trash amendments, their incorporation into the LA County MS4 Permit may not occur prior to the deadline to install trash excluders per Part VI.D.9.h.vii.(1). Therefore, the EWMP must include milestones and a schedule for installing trash excluders per the LA County MS4 Permit in the subwatershed area not addressed by a trash TMDL (i.e., the Los Angeles Harbor Subwatershed).
Section 3.2.4.2.3		Provide interim milestones and dates for their achievement to complete investigations of feasibility, cost-effectiveness and design for each proposed regional BMP in Section 3.2.4.2.3, in addition to the anticipated implementation dates provided in Table 5-4.
Appendix 5, Section 4.3; and Section 3.2.2		For each of the regional BMPs, articulate, and quantify where possible, the anticipated multiple benefits that will derive from the project with greater specificity than provided in Section 4.3. For the Green Building Ordinance implemented by Rancho Palos Verdes (pg. 3-23), articulate the specific water quality related components/benefits of the ordinance.
Section 5.2.1		Greater detail, including interim milestones and dates for their achievement, must be provided in the EWMP for each of the Planned Non-structural TCMs. The EWMP must indicate interim milestones and dates for their achievement for each Permittee in the WMG that will be implementing the planned non-structural TCM. For example, interim milestones and dates for their achievement should be included for: • Municipal Landscape Retrofit Programs • Downspout Disconnect Programs • Private Road and Parking Lot Sweeping Ordinances • Clean Bay Restaurant Certification Programs (in Palos Verdes Estates & Rolling Hills Estates) • Xeriscaping & Turf Conversion Incentive Programs • Erosion Repair and Slope Stabilization Programs
Section 5		The EWMP must more clearly link implementation milestones and schedules for Structural and Non-structural TCMs with TMDL compliance schedules. Additionally, the EWMP only includes final milestones for existing/planned BMPs (see Table 5-4, pg. 5-12). Table 5-4 should indicate which subwatershed each regional project will address, as done in Table 3-4, and indicate the TMDL

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		deadline that the project is targeted to address (from Table 5-2).
Section 5.2		The revised EWMP must specify a strategy to implement pollutant controls necessary to achieve bacteria WQBELs that have already passed (2012) and limitations have not been achieved (see data shown in Table 2-9, page 2-16).
Enhanced Watershed Management Program Provisions		
	Part VI.C.5.b.iv.(4)(e), page 65	The revised EWMP must identify each participating Permittee responsible for implementing the existing/ planned/or proposed BMPs (see tables 3-4 and 5-4). In Table 5-4, clarify whether the Permittees identified in the column "Jurisdiction" will be wholly responsible for the structural TCM or if all Permittees listed in the column "Percent Drainage Area Per Jurisdiction" will share responsibility for implementing the structural TCM.
	Part VI.C.5.b.iv.(5)(c), page 65	For Category 2 WBPCs, the revised EWMP does not demonstrate that the watershed control measures to be implemented will achieve applicable receiving water limitations as soon as possible. The revised EWMP must provide appropriate justification for the proposed BMP implementation schedule for Category 2 WBPCs.
	Part VI.C.5.c, page 66	The revised EWMP must incorporate interim milestones and dates for their achievement for structural and non-structural TCMs that will allow an assessment of progress during each adaptive management cycle (i.e., every two years). See previous comments.
Sections 3.2.2 and 9	Part VI.C.8, pages 68-70	In Table 3-3, only Rancho Palos Verdes is identified as committing to enhanced tracking as part of reporting/adaptive management. All Permittees in the WMG must commit to enhanced tracking through the EWMP to support adaptive management (see section 3.2.2 "Reporting/Adaptive Management" and Table 3-3). Section 9 of the EWMP must also include a commitment to report on the status of multi-year/future regional BMPs, both planned and proposed, and the status of efforts to secure funding for structural TCMs both for capital investments and O&M through the adaptive management process.
	Part VI.C.1.g.ii (page 49)	The revised EWMP must specify if it incorporated applicable State agency input on priority setting and other key implementation issues or if any State agency priorities are addressed (e.g., drought response, increased capture of stormwater for beneficial use per the Recycled Water Policy, Strategic Plan priorities, California Water Action Plan priorities, etc.). If so, elaborate.
Section 6	Part VI.C.1.g.vi (page 50)	The draft EWMP must state if the cost analysis done in the EWMP maximizes the effectiveness of funds through the analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance. If so, elaborate.
Section 6.3	Part VI.C.1.g.ix	For the potential funding sources included in Section 6.3, specify

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
	(page 50)	requirements and application deadlines if applicable and available. Additionally, elaborate on the challenges (if any)/feasibility of obtaining the potential sources of funding.
Section 6.3	Part VI.C.1.g.ix (page 50)	The financial strategy discussed in Section 6.3 of the draft EWMP should include the following: • A prioritization process for obtaining funding that includes the selection of financing strategies that best fit the Groups' needs (e.g., step 1: apply for X grants, step 2: apply for loans, etc.). • A timeline to search for funding with consideration of the milestones indicated in the EWMP. • Articulation of who is responsible for seeking funding (e.g., the lead Permittee, all the group members). If most or all Group members will be seeking funding, please specify the responsibilities of those members. It should also outline steps toward: • development of a stormwater Capital Improvement Plan and/or asset management plan, • integration of proposed EWMP projects with other street/sewer/water CIPs and asset management plans (e.g., Pavement Management Systems, etc.) • steps to establish a constant revenue stream for the stormwater CIP/asset management plan, which may include rate studies.
Reasonable Assurance Analysis (RAA)		
Section 4 and Appendix 5	Part VI.C.5.b.iv.(5), page 65	The RAA is conducted and included in the EWMP. (Note that Section 4.2 of the EWMP references Appendix 6, but should reference Appendix 5.) See Enclosure 2 for detailed comments on the RAA.
Sections 3.1.3 and 5.2.1		Clarify the assumed load reduction from non-structural BMPs used by the WMG and use a consistent assumption throughout the EWMP. Section 3.1.3 indicates a 5% load reduction from "new and enhanced provisions of the MS4 Permit," Section 5.2.1 indicates a 7% load reduction from non-structural BMPs, and Appendix 5, Table 11 indicates a 7.5% load reduction.
Appendix 5, Table 2		Table 2 does not include bacteria in Wilmington Drain. Though it is a Category 2 WBPC, the permit includes Receiving Water Limitations as permit limits for Category 2 and Category 3 WBPCs; therefore, it must be included in Table 2 as well as other Category 2 WBPCs that are included in the RAA. Additionally, footnote 4 (pg. 8) in Appendix 5 must reference the freshwater reference system dataset used in the LA River Bacteria TMDL, not the Arroyo Sequit dataset.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Palos Verdes Peninsula Watershed Management Group
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on Appendix 5, Reasonable Assurance Analysis (RAA) of the draft Enhanced Watershed Management Program (EWMP) report for Palos Verdes Peninsula Watershed Management Group dated June 26, 2015.

1. Appendix 5. Reasonable Assurance Analysis, Section 2.5 Wet Weather Baseline Loads and Target Load Reductions

   Target load reductions of zero were set for PCBs and DDT for Santa Monica Bay with the explanation, "In Santa Monica Bay, zero target load reduction was set for PCBs and DDT, consistent with the USEPA TMDL, which sets MS4 waste load allocations based on baseline loads". The assigned WLAs for DDT and PCBs were 27.08 and 140.25 g/yr, respectively. According to the USEPA TMDL for DDT and PCBs, existing stormwater loads from the watershed are lower than the calculated total allowable loads to achieve sediment targets; therefore, the waste load allocations for stormwater in the TMDL are based on existing load estimates. The Permittees will need to collect data through the Group's CIMP to confirm that existing stormwater loads from the watershed are lower than the calculated allowable loads to achieve sediment targets.

RAA Modeling comments:

1. Provide a graph of the time series results, between 2001 and 2012, of modeled runoff volumes with observed runoff volumes and a statistical analysis of the comparison of modeled and observed values for runoff volume.

2. The model results of the baseline condition (loads are included in Table 5 of Appendix 5) in terms of runoff volume and pollutant concentration are not provided in the EWMP report. Per the RAA Guidelines, present the model results of the baseline condition for runoff volume, pollutant concentration and pollutant loadings based on the 90th percentile critical condition at each analysis region for each pollutant of concern.

3. The estimated allowable loads and required load reductions for each analysis region and each pollutant as provided in Table 5 of the Appendix 5 should be presented in terms of runoff volume, concentration and then pollutant loading.

4. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the effectiveness of the proposed BMPs that would achieve the required pollutant load reductions and load reduction goals. However, as presented, the model results presented in Table 11 of Appendix 5 do not sufficiently demonstrate the effectiveness of the proposed BMPs. As such, the detailed reasonable assurance analysis (RAA) results for the proposed BMPs for each analysis region should be provided in terms of, where applicable: 1) influent volume, concentration and/or load; 2) treated volume, concentration and/or load; and 3) effluent volume, concentration and/or load through BMPs for the selected critical condition to demonstrate the effectiveness of the proposed BMPs.

5. An example illustrating the modeling results of pollutant concentrations in the receiving water for all pollutant of concern at the downstream outlet of the watershed system should be presented in the EWMP to demonstrate the effectiveness of all BMPs in place when compared with those of the baseline condition and to demonstrate the compliance with final water quality limits (WQL) during the critical condition.

October 23, 2015

Permittees of the Dominguez Channel Watershed Management Area Group[1]
(See Distribution List)

REVIEW OF THE DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Dominguez Channel Watershed Management Area Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 25, 2015 by the Dominguez Channel Watershed Management Area Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Dominguez Channel Watershed Management Area Group EWMP include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Los Angeles, Hawthorne, Inglewood, El Segundo, and Lomita. Additionally, the cities of Carson and Lawndale have each recently submitted letters to the Los Angeles Water Board stating their intent to join the Dominguez Channel Watershed Management Area Group.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 25, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received three letters that contained comments specific to the Group's draft EWMP. These letters were from the Construction Industry Coalition on Water Quality; Ms. Joyce Dillard; and the Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay (jointly). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revisions to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 23, 2016**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Dominguez Channel EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Chris.Lopez@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv);
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit by electronic mail at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Dominguez Channel WMA Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Dominguez Channel Watershed Management Area Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
(1) Sections 1-9		Additional Group Members The Los Angeles Water Board received letters of intent to join the Dominguez Channel WMA Group from the City of Lawndale (August 12, 2015) and the City of Carson (August 26, 2015). Revise the EWMP to fully incorporate any additional Group members, including revisions to the following elements: • Evaluation of multi-benefit regional project opportunities; • Water quality characterization; • Water body-pollutant classification; • Source assessment; • Prioritization; • Selection of watershed control measures; • Reasonable Assurance Analysis; • Compliance schedules; • Legal authority.
Source Assessment		
(2) Section 2.3	Part VI.C.5.a.iii	Source Assessment The draft EWMP lacks a thorough source assessment section. While the Catchment Prioritization Index (CPI) is a valuable tool for identifying priority areas based on land use EMCs, additional detail must be provided in the source assessment. The Group must review available data, including but not limited to the considerations listed in Part VI.C.5.a.iii.(1)(a)(i)-(viii) of the LA County MS4 Permit. For clarity, the Group should provide a subsection for each pollutant or source of available data (per Part VI.C.4.a.iii.(1)(a)-(c) that describes source assessment findings.
(3) Section 2.3.1	Part VI.C.5.a.iii	Catchment Priority Index Provide information on which pollutants are incorporated into the Catchment Priority Index (CPI) analysis, and how these pollutants

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		were weighted. Additionally, reference and provide the CPI methodology, including the EMCs applied and the source(s) of the EMCs, as an attachment.
Prioritization		
(4) Section 2.5 and Attachment E	Part VI.C.5.a.iv	Prioritization and Compliance Schedules Further substantiate the compliance schedules for all category 2 and 3 pollutants. According to Table 2-5 and Attachment E Tables E.21 through E.26, the Group proposes a final compliance date of 2040 for all category 2 and 3 pollutants. This is not appropriate for pollutants that are of a similar class as those addressed by TMDLs in the watershed and the compliance schedules must be adjusted accordingly. For bacteria and any other remaining pollutants, the Group needs to provide rationale for the proposed 2040 compliance dates.
Selection of Watershed Control Measures		
(5) Section 4.1	Part VI.C.5.b.iv.(1).(a)	Minimum Control Measures (MCMs) It is unclear if all the Group Members will implement the MCMs as listed in the permit. Clarify whether any of the Group Members intend to modify any of the MCM provisions.
(6) Section 4.1 and Section 5.1.1	Part VI.C.5.b	Enhanced Minimum Control Measures (MCMs) Section 4.1.2 (pg. 4-8) states that "[s]ome of the WMG agencies are implementing more aggressive or enhanced MCMs. Because of this, additional load reductions are likely to occur." However, the EWMP does not clearly list and describe these enhanced MCMs nor does it identify the participating Permittees. (Table 4-4 appears to address this in part, but greater clarity and specificity is needed.) The Group must revise Section 4 to provide additional information on the enhanced MCMs to be implemented under the EWMP. For clarity, the Group should create a sub section for each enhanced MCM and include: • A clear description of each enhanced MCM with any relevant supporting information; • Identification of which Permittees will be implementing each enhanced MCM; • Identification of the Category 1-3 pollutants to be addressed by the enhanced MCM; • Milestones and dates for achievement of milestones for each enhanced MCM for each participating Permittee. If

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		the Permittees do not intend to fully implement these enhancements prior to 2026 (based on Tables 5-3, 5-4 and 5-7) or 2040 (based on Tables 5-5 and 5-6), interim milestones and dates for their achievement should be included. Additionally, the EWMP Implementation Schedule in Section 5 must include and/or reference the milestones and timelines for each enhanced MCM/institutional control.
(7) Section 5.1.3	Part VI.C.5.b	<u>Green Streets Implementation</u> Table 5-2 in Section 5.1.3 provides the implementation timeline for Green Streets. The Group must provide this schedule for each Permittee by year and by subwatershed, i.e. combine the information in Tables 4-10 and 5-2. Additionally, provide rationale for the schedule in Table 5-2, which indicates that green street implementation will not begin until 2026.
(8) Section 4.2.4	Part VI.C.5.b	<u>Regional Project Information</u> Provide additional information regarding non-member Permittees within the drainage areas contributing to regional projects: • Clarify whether subcatchments outside the Dominguez Channel EWMP Group from non-member LA County MS4 Permittees are contributing runoff to regional projects and identify these Permittees; and • Clarify whether the projects are sized to manage any of this additional volume. Furthermore, include the following additional information for each regional project: • Include the rainfall volume, and storm water runoff volume associated with each project; • In as much detail as possible, further articulate what the anticipated multi-benefits are for each project; • Identify the responsibilities of each participating Permittee for each project.
(9) Section 4.2.4.1	Part VI.C.5.b	<u>Regional Project Preliminary Designs</u> A number of preliminary design concept figures did not display correctly in the copy of the draft EWMP submitted to the Los Angeles Water Board. Correct the following figures: • Ramona Park (Figure 4-8);

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		• Hawthorne Memorial Park (Figure 4-9); • Darby Park (Figure 4-10); • Harbor City Park (Figure 4-11); and • Wilmington Recreation Center (Figure 4-13)
(10) Section 5.1.2	Part VI.C.5.b	<u>Regional Project Implementation</u> Table 5-1 in Section 5.1.2 provides the completion schedule for the EWMP's nine regional projects. The Group must update this section so that it lists which Permittee(s) are responsible for each Regional Project by the completion date milestone.
Enhanced Watershed Management Program Provisions		
(11) Section 4.2.4	Part VI.C.1.g	<u>Process of Identifying and Selecting Regional Projects</u> The Draft EWMP notes that field investigations were performed at six of the nine identified regional project sites: • Include a timeline for when field investigations will be performed at the remaining identified regional project sites; • Update the EWMP with any relevant information if further field investigations have been performed since the submittal of the draft EWMP. Furthermore, clearly state in Section 4.2.4 whether any regional projects aside from the nine recommended regional projects were included in the RAA or in the EWMP's control measure implementation.
(12) Section 7.2	Part VI.C.1.g.ix	<u>Financial Strategy</u> The Group's financial strategy must be revised to provide more specific information: • The Group states that "[t]he Watershed Management Group as a whole, as well as individual members of the WMG are currently prioritizing and selecting the specific financial strategies that best fit their needs." The revised EWMP must include this prioritization and selection of specific financing strategies or, if not completed, include a schedule for completing this prioritization and selection of specific financing strategies. • The Group must update its financial strategy with any new information regarding its efforts and the challenges, potential, and feasibility of securing the potential funding sources. • The Group must specify sources of funding for regional

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		projects and other near-term projects. If no funding is in place, the Group should identify their process for securing this funding. Additionally, Section 7 appears to incorrectly reference the wrong EWMP attachments for Cost Estimates (Attachment U) and Funding (Attachment V). Correct these references for clarity.
Reasonable Assurance Analysis (RAA)		
(13) Attachment F—Calibration Tables and Figures	Part VI.C.5.b.iv.(5)	<u>Model Calibration</u> The Group uses "linear bias (percent)" as a measure of percent difference, however it is unclear if the linear bias numbers in Tables 5-2, 5-4, 5-6, 5-8, 5-11 are percentages. Clarify these tables. Furthermore, although the reported linear bias numbers are relatively low, the other calibration statistics shown in Figures 5-2 through 5-8 appear to be indicative of a higher percent difference between observed and simulated values. Explain any differences in the conclusions drawn from each of the calibration statistics. See Enclosure 2 for additional comments on the RAA.
(14) Attachment F, Table 7-4	Part VI.C.5.b.iv.(5)	<u>Machado Lake Water Quality Objective</u> Table 7-4 of Attachment F – RAA Modeling (pg. 25) uses an objective concentration of 1.04 mg/L for Phosphorus in the Machado Lake Watershed. The Group must change the objective concentration to 0.1 mg/L (per the TMDL) and redo the analysis, or provide rationale why this is the appropriate objective.
(15) Section 3.3.3	Part VI.C.5.b.iv.(5)	<u>Baseline Simulation and Evaluation of Required Load Reductions</u> Revise the Section 3 to address the following: • Provide greater clarity in Section 3.3.3 regarding how baseline pollutant loading estimates were calculated and describe how this is consistent with the RAA Guidelines procedure of setting baseline pollutant loading estimates. • Describe in Section 3.3.4 how the Group's 90th percentile, 24-hour storm event constituent load approach is consistent with the RAA Guidelines method for estimating required pollutant reductions.
(16) Section 3.3.5	Part VI.C.5.b.iv.(5)	<u>Selection of Limiting Pollutants</u> **Machado Lake** – The Group selected bacteria rather than zinc or total nitrogen as the limiting pollutant for Machado Lake. Section 3.3.5 notes that the discharge of highly treated recycled water into

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		the lake to offset evapotranspiration "will dilute the stormwater stored in the lake and lower the concentration of all pollutants, including nutrients and toxics." The Group must provide calculations and further analysis to demonstrate the data-driven assumptions of this approach. **Zinc in Machado Lake and Wilmington Drain** – The Group also notes that it did not select zinc as the limiting pollutant for Machado Lake or Wilmington Drain because the EWMP does not identify zinc as a Category 1-3 Water Body-Pollutant Combination for these subwatersheds. To proceed with this approach, the Group must explicitly commit to reevaluating this decision as it collects monitoring data.
(17) Section 5.2	Part VI.C.5.b.iv.(5)	<u>RAA of Control Measure Implementation Schedule</u> In addition to the load reduction tables contained in Section 5.2, provide additional information regarding the volumes of stormwater that control measures will retain and/or treat (this additional information can be referenced and included as an attachment): • Present the load reduction information included in Tables 5-3 through 5-7 in terms of BMP volume capacity and/or volume reductions; • Present the above information for each of the five subwatersheds by Permittee (i.e. split up the information contained in Tables 5-3 through 5-7 so that for each subwatershed, each contributing Permittee has a table of control measure implementation); • Clearly indicate the target volume that needs to be addressed based on the RAA for each subwatershed and for each compliance date.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Dominguez Channel Watershed Management Group
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E.

This memorandum contains the comments on Section 3, Reasonable Assurance Analysis (RAA) and Appendix F, RAA Modeling, in the draft Enhanced Watershed Management Program (EWMP) for Dominguez Channel Watershed Management Group dated June 2015.

1. In addition to linear bias statistics presented in Table 5-2, provide additional explanation and interpretation of the root mean square and coefficient of correlation statistics in Table 5-2, Table 5-4, Table 5-6, Table 5-8, and Table 5-11 of the Attachment F, RAA Modeling, and any differences in the conclusions that can been drawn regarding the hydrology and water quality calibrations based on the three statistics. Further, data needed to improve model calibration for these constituents should be identified along with a commitment to collect the necessary data.

2. The model results of the baseline critical condition in terms of runoff volume, pollutant concentration and pollutant loading are provided in Table 3-7 through Table 3-11 of the EWMP. However, the intermediate processes to arrive at the modeled values of runoff volume, pollutant concentration, and pollutant loading are identifiable. As such, the duration curves or frequency curves of runoff volume, pollutant concentration and pollutant loading for baseline condition in each analysis region for each pollutant of concern should be presented in the EWMP or an appendix.

3. The estimated allowable loads appear to be presented in Tables 7-1 to 7-5. Also present the required load reductions for each subwatershed area. Demonstrate that the estimated allowable loads and load reductions are obtained from the 90^{th} percentile critical condition of runoff volume and allowable pollutant concentration. It is recommended that the allowable loads and required load reductions are presented in the same duration curves for baseline condition to demonstrate that the estimated allowable loads and load reductions meet the 90^{th} percentile critical condition.

4. In the report, summary statistics of load reduction and percent reduction for different control measures is provided as shown in Table 5-3 through Table 5-7, however, some of the values used to arrive at the modeled values of load reduction and the percentage of the final target are not clearly identifiable. Provide the RAA results for the proposed control measures and potential BMPs to demonstrate the effectiveness of the proposed BMPs that would achieve the required pollutant load reductions and load reduction goals in terms of 1) influent volume, concentration and load; 2) treated volume, concentration and load; and 3) effluent volume, concentration and load through the system of BMPs at

the downstream point of BMP systems to demonstrate the effectiveness of the proposed BMPs.

5. Finally, please provide an example validation for a representative waterbody within the Dominguez Channel Watershed Management Area, or in another EWMP area where the same RAA approach is used, that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, will result in achieving the RWLs.

October 05, 2015

Permittees of the Upper Santa Clara River Watershed Management Group[1]
(See Distribution List)

REVIEW OF THE UPPER SANTA CLARA RIVER WATERSHED MANAGEMENT GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART IV.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Upper Santa Clara River Watershed Management Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 25, 2015 by the Upper Santa Clara River Watershed Management Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Upper Santa Clara River Watershed Management Group EWMP include the City of Santa Clarita, County of Los Angeles, and Los Angeles County Flood Control District.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 25, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two letters that contained comments specific to the Group's draft EWMP. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. During its review, staff of the Los Angeles Water Board had a meeting on September 15, 2015, telephone exchanges, and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments and potential revisions to the draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 04, 2015**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Upper Santa Clara River EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Erum.Razzak@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments L through R by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis
Upper Santa Clara River Watershed Management Group Distribution List

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Upper Santa Clara River Watershed EWMP Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Section 7.3	Part VI.C.5.b.iv.(4).(d) (page 64)	The final due date for limiting pollutants including bacteria (dry – 2023, and wet – 2029) are well defined in Section 7.3 "Scheduling of Control Measures and EWMP Milestones". However, a final milestone of 2035, which is after the 2029 bacteria TMDL compliance milestone, is proposed with little clarification on why the 2035 deadline is included. The language on page 7-14 stating that, "*A final deadline of 2035 is included for any additional control measures needed to address metals after the controls to address bacteria and other constituents are implemented. This final date was determined to be as soon as possible given the additional structural control measures that may need to be implemented*" is not sufficient. Please include more information to support the proposed final milestone of 2035 (e.g., economic/ technological justification, specific set of BMPs proposed to address metals, etc.) and to provide clarity regarding the scope of the deadline (i.e., for the South Fork subwatershed to achieve metals RWLs). Additionally, the deadline of 2035 to address effectively prohibited non-stormwater flows is not adequately justified (page 7-14). Alternatively, without additional justification, the final milestone to address all water quality priorities should be set at 2029 to match the final compliance date for bacteria and the Group can propose additional time if needed during the adaptive management process.
Water Body Pollutant Classification		
Section 3.1		For clarity, include a description of the Santa Clara River reaches, tributaries and lakes within the EWMP area, and label these on Figure 1 or include a separate figure that shows these waterbodies relative to the EWMP boundary.
Table 3-2	Part VI.C.5.a.ii.(1) (page 60)	Revise Table 3-2 of the draft EWMP to address the following comments: • Add a footnote to Reach 4B in the list of waterbodies for the Bacteria TMDL to indicate that this reach is located in Ventura County, but considered for the purposes of understanding downstream water quality. • Revise footnote 4 and 5 to specify that the exceedance days apply to daily sampling.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		• Also include interim and final WQBELs for bacteria, based on weekly sampling, as listed in the LA County MS4 Permit, Attachment L Part D.3.a-b (page L-2).
Table 4-4, 4-5 & Appendix A1 Table A1-13		Reach 4B is outside the jurisdictional boundary of the Group and falls in Ventura County. Please clarify in a footnote for Reach 4B in Table 4-4 and 4-5, and Appendix A1 Table A1-13 of the draft EWMP that Reach 4B is located in Ventura County but was considered for the purposes of understanding downstream water quality.
Table 4-4	Part VI.C.5.a.ii.(1) (page 60)	Revise Table 4-4 and Appendix A1 Table A1-13 of the draft EWMP as follows: • For Category 1 pollutants, Reach 7, omit chloride, ammonia, nitrate, and nitrite. • For Category 1 pollutants, Reach 6, omit ammonia, nitrate, and nitrite.
Appendix A1 Table A1-6	Part VI.C.5.a.ii.(1) (page 60)	Revise Appendix A1 Table A1-6 of the draft EWMP as follows: • For Reach 6, omit ammonia, nitrite, and nitrate. • For Reach 7, omit chloride.
Source Assessment		
Appendix A1 Section A1-4.3 & Figure A1-8	Part VI.C.5.a.iii.(1).(b) (page 61)	Appendix A1 Section A1-4.3 of the draft EWMP states that a *"major outfall is defined in Attachment A to the Permit as an outfall that discharges from a pipe with an inside diameter of 36 inches or more."* In addition to the aforementioned definition, Attachment A of the LA County MS4 Permit also states that for MS4s that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), a major outfall is an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more). (40 CFR § 122.26(b)(5)) Please revise Appendix A1 Section A1-4.3 to include the aforementioned definition and include any additional applicable major outfalls to Appendix A1 Figure A1-8.
Section 4.2.2	Part VI.C.5.a.iii.(1).(a).(vii) (page 61)	Section 4.2.2 of the draft EWMP notes that stormwater and non-stormwater discharges have not been well characterized within the watershed and therefore no outfall data were available for water quality characterization. While outside of the EWMP area in LA County, there are MS4 outfall monitoring sites at various locations within the Santa Clara River Watershed, which are monitored under the Ventura County MS4 Permit. The Group should evaluate these data and include them, if reasonably representative of the EWMP area.
Prioritization		
Table ES-1, 4-6, & Appendix A1 Table A1-14	Part VI.C.5.a.iv (page 61-62)	Section 4.5 of the draft EWMP states that *"[c]ategories without recent exceedances and WBPCs located in areas where MS4s are not a source contributing to the exceedances (categories 1D, 1E,*

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		2C, 2D, 3C) are not considered to be priorities for the EWMP." However, the draft EWMP also notes in Section 4.2.2 that stormwater and non-stormwater discharges have not been well characterized within the watershed and therefore, no outfall data were available for water quality characterization. Hence, all category 1 and 2 pollutants should be a priority 1 or 2 pollutant. During the adaptive management process, WBPCs can be re-prioritized based on outfall data obtained from the CIMP. Therefore, please revise the draft EWMP to address the following comments on Table ES-1, 4-6, and Appendix A1 Table A1-14: • Add nitrogen compounds for SCR Reach 5 as Priority 1. • Correct typographical error to omit superscript "(1)". • Substitute "F" with "X". • Make necessary changes to reflect that the Chloride TMDL only applies to Reaches 5 & 6 and not Reach 7. • Lake Elizabeth Trash TMDL is missing. • Please clarify in a footnote that Reach 4B is in Ventura County but was considered for the purposes of understanding the downstream water quality. • Reach 5, priority 2: Only iron is on the current 303(d) list. Therefore, please clarify in a footnote the basis for including copper, mercury, and TDS as priority 2. • Reach 6, priority 2: Only copper and iron are on the current 303(d) list. Therefore, please indicate in a footnote the basis for including mercury, zinc, selenium, and cyanide as category/priority 2. (It appears that, for cyanide, there are sufficient exceedances for potential 303(d) listing per Table A1-9, but this is not true for the other pollutants.) • Reach 6, priority 2: Add Chlorpyrifos, diazinon, and toxicity for consistency with Table A1-8. • Reach 7, priority 2: Please indicate in a footnote the basis for including copper, mercury, and cyanide in priority 2. For additional guidance, please refer to Attachment L of the LA County MS4 Permit. Also note that Santa Clara River reach numbering has changed since the numbering in the 2002 303(d) list where Reach 7 became Reach 5, Reach 8 became Reach 6, and Reach 7 became Reach 9. Attachment L of the LA County MS4 Permit accounts for this (see Attachment L footnote 1).
Minimum Control Measures and Non-Stormwater Discharge Measures		
Table 5-1	Part VI.C.5.b.iv.(1).(a).(v) (page 63)	Indicate which pollutants and pollutant sources will be targeted under the Group's Public Information and Participation Program.
Table 5-1	Part	In Table 5-1 of the draft EWMP under Industrial/Commercial

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
	VI.C.5.b.iv.(1).(a).(ii) (page 63)	Facilities, one of the proposed modifications is as follows: "*Inspection frequencies will be modified based on potential for facility to be a source of pollutants identified as water quality priorities.*" Please clarify how the inspection frequencies will change (e.g., what is the frequency for facilities with a potential to be a source of pollutants identified as water quality priorities versus other facilities which are least likely to be potential sources of pollutants identified as water quality priorities). Also clarify how the determination is made on what facilities will be targeted.
Section 5.3	Part VI.C.5.b.ii.(1) (page 62)	For specificity, please state in Section 5.3 of the draft EWMP that institutional control measures proposed for non-stormwater discharges meet the requirements for these measures as set forth in Part III.A of the LA County MS4 Permit.
Appendix B2	Part VI.C.5.b.iv.(1).(a).(i) (page 63)	Table 5-1 of the draft EWMP states that "*prioritized inspection process will be developed based on the potential for site to be a source of pollutants identified as water quality priorities.*" Therefore, Appendix B2 under the Development Construction section, row 2 and 3 and applicable columns for "Water Quality Priority Pollutants" should indicate (e.g. with an "X") that facilities that are potential sources of water quality priorities identified in the draft EWMP (category 1, 2, and 3 pollutants) will be inspected. Additionally, the table in Appendix B2 under row "Development Construction" and column "Water Quality Priority Pollutants" does not seem to be consistent with Appendix C8. Please ensure that the tables Appendix B2 and Appendix C8 of the EWMP are consistent. Table 5-2 of the draft EWMP states that the SOPs/inspection checklist will be developed/modified "*to explicitly address watershed priorities and associated sources*". Therefore, Appendix B2 under Development Construction, row titled "Develop/implement SOPs/inspection checklist" should indicate (e.g. with an "X") the water quality priorities identified in the draft EWMP (category 1, 2, and 3 pollutants).
Selection of Watershed Control Measures		
Executive Summary		The Executive Summary identifies two overarching categories of BMPs in the EWMP, and describes Structural BMPs as those that divert or treat stormwater and non-stormwater. Please clarify that these Structural BMPs may ***retain***, divert or treat stormwater and non-stormwater. Align with Section 5.1 of draft EWMP.
Tables 6-4 & 7-5, Appendix D1 Tables D1-1 to D1-14		Provide clarification on the relationship between the Exceedance Volumes in Table 6-4 and the Control Measure Capacities in Table 7-5 and Appendix D1 Tables D1-1 to D1-14.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
Section 7.3.1 & Table 7-5	Part VI.C.5.b.iv.(4).(d) (page 64)	Section 7.3.1 and Table 7-5 of the draft EWMP specify that MCMs from the LA County Permit, Enhanced MCMs, non-stormwater control measures, and full capture devices for Lake Elizabeth (by 2016) will be implemented during the current permit cycle by the 2017 milestone. The residential LID program will also begin in 2017. Please address the following comments: • Please include interim milestones for enhanced MCMs. • Please include, in Section 7.3.1 of the draft EWMP, interim milestones within this permit term for planning and design steps for structural projects to be completed in the next permit term. • For the Lake Elizabeth Trash TMDL, please state if interim deadlines/WQBELs (March 6 in 2012, 2013, 2014, and 2015) were met. If interim milestones were not met, please provide the status on the installation of full capture devices.
Enhanced Watershed Management Program Provisions		
Section 8	Part VI.C.1.g.ix (page 50)	Please update Section 8 of the draft EWMP to include any additional sources of funding that were secured for any proposed BMPs (if any are secured prior to the submittal of the revised EWMP).
Table ES-2 & 8-1	Part VI.C.1.g.ix (page 50)	For clarity on how to read and interpret Table ES-1 and Table 8-1 of the draft EWMP, please address the following comments by adding footnotes to the table: • Explain how the bolded numbers are cumulative costs by giving an example (e.g., for City of Santa Clarita, Residential column: $1.3M + 0.9M = $2.2 (2022); $2.2M + 3.1M = $5.3M (2029); $5.3M + $0 = $5.3M (2035)). • Specify that the bolded numbers in the row for 2035 are added to get the total cost per jurisdiction. • Specify that numbers in the last row are sums of the bolded numbers in each column. • Clarify that $623.7M is the total cost.
Appendix C5 Table C5-2	Part VI.C. 4.b.iii.(5), page 56	Appendix C5 Table C5-2 of the draft EWMP gives a completion date of 7/1/15 for trash removal BMPs. Move these BMPs to Table C5-1 as they will be Existing Distributed BMPs upon submission of the revised EWMP. The Group may indicate in the "Comments and Notes" field of Table C5-1 that these BMPs were the Group's Early Action project per the permit provision, Part VI.C.4.b.iii(5).
Reasonable Assurance Analysis (RAA)		
Executive Summary		For clarity, revise the discussion on page ES-4 to state that the purpose of the RAA is to demonstrate that the selected WCMs will result in compliance with applicable ***water quality-based effluent limitations and receiving water limitations*** in Parts V.A and VI.E and Attachment L of the permit.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Please note that if land uses in the portion of the City of Santa Clarita within the Los Angeles River watershed change in the future, including the construction of any MS4 infrastructure, the EWMP must be modified to address MS4 discharges from this area to the LA River, including but not limited to requirements pertaining to MS4 discharges in Attachment O of the LA County MS4 Permit.
Table 6-3	Attachment L Part D (page L-2 to L-3)	Table 6-3, footnote 1, states that "dry weather target based on 30-day geometric mean WQO while wet weather target is based on single sample maximum WQO." Due to the challenges inherent in conducting a RAA under dry weather conditions and for non-stormwater discharges, the simulation of a 30-day critical dry period is an acceptable approach for the dry weather RAA. However, the RAA must acknowledge that Attachment L of the permit includes water quality based effluent limitations and receiving water limitations, applicable in dry weather, that are based on a single sample maximum threshold, as well as the geometric mean limitation.
Table 6-3	Attachment L Part A.2 (page L-1)	For Table 6-3 of the draft EWMP, a footnote should be added to nutrients to acknowledge the existing TMDL indicating a 1-hr average and a 30-day average effluent limitation for ammonia and a 30-day average effluent limitation for nitrite+nitrate.
Table 6-6	Part VI.C.5.b.iv.(5) (page 65)	Table 6-6 of the draft EWMP specifies a runoff volume retention approach for E. coli and non-metals water quality priorities. Please explicitly indicate which non-metals water quality priorities are addressed. Specifically, indicate each category 1 (nitrogen compounds, salts) and category 2 and 3 pollutant that will be addressed by the bacteria control measures. If a non-metal pollutant is not addressed by the bacteria control measures, provide justification for why it does not need to be addressed. For example, if data indicate that MS4 discharges are achieving WQBELs and Receiving Water Limitations for nitrogen compounds and salts, include this finding and support for it in the EWMP.
Section 6 & Appendix C	Part VI.C.5.b.iv.(5) (page 65)	See additional comments in Enclosure 2.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Upper Santa Clara River Watershed Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on Section 6, Reasonable Assurance Analysis (RAA) of the draft Enhanced Watershed Management Program (EWMP) or the Upper Santa Clara River Watershed dated June 2015.

1. The EWMP separately defines critical conditions for the two limiting pollutants, bacteria and zinc. For zinc and other metals, the critical condition is defined as the 90th percentile Exceedance Volume (EV) as explained in Section 6.2.3.1. Board staff understands that this "EV" approach provides assurance that the receiving water limitations (RWLs) will be met instream. Please also provide a comparison of the EV by subbasin with the 90th percentile of pollutant (zinc) load to account for conditions in which flow may be high but concentration may not exceed the RWL.

2. Please provide the model results for the baseline condition in terms of runoff volume, pollutant concentration and pollutant loading, as well as the estimated allowable loads and required load reductions, based on the 90th percentile critical condition of runoff volume and pollutant concentration, for each modeled subbasin for each pollutant modeled.

3. In the report, a summary statistic of percent reduction is provided, however some numbers to arrive at calculating the percentage are missing. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the effectiveness of the proposed BMPs that would achieve the required reductions as described in Sections 6 and presented in Table 6-6. As such, the detailed reasonable assurance analysis (RAA) for the proposed BMPs specifically for analysis regions South Fork SCR, SCR at County Line, Bouquet Creek, Mint Canyon and Castaic Creek in terms of influent volume and concentration, treated volume and concentration, and effluent volume and concentration through BMPs should be provided in the EWMP report to demonstrate the BMP effectiveness as indicated in Table C4-7 and Table C8-1 and C8-2 and the compliance with final water quality limits.

4. Finally, please provide an example validation for a representative waterbody within the USCR or in another EWMP area that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, will result in achieving the RWLs.

October 29, 2015

Permittees of the Rio Hondo / San Gabriel River Water Quality Group[1]
(See Distribution List)

REVIEW OF THE RIO HONDO / SAN GABRIEL RIVER WATER QUALITY GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Rio Hondo / San Gabriel River Water Quality Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 29, 2015 by the Rio Hondo / San Gabriel River Water Quality Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Rio Hondo / San Gabriel River Water Quality Group EWMP include Cities of Arcadia, Azusa, Bradbury, Duarte, Monrovia, Sierra Madre, the County of Los Angeles, and the Los Angeles County Flood Control District (LACFCD).

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 29, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received 2 letters that contained comments specific to the Group's draft EWMP. These letters were from NRDC/HTB/LAWK and CICWQ. On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than January 29, 2016.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Rio Hondo / San Gabriel River Water Quality Group EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Deborah.Brandes@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water

quality-based effluent limitations (WQBELs) in Part VI.E and Attachment L pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with interim and final trash WQBELs and all other final WQBELs and receiving water limitations pursuant to Part VI.E and set forth in Attachments O and P by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Mrs. Deborah Brandes of the Storm Water Permitting Unit by electronic mail at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 576-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Rio Hondo / San Gabriel River Water Quality Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Rio Hondo/San Gabriel River Water Quality Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
		The draft EWMP does not consider the Indicator Bacteria in the San Gabriel River, Estuary, and Tributaries TMDL (San Gabriel River Bacteria TMDL) in Basin Plan Amendment Resolution No. R15-005 Attachment A (adopted by the Regional Board on June 10, 2015) which is anticipated to be effective by the next permit cycle (assuming a TMDL effective date of early to mid-2016). Revise the draft EWMP to reference the San Gabriel River Bacteria TMDL, which addresses bacteria impairment in Big Dalton Wash among other waterbodies in the SGR Watershed. For reference, see Basin Plan Amendment Table 7-41.2 footnote 5 and the staff report page 21, 31, and 35.
Figures 4-14 & 4-15, Pages 135-136		Present cumulative values of rainfall and runoff related to the graphs in Figures 4-14 and 4-15 (i.e., the 24-hour storm event size for LAR and SGR, respectively).
Section 1.6		Revise Section 1.6 as the petitions (SWRCB/OCC File Nos. A2236) were resolved by the State Board on June 16, 2015 through its Order WQ 2015-0075. Delete all but the last sentence of the "reservation" included as a contingency in the EWMP while that petition process was underway.
Figure 2-1, page 22	Part VI.C.5.a.iii.(1)(b)	Include MS4 outfall locations on (a) map(s). (Monitoring sites are shown on Figure 2-1, page 22. Planned regional BMPs are seen on page 60. Planned distributed BMPs are on page 62. Potential project sites are on pages 64-65.)
Page 37		The EWMP states that, "Opportunities to implement sediment control BMPs will determine whether it is practicable to achieve the numeric sediment-borne WQOs." Delete or modify this statement such that the Group commits to implement sediment control BMPs, or use alternative approaches as determined through its adaptive management process, to control discharges of bis (2-ethylhexyl) phthalate from the Permittees' MS4s that could cause or contribute to exceedances of Receiving Water Limitations.
Page 38	Parts VI.C.6.a and VI.C.8.a.ii-iii	Modify the following statement in the EWMP as follows, "The schedule identified in this EWMP ~~remains tentative and~~is subject to change based on changing data, information, legislation, law, and fiscal priorities through the adaptive management process. Any schedule modifications will be consistent with TMDL related

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		compliance schedules and will be submitted to the Regional Board for review and approval per the requirements of the LA County MS4 Permit."
Page 46		The information in the draft EWMP regarding existing institutional BMPs is lacking in detail. The EWMP must be revised to include more details on the existing MCMs/Institutional BMPs, including the scope of implementation (i.e., which Permittees are implementing each measure in Section 3.1.1) and a description adequate to understand the linkage between the BMP and water quality (e.g., "scheduling," "water trucks," etc.).
Water Quality Characterization		
Table 2-2, Page 23		Include a commitment to update the water quality characterization as more water quality data become available through the CIMP for waterbodies such as Little Santa Anita Canyon Creek/Santa Anita Wash, Monrovia Canyon Wash, Sawpit Wash, and Little Dalton Wash.
Water Body Pollutant Classification		
Section 2.2	Part VI.C.5.a.ii	The EWMP does not identify Category 3 pollutants. However, Table D-1 indicates that there are some pollutants that have exceeded water quality objectives in the past 5 years, but for which a TMDL has not be established. Include these pollutants as Category 3 pollutants in the EWMP, or provide an explanation for excluding these pollutants. See also Enclosure 2.
Table 2-5	Part VI.C.5.a.ii (page 60)	Revise Table 2-5 and other applicable sections of the draft EWMP, including corresponding tables in Attachment C, to address the following comments: • Add a note to the table to acknowledge that although the City of Azusa is in the Santa Fe Dam Park Lake subwatershed, the USEPA Los Angeles Area Lakes TMDL for Nitrogen, Phosphorous, Mercury, Trash, Organochlorine Pesticides, and PCBs (Los Angeles Area Lakes TMDL) states that there are no MS4 discharges to Santa Fe Dam Park Lake (p. 11-16 of Los Angeles Area Lakes TMDL). • Add a note to Monrovia Wash to acknowledge that Monrovia Canyon Creek is 303(d) listed for lead. However, the Los Angeles River and Tributaries Metals TMDL (Basin Plan Amendment Resolution No. R10-003 Attachment A) only assigns a dry-weather load allocation for nonpoint sources and therefore, no WLA is assigned for MS4 sources. • Category 1A, Nutrients: Add Nitrate+Nitrite and denote with "(F)" for Rio Hondo Reach 3, Monrovia Wash, and Sawpit Wash. • Category 1A, 1B: Omit rows for Copper (dry), Lead (dry), and Zinc (dry).

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		• Category 1A, Copper (wet), Peck Road Park Lake: Add a note stating that as per the USEPA Los Angeles Area Lakes TMDL (page 4-1 and 4-22), lead is currently meeting numeric targets for water and sediment (wet and dry weather) and therefore, no WLA was assigned. • Category 1A (Nutrients, Metals, Trash) and Category 1B (Metals and Bacteria): Add a note stating that MS4 discharges from Sawpit Wash, Santa Anita Wash, and direct MS4 discharges to Peck Road Park Lake are subject to the Los Angeles River and Tributaries Metals TMDL (LA River Metals TMDL) and the Los Angeles River Watershed Bacteria TMDL (LA River Bacteria TMDL). • Category 2C: Include bacteria (E. coli) for Big Dalton Wash per the finding in the SGR Bacteria TMDL (June 2015) that Big Dalton Wash is impaired by indicator bacteria. • Add Category 3 pollutants as appropriate based on Appendix D receiving water analysis.
Source Assessment		
Section 2.3	Part VI.C.5.a.iii	The EWMP must be revised to include all relevant findings regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters from all of the following programs: • Permittee(s)' IC/IDE programs • Industrial/Commercial Facilities Pollutant Control programs • Development Construction programs, and • Public Agency Activities programs.
Table 2-6, Page 29	Part VI.C.5.a.iii.(1)(a)(v)	Include all details from applicable TMDL source investigations regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters, including from the recently adopted SGR Bacteria TMDL (June 2015).
Section 2.3	Part VI.C.5.a.iii.(1)(a)(vi)	Review all TMDL Staff Reports, TMDL Implementation Plan(s) and supporting documents, if developed (see TMDL Reporting Requirements in Attachment E, Part XIX, pages E-45 to E-62); and other watershed management plans to determine if there are any watershed model results. If watershed model results exist, include them in the revised EWMP.
Table 2-8, Page 29	Part VI.C.5.a.iii.(1)(a)(vii)	Include all details from Permittee(s)' monitoring programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters.
Table 2-8 & Section 2.3.3	Part VI.C.5.a.iii (pages 60-61)	Add Big Dalton Wash for bacteria as a category 2 pollutant in Table 2-8 of the draft EWMP as per the Indicator Bacteria in the San Gabriel River, Estuary, and Tributaries TMDL (San Gabriel River

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Bacteria TMDL) in Basin Plan Amendment Resolution No. R15-005 Attachment A (adopted by the Regional Board on June 10, 2015) which is anticipated to be effective by the next permit cycle. Additionally, add a discussion on bacteria in Section 2.3.3 referencing the SGR Bacteria TMDL (Table 7-41.2 footnote 5) and the staff report (p. 21, 31, and 35). Revise other applicable EWMP sections accordingly.
Table 2-8 & Section 2.3.3	Part VI.C.5.a.iii (pages 60-61)	Table 2-8 of the draft EWMP lists Peck Road Park Lake for Bacteria as a Category 1 pollutant rated high for MS4 linkage. Add a footnote clarifying that Peck Road Park Lake does not have a TMDL or 303(d) listing for bacteria but was categorized as a Category 1 pollutant based on source assessment. Revise other applicable EWMP sections accordingly.
Table 2-8 & Section 2.3.3	Part VI.C.5.a.iii (pages 60-61)	Table 2-5 of the draft EWMP lists San Dimas Wash and Big Dalton Wash for lead as a Category 1 pollutant as per the Los Angeles River and Tributaries Metals TMDL (LA River Metals TMDL). Explain in Section 2.3.3 why Table 2-8 does not include San Dimas Wash and Big Dalton Wash as a Category 1 pollutant for lead (i.e., no exceedances based on data). Add San Dimas Wash and Big Dalton Wash in Table 2-8 of the draft EWMP for category 1 pollutant lead, unless there justification is provided for not adding these waterbodies Revise other sections of the EWMP accordingly.
Table 2-8 & Section 2.3.3	Part VI.C.5.a.iii (pages 60-61)	Explain in Section 2.3.3 of the draft EWMP if there are any MS4 sources or significant exceedances based on data for cadmium, copper, and zinc in Peck Road Park Lake. If so, add to Table 2-8 of the draft EWMP for the aforementioned metals as a Category 3 pollutant or a Category 2 pollutant if it meets 303(d) listing criteria. Revise other applicable sections of the EWMP accordingly.
Selection of Watershed Control Measures		
Page 59	Part VI.C. 1.g.iv	The EMWP should be revised to clarify the difference between the list of Regional BMP projects on page 59 and that in Table 3-23 on page 102 of the EWMP. "The following four projects exhibited the greatest potential of the planned regional BMP projects to possibly satisfy the regional EWMP project criteria. Some of these project sites were evaluated as part of the regional project screening further detailed in Section 3.2.4." • Buena Vista Wetlands • Hugo Reid Park Infiltration Basin Project • Monrovia Station Square Project • Whittier Narrows Park Project (EWMP, page 59) Identify which of these four projects were evaluated as part of the regional project screening in Section 3.2.4, and provide the results of the screening. For projects that were not evaluated as part of

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		the regional project screening, provide an explanation for why they were not.
Section 3		Provide a detailed description on each of the selected Regional EWMP projects, describing the BMP in more detail. This should be done in either Section 3 or in a new Attachment. (Attachment E has a good academic discussion of various types of BMPs, however there is not a good description of each of the Regional EWMP projects that were on the final list of 10 EWMP Regional projects.)
Table 3-1; Section 3.1.3, Page 49	Part VI.C.5.b.ii.(1), page 62	Revise the EWMP to more clearly address non-stormwater. There is an assumption made by the EWMP that the control measures for addressing stormwater will also apply to non-stormwater.
Section 3	Part VI.C.5.b.iv.(3), page 64	Include (or provide an explanation for not including) control measures identified in the Implementation Plan(s) submitted by Permittees subject to the LA River Metals TMDL. Acknowledge the upcoming submittal of dry weather bacteria LRS for segment B tributaries of the Los Angeles River.
Tables 3-6 and 3-7, Pages 78-79	Part VI.C.5.b.iv.(4)(a), page 64]	The EWMP must be revised to specify which of the regional projects in Tables 3-6 and 3-7 will be implemented, justify why others will not be implemented, and clarify that in the body of the EWMP in section 3.2.4 and elsewhere, as appropriate.
Table 1-6	Part VI.C.5.c (page 66)	Revise Table 1-6 of the draft EWMP to omit the row for SGR Metals and LAR Metals in dry weather. Also revise other applicable sections of the EWMP accordingly.
Table 1-6		Add a footnote to Table 1-6 of the draft EWMP to reference Attachment D "Key findings related to the Los Angeles River Nitrogen TMDL" of the draft EWMP.
Table 2-9 & Table 2-12	Part VI.C.5.c (page 66) & Part VI.E.3 (pages 148-149)	Table 2-9 of the draft EWMP indicates that Peck Road Park Lake nutrients (total nitrogen and total phosphorus) are categorized with the Harbor Toxics TMDL "scheduling class." Note that Peck Road Park Lake drains to Rio Hondo Reach 3 which is subject to the Los Angeles River Nitrogen Compounds and Related Effects TMDL (LA River Nutrients TMDL). The LA River Nutrients TMDL requires compliance as of the effective date of the LA County MS4 Permit. Therefore, revise Table 2-9 to substitute "Harbor Toxics TMDL" with "LA River Nutrients TMDL" (or another Lakes TMDL for nutrients) as the scheduling class for Peck Road Park Lake total Nitrogen and total Phosphorus. Table 2-12 proposes March 23, 2032 as a milestone for the USEPA Peck Road Park Lake Nutrients TMDL. The Group must propose a final deadline that is as short as possible taking into account the time since USEPA established the TMDL and the technological, operation, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the WLAs. If the requested time

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		schedule exceeds one year, the proposed schedule shall include interim requirements with numeric milestones and dates for final compliance. If any changes are made to the proposed milestones for Peck Road Park Lake Nutrients, revise applicable sections of the EWMP accordingly, including Section 2.5.2.1 and Tables 2-11 and 2-12, among others. See Enclosure 2 for additional comments.
Enhanced Watershed Management Program Provisions		
Page 149		Specify how funds will be used most effectively (through the analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance). This could include alignment with CIPs, IRWMP projects, planned park improvements, etc.
Page xviii		The EWMP must be revised to include non-structural control measure costs. These costs do not seem to be in included in Section 6 Control Measure Implementation Cost. The EWMP states that: "There is not a significant cost increase associated with non-structural control measure implementation; therefore, costs focus on the regional and distributed BMPs." To the extent that these costs will remain constant from the previous iteration of the permit, provide the expenditures by each Permittee specific to MS4 permit implementation (excluding EWMP and CIMP development).
Section 3.4.2	Part VI.C.5.b.iv.(4)(e), page 65	Provide a table listing the responsible Permittee for each Regional EWMP Project. (Figure 3-33 only identifies the location of each Regional EWMP Project).
Section 5		The EWMP must provide a clear connection between the implementation schedules in Section 5 and the applicable TMDL compliance schedules.
Section 6.5		Update Table 6-7 to include available funds from Prop 1 for stormwater grants and IRWM projects.
Section 6.5		Identify specific sources of funds that are available or will be pursued for near term (at least through 2017) BMP implementation.
Page 159	Part VI.C.8, pages 68-70	Section 7 of the EWMP states that, "an addendum or amendment will be required for the EWMP two years after the Regional Board Executive Officer approval and every two years thereafter..." Revisions can be included in an addendum or amendment, but the entire EWMP must be assessed and revised as necessary every two years as part of the Adaptive Management Process.
Figure 7-1, Page 160	Part VI.C.8, pages 68-70	The steps outlined in Figure 7-1 do not appear to follow a logical sequential order. Reconsider the steps and revise the figure for greater clarity.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Rio Hondo/San Gabriel River Water Quality Group
Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on Section 4, Reasonable Assurance Analysis (RAA) of the draft Enhanced Watershed Management Program (EWMP) for the Rio Hondo/San Gabriel River Water Quality Group dated June 2015.

General comments on the RAA section of the draft EWMP report:

1. Table 2-5 on pages 27-28 of the EWMP did not classify water body-pollutant combinations for all creeks and tributaries of the Los Angeles River and San Gabriel River within the EWMP area, including Little Santa Anita Canyon Creek, Santa Anita Wash, and Little Dalton Wash. The EWMP must either be revised to include water body-pollutant classification for these waterbodies and associated planned/proposed BMPs accordingly, or the Group must provide a commitment to update the water quality characterization as more water quality data become available through the CIMP for these waterbodies.

2. The Regional Board adopted the San Gabriel River, Estuary and Tributaries Indicator Bacteria, Resolution No. R15-005 on June 10, 2015. The EWMP should be revised to address bacteria in Big Dalton Wash, which was identified as impaired in the TMDL, including proposed watershed control measures, interim and final milestones and dates for their achievement and reasonable assurance analysis.

3. Section 2.1.1 provides a summary of key findings from receiving water data analysis. There are exceedances in Rio Hondo Reach 3 for Benzo(k)Fluoranthene, Bis(2-Ethylhexyl) Phthalate, Diazinon, Dibenzo(a,h)Anthracene, Dissolved Oxygen, pH, and Indeno(1,2,3-cd)Pyrene (Table 2-3 on pages 24-25; Appendix D). Revised the EWMP to include these water body-pollutant combinations as Category 3 pollutants, or provide an explanation for each regarding why they are not addressed by the EWMP.

4. EWMP proposes that Peck Road Park Lake Nitrogen, Phosphorus, Mercury, Organochlorine Pesticides and PCBs TMDLs milestone schedule follow that of the Harbor Toxics TMDL with the rationale that control measures to reduce toxics should also significantly reduce the concentration of nutrients (Section 2.5.2.1 on pages 35-36). The scale of measures to control and reduce nutrients, metals, and toxic pollutant discharged to a lake system are significantly different than those control measures anticipated for the Greater Los Angeles and Long Beach Harbors. Therefore, the

selection of an implementation schedule based on the implementation schedule for the Dominguez Channel and Greater Los Angeles and Long Beach Waters Toxic Pollutants TMDL is not supportable. Revise the schedules proposed for Peck Road Park Lake in consideration of the nutrient and toxic pollutants TMDLs for lake systems adopted by the Regional Board such as the Machado Lake TMDLs that have suitable control measures and implementation schedules.

RAA Modeling comments:

1. In addition to linear bias statistics presented in Tables 4-2, 4-4, 4-8,4-10, 4-13, provide additional explanation and interpretation of the root mean square and coefficient of correlation statistics in these tables, and any differences in the conclusions that can been drawn regarding the hydrology and water quality calibrations based on the three statistics. In addition, the coefficients of correlation between modeled and observed values as shown in Table 4-8, Table 4-10, Table 4-13 of the EWMP report respectively for copper, lead, zinc, fecal coliform, total nitrogen, and total phosphorus are low values for coefficients of correlation. Provide an explanation for these low values. Further, data needed to improve model calibration for these constituents should be identified along with a commitment to collect the necessary data and refine the model calibration through the adaptive management process.

2. The model results of the baseline critical condition in terms of runoff volume, pollutant concentration, and pollutant loading are provided in Table 4-14, Table 4-15, Table 4-17 and Table 4-18. However, the duration curves or frequency curves of runoff volume, pollutant concentration and pollutant loading for the baseline condition at each analysis region for each pollutant of concern should be presented as well to demonstrate that the model results of baseline condition are based on the 90^{th} percentile critical condition.

3. The estimated allowable loads and required load reductions the LAR and SGR watershed areas appear to be provided in Table 4-14 and 4-15 to demonstrate that the estimated allowable loads and load reductions are obtained from the 90^{th} percentile critical condition of runoff volume and allowable pollutant concentration. It is recommended that the allowable loads and required load reductions are provided in the same duration curves for baseline condition to demonstrate that the estimated allowable loads and load reductions meet the 90^{th} percentile critical condition.

4. In the report, summary statistics of load reduction and percent reduction for different control measures are provided as shown in Table 4-23 and Table 4-24, however some numbers to arrive at the modeled values of load reduction and percentage are not clearly identifiable. Provide the RAA results for the proposed control measures and potential BMPs to demonstrate the effectiveness of the proposed BMPs that would achieve the required pollutant load reductions and load reduction goals in terms of 1) influent volume, concentration and load; 2) treated volume, concentration and load; and 3) effluent volume, concentration and load through the system of BMPs at the downstream point of BMP systems to demonstrate the effectiveness of the proposed BMPs.

Finally, provide an example validation for a representative waterbody within the Rio Hondo / San Gabriel River Watershed Management Area, or in another EWMP area where the same RAA approach is used, that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, will result in achieving the RWLs.

October 16, 2015

Permittees of the Upper San Gabriel River EWMP Group[1]
(See Distribution List)

REVIEW OF THE UPPER SAN GABRIEL RIVER EWMP GROUP'S DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Upper San Gabriel River EWMP Group:

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board or Board) has reviewed the draft Enhanced Watershed Management Program (EWMP) submitted on June 25, 2015 and the Addendum submitted on August 31, 2015 by the Upper San Gabriel River EWMP Group (Group). This program was submitted pursuant to the provisions of NPDES Permit No. CAS004001 (Order No. R4-2012-0175), which authorizes discharges from the municipal separate storm sewer system (MS4) operated by 86 municipal Permittees within Los Angeles County (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop an EWMP to implement the requirements of the Los Angeles County MS4 Permit on a watershed scale through customized strategies, control measures, and Best Management Practices (BMPs). Participation in an EWMP is voluntary.

The purpose of an EWMP is for Permittees to develop and implement a comprehensive and customized program to control pollutants in MS4 discharges of stormwater and non-stormwater to address the highest water quality priorities. These include complying with the required water quality outcomes of Part V.A (Receiving Water Limitations) and Part VI.E and Attachments L through R (Total Maximum Daily Load (TMDL) Provisions) of the LA County MS4 Permit. Additionally, an EWMP comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area (within the Watershed Management Area), for collaboration among Permittees and other partners on multi-benefit regional projects that, wherever feasible, retain all non-storm water runoff and all storm water runoff from the 85th percentile, 24-hour storm event for the drainage areas tributary to the projects, while also achieving other benefits including flood control and water supply.

[1] Permittees of the Upper San Gabriel River Group EWMP include the County of Los Angeles, and Los Angeles County Flood Control District, and the Cities of Baldwin Park, Covina, Glendora, Industry, La Puente, and West Covina.

If Permittees opt to develop an EWMP, the EWMP must meet all requirements of Part VI.C (Watershed Management Programs) of the LA County MS4 Permit. This in part, requires Permittees to include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final WQBELs set forth in Part VI.E and do not cause or contribute to exceedances of receiving water limitations. An EWMP must be approved by the Los Angeles Water Board, or by its Executive Officer on behalf of the Board.

As stated above, on June 25, 2015, the Group submitted a draft Enhanced Watershed Management Program (EWMP) for their entire jurisdiction to the Los Angeles Water Board pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit.

Public Review and Comment

On July 1, 2015, the Board provided public notice and a 61-day period to allow for public review and comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received two letters that contained comments specific to the Group's draft EWMP. One joint letter was from the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper and the other letter was from Construction Industry Coalition on Water Quality (CICWQ). On July 9, 2015, the Board held a workshop at its regularly scheduled Board Meeting on the draft EWMPs. On September 03, 2015, the Board provided public notice and a 32-day period to allow for public review and comment on the revisions to the draft EWMP pertaining to the addition of the jurisdictional area of the City of West Covina (mainly appendix E). The Board received one joint letter from Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper. During the review of the draft EWMPs, the Los Angeles Water Board considered those comments applicable to the Group's draft EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. During its review, staff of the Los Angeles Water Board had a meeting on October 06, 2015, telephone exchanges, and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP.

The Los Angeles Water Board has reviewed the draft EWMP and has determined that, for the most part, the draft EWMP includes the elements and analysis required in Part VI.C of the LA County MS4 Permit. However, some revisions to the Group's draft EWMP are necessary. The Los Angeles Water Board's comments on the draft EWMP, including detailed information concerning revisions to the RAA, are found in Enclosure 1 and Enclosure 2, respectively. The LA County MS4 Permit includes a process through which necessary revisions to the draft EWMP can be made (Part VI.C.4 in the LA County MS4 Permit). The process requires that a final EWMP, revised to address Los Angeles Water Board comments identified in the enclosures, must be submitted to the Los Angeles Water Board not later than three months after comments are received by the Permittees on the draft program. Please make the necessary

revision to the draft EWMP as identified in the enclosures to this letter and submit the revised EWMP as soon as possible and no later than **January 14, 2015**.

The revised EWMP must be submitted to losangeles@waterboards.ca.gov with the subject line "LA County MS4 Permit – Revised Upper San Gabriel River EWMP" with a copy to Ivar.Ridgeway@waterboards.ca.gov and Erum.Razzak@waterboards.ca.gov.

If the necessary revisions are not made and the Group does not ultimately receive approval of its EWMP within 40 months of the effective date of the LA County MS4 Permit, the Group will be subject to the baseline requirements in Part VI.D and shall demonstrate compliance with receiving water limitations pursuant to Part V.A and with applicable interim and final water quality-based effluent limitations (WQBELs) in Part VI.E and Attachment P pursuant to subparts VI.E.2.d.i.(1)-(3) and VI.E.2.e.i.(1)-(3), respectively.

Until the draft EWMP is approved, the Group is required to:

(a) Continue to implement all watershed control measures in its existing storm water management programs, including actions within each of the six categories of minimum control measures consistent with Title 40, Code of Federal Regulations, section 122.26(d)(2)(iv).
(b) Continue to implement watershed control measures to eliminate non-storm water discharges through the MS4 that are a source of pollutants to receiving waters consistent with Clean Water Act section 402(p)(3)(B)(ii);
(c) Target implementation of watershed control measures in (a) and (b) above to address known contributions of pollutants from MS4 discharges to receiving waters; and
(d) Where possible, implement watershed control measures, from existing TMDL implementation plans, to ensure that MS4 discharges achieve compliance with final WQBELs and receiving water limitations pursuant to Part VI.E. and set forth in Attachment P by the applicable compliance deadlines occurring prior to approval of an EWMP.

If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit by electronic mail at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,

Samuel Unger

Samuel Unger, P.E.
Executive Officer

Enclosures: Upper San Gabriel River EWMP Group Distribution List
Enclosure 1 – Comments and Necessary Revisions to Draft EWMP
Enclosure 2 – Comments on the Reasonable Assurance Analysis

Enclosure 1 – Summary of Comments and Necessary Revisions to Draft EWMP

Upper San Gabriel River EWMP Group

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
General		
Executive Summary		The Executive Summary of the draft EWMP states "*The USGR EWMP highlights 10 multi-benefit regional projects, some of which will retain the stormwater volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the multi-benefit regional projects.*" As per Appendix B-1 and Appendix E of the draft EWMP, there are a total of 11 multi-benefit regional projects, including Cortez Park in West Covina, and all proposed regional projects appear to be designed to retain the stormwater volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the projects. Revise the Executive Summary accordingly.
Section 3.2.1.2		Section 3.2.1.2 of the draft EWMP states that "*based on the extensive initial screening process and through coordination with the Group Members, 10 "signature" or example regional EWMP project sites were selected for conceptual design and inclusion in the EWMP plan.*" The phrase "*example regional EWMP project sites*" is used throughout the draft EWMP. Clarify the usage of the word "example" (i.e., either the proposed project will be implemented, or may be substituted with an equivalent multi-benefit regional project capable of retaining the specified water quality design volume within the same sub-basin and/or jurisdiction).
Appendix C-3 Section C-3.1		Appendix C-3 Section C-3.1 of the draft EWMP states that "*Appendix C-6 lists the identified projects as presented in the Work Plan.*" However, the EWMP Work Plan submitted to the Regional Board in June 2014 does not list any of the projects listed in Appendix C-6 of the draft EWMP. In the aforementioned sentence, substitute "as presented in the Work Plan" with "through data request" or alternatively, clarify what Work Plan is being referred to. Additionally, clarify in the notes section of Appendix C-6 what IRWMP is an abbreviation for.
Appendix C-6 Table C-6-2		The following projects listed in Appendix C-6 Table C-6-2 of the draft EWMP lists service start dates indicating that BMPs are already in place and therefore should be moved to Appendix C-6

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Table C-6-1 of the draft EWMP where the existing regional BMPs are listed: • Walnut Creek Spreading Basin Pump Station Project (1/17/14) • Big Dalton spreading grounds improvements (1/1/15) • Live Oak spreading ground improvements (8/23/13)
Appendix C-6 Table C-6-4		The Avocado Heights Multi-Use Trail listed in Appendix C-6 Table C-6-4 of the draft EWMP should be moved to Appendix C-6 Table C-6-3 of the draft EWMP which is the table that lists existing distributed BMPs.
Water Quality Characterization		
Section 2.6.2	Part VI.C.5.a.i (page 60)	The draft EWMP shall consider data collected during development of the SGR Bacteria TMDL. Revise the water quality characterization accordingly.
Water Body Pollutant Classification		
	Part VI.C.5.a.ii (page 60)	The draft EWMP shall clearly specify all applicable interim and final numeric WQBELs (for both dry weather and wet weather, where applicable) for Category 1 water body-pollutant combinations (WBPCs). Additionally, the draft EWMP shall also specify all applicable receiving water limitations for Category 2 and 3 WBPCs. Revise the draft EWMP accordingly.
Executive Summary		In the draft EWMP under Executive Summary, Identification of Water Quality Priorities, make the following changes to maintain consistency with Table 2-2: • Under Category 2: move MBAS, sulfate, chloride, and alpha-endosulfan to Category 3 • Under Category 2: add benthic-macroinvertebrates, DO, and pH • Under Category 3: add TDS and cyanide
Table 2-2		Add a footnote to Table 2-2 of the draft EWMP clarifying that as per the San Gabriel River Impaired Tributaries Metals and Selenium TMDL (SGR Metals TMDL), San Gabriel Reaches 4 and 5, Thompsons Wash, Big Dalton Wash, Little Dalton Wash, and San Dimas Wash, which are not impaired waterbodies on the 303(d) list, are subject to the wet weather Waste Load Allocation (WLA) for Lead.
Source Assessment		
Section 2.6	Part VI.C.5.a.iii.(1).(a) (page 60-61)	Specify in Section 2.6 of the draft EWMP if a review of the following data was completed: • Findings from the Permittees' Illicit Connections and Illicit Discharge Elimination programs, Industrial/Commercial Facilities programs, Development Construction programs, and Public Agency Activities programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		receiving waters and any other stressors related to MS4 discharges causing or contributing to the water quality priorities. • Data and conclusions from watershed model results regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters. • Data and conclusions from Permittee(s)' monitoring programs regarding known and suspected stormwater and non-stormwater pollutant sources in discharges to the MS4 and from the MS4 to receiving waters.
Section 2.6	Part VI.C.5.a.iii.(1) (page 60-61)	Although Section 2.6 of the draft EWMP discusses some sources of water quality issues in general, findings should be specific to the San Gabriel River Watershed where possible. Additionally, elaborate further on sources of each water quality priority identified in the draft EWMP. The EWMP shall consider source investigations from the USEPA LA Area Lakes TMDL for Puddingstone Reservoir and from the recently adopted SGR Bacteria TMDL in Section 2.6.2 of the draft EWMP. Revise the draft EWMP accordingly.
Selection of Watershed Control Measures		
Section 2.4, 5.3, & Table 2-4	Part VI.C.5.b.iv.(4).(d) (page 64)	Section 2.4 and 5.3 of the draft EWMP discusses how the proposed bacteria compliance schedule for the San Gabriel River Watershed was developed using a similar schedule to the LA River Bacteria TMDL. The Group shall consider the Indicator Bacteria in the San Gabriel River, Estuary, and Tributaries TMDL (SGR Bacteria TMDL) in Basin Plan Amendment Resolution No. R15-005 Attachment A (adopted by the Regional Board on June 10, 2015) which is anticipated to be effective by the next permit cycle. Note that the aforementioned SGR Bacteria TMDL establishes a 20-year implementation schedule, which corresponds to a final compliance deadline of 2036 (assuming a TMDL effective date of early to mid-2016) rather than 2040 as proposed in Table 2-4 of the draft EWMP. The EWMP shall use the upcoming SGR Bacteria TMDL compliance schedule or, include more information to support the proposed final milestone of 2040 (e.g., economic/ technological justification, specific set of BMPs proposed to address metals, etc.) and to provide clarity regarding the scope of the deadline. Without additional justification, the final milestone to address all water quality priorities must be set at 2036 to match the anticipated final compliance date for bacteria.
Section 3.2.3		Section 3.2.3 of the draft EWMP for redevelopment LID states the

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		following: "*For the RAA, the LID BMPs are designed to capture the 85th percentile storm from the parcels on which they are located.*" Note that a redevelopment project requires 50% or more of the site to be redeveloped. If less than 50% of the site is redeveloped, only the redeveloped portion of the site has to retain the 85th percentile storm. The Group should consider the use of the term "significantly redeveloped site" and also discuss whether this consideration changes its RAA.
Section 3.3.1	Part VI.C.5.b.iv.(1).(a) (page 63)	Section 3.3.1 of the draft EWMP does not appear to propose any modifications to the Development Construction Program, Industrial/Commercial Facilities Program, Illicit Connection and Illicit Discharges Detection and Elimination Program, Public Agency Activities Program, and Public Information and Participation Program. Hence, Section 3.3.1 must explicitly state and clarify that no modifications and only enhancements are proposed for the aforementioned programs and therefore, the standard permit provisions (Parts VI.D.4 through VI.D.10) will be implemented.
Table 3-6	Part VI.D.6 (pages 91-97)	Table 3-6 of the draft EWMP lists enhanced MCMs proposed by the Group members. The table under City of Glendora states the following "*Provide educational material while performing Industrial/Commercial Inspections, post materials on city website and provide to the Industry Manufacturing Council.*" Please elaborate on how educational materials will be provided to the Industry Manufacturing Council in an effective manner. Clarify how the on-site distribution of educational materials during inspections is an enhancement over the Permit requirements for distributing educational materials. Furthermore, the table under City of Industry states the following "*Track facilities with Industrial Permits or No Exposure Certifications (NEC) on an annual basis.*" However, as per Part VI.D.6.e.ii-iii of the LA County MS4 Permit, the Group shall update its inventory of critical sources (including facilities with Industrial Permits or NECs) at least annually. Therefore, omit the aforementioned enhanced MCM because it is already a permit requirement and not an enhancement.
Section 2.3.3	Part VI.E.3 (pages 148-149)	Table 2-3 of the draft EWMP, for Puddingstone Reservoir, states the following: "*USEPA TMDLs, which do not contain interim milestones or implementation schedule. The Permit (Part VI.E.3.c, pg. 145 – RWQCB, 2012) allows MS4 Permittees to propose a schedule in the EWMP.*" Table 2-4 of the draft EWMP indicates that the Harbor Toxics TMDL was used to determine a milestone achieving Puddingstone Reservoir TMDLs. Based on discussions with the Group, it seems the proposed deadline of 2032 is based on the scheduling of remedial actions for internal lake storage of legacy pollutants including chlordane, DDT, dieldrin, and PCBs.

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		Revise the EWMP to include interim and final compliance deadlines for contemporaneous loading of these and other pollutants including nutrients and mercury via the MS4 in the northern drainage area to the reservoir. Based on the TMDL source analysis and considering the geographic scope of the drainage area to be addressed, propose a shorter timeframe to address MS4 loadings. The Group must propose a final deadline that is as short as possible taking into account the time since USEPA established the TMDL and the technological, operation, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the WLAs. If the requested time schedule exceeds one year, the proposed schedule shall include interim requirements with numeric milestones and dates for final compliance. See East San Gabriel Valley WMP Table 5-15 for milestones and deadlines proposed by other MS4 permittees discharging to Puddingstone Reservoir.
Section 4.4.2	Part VI.C.5.b.iv.(4).(d) (page 64)	Section 4.4.2 of the draft EWMP must include milestones for Puddingstone Reservoir as it does for other waterbodies.
Section 3.2.5		Section 3.2.5 of the draft EWMP lists in bullets considerations/steps that need to be taken for implementing Green Streets projects. Provide milestones for the listed considerations/steps.
Section 5.3	Part VI.C.5.b.iv.(4).(d) (page 64)	As per Section 5.3 and Appendix D-3 of the draft EWMP, a summary is given for BMPs to be implemented by waterbodies/sub-watersheds within each jurisdiction. Section 5.3 of the draft EWMP shall also include a table similar to the tables in Appendix D-3 where it lists the group members (instead of the sub-watershed/waterbody), EWMP milestones, the BMP categories (LID, Green Streets, Regional BMPs as listed already in Appendix D-3 tables), and total BMP Capacity. This table must also indicate when the Minimum Control Measures (MCMs) and/or the Enhanced MCMs will be implemented. As additional text and/or footnotes to the aforementioned table, explain in detail when the Enhanced MCMs, LID, Green Streets, and Regional BMPs will be implemented. Additionally, specify the expected completion dates for each of the Regional BMPs proposed in the draft EWMP.
Section 5.4		The last sentence of Section 5.4 of the draft EWMP states "*Overall, the EWMP Implementation Plan and related non-stormwater reduction programs are expected to effectively eliminate non-*

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		stormwater flows in USGR". Add to the end of the aforementioned sentence: "consistent with Parts III.A, VI.D.4.d, and VI.D.10 of the LA County MS4 Permit to prevent or eliminate non-stormwater discharges to the MS4 that are a source of pollutants from the MS4 to receiving waters".
Appendix B-1 Section 2		Appendix B-1 Section 2 and Appendix E Section 3.1.1 of the draft EWMP gives a list of regional EWMP projects. Clarify which of the 11 signature projects the Group is committed to implementing.
Enhanced Watershed Management Program Provisions		
	Part VI.C.1.g (page 49)	The revised EWMP must elaborate on what benefits the regional projects achieve (e.g., flood control, water supply, etc.).
	Part VI.C.1.g.ii (page 49)	The revised EWMP must specify if it incorporated applicable State agency input on priority setting and other key implementation issues or if any State agency priorities are addressed (e.g., drought response, increased capture of stormwater for beneficial use per the Recycled Water Policy, Strategic Plan priorities, California Water Action Plan priorities, etc.). If so, elaborate.
	Part VI.C.1.g.vi (page 50)	The draft EWMP must state if the cost analysis done in the EWMP maximizes the effectiveness of funds through the analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance. If so, elaborate.
Section 7.3	Part VI.C.1.g.ix (page 50)	Section 7.3 of the draft EWMP should provide the amount and source of current monetary funds available to achieve the BMPs proposed for the 2017 milestone, which is in the current permit cycle. The draft EWMP should also document the total existing allocation for stormwater management for each Permittee in the EWMP and the source of the funds, as well as identify the secured funds that will be used to meet EWMP commitments within the remainder of this permit term, and how any deficit in funds to meet commitments in this permit term will be addressed.
Section 7.3	Part VI.C.1.g.ix (page 50)	For the potential funding sources listed in Section 7.3, specify requirements and application deadlines if applicable and available. Additionally, elaborate on the challenges (if any)/feasibility of obtaining the potential sources of funding.
Section 7.3.5	Part VI.C.1.g.ix (page 50)	The financial strategy discussed in Section 7.3 of the draft EWMP should be elaborated upon. Section 7.3.5 of the revised EWMP should include the following: • A prioritization process for obtaining funding that includes the selection of financing strategies that best fit the Groups' needs (e.g., step 1: apply for X grants, step 2: apply for loans, etc.). • A timeline to search for funding with consideration of the

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		milestones indicated in the EWMP. • Articulation of who is responsible for seeking funding (e.g., the lead Permittee, all the group members). If most or all Group members will be seeking funding, please specify the responsibilities of those members. It should also outline steps toward, for example: • development of a stormwater Capital Improvement Plan and/or asset management plan, • integration of proposed EWMP projects with other street/sewer/water CIPs and asset management plans (e.g., Pavement Management Systems, etc.) • establishing a constant revenue stream for the stormwater CIP/asset management plan, which may include rate studies.
Reasonable Assurance Analysis (RAA)		
Table 4-3	Part VI.C.5.b.iv.(5) (page 65)	Address the following comments for Table 4-3 of the draft EWMP: • Add a footnote to legacy pollutants explaining that those constituents are being modeled as TSS. • 144.57 µg/L is listed under dry weather for zinc and the same is listed for wet weather where the source for the number is a TMDL. However, note that there is no dry weather WLA for zinc. Please clarify and/or correct as necessary the RAA target for zinc in dry weather conditions per the CTR. • For the legacy pollutants listed, please use a footnote to explain how the annual sediment reduction is calculated. • Add a footnote to clarify the RAA targets for lead (81.34 and 96.99 ug/L) are applied to San Gabriel Reach 2 (inclusive of its tributaries) and Coyote Creek, respectively. In general, the way information is presented in Table 4-3 of the EWMP is very confusing where there are multiple rows for each pollutant and it is unclear which targets apply to which assessment area and in what weather condition. Additionally, copper has different WLAs depending on the weather and the waterbody, which Table 4-3 does not seem to fully account for. For clarification purposes, modify the table to clearly present all the information currently in the table (e.g., divide Table 4-3 into 2 tables where one addresses metals and is modified to clarify waterbody-specific targets and the 2nd table maintains the same current formatting but covers bacteria, nutrients, and legacy pollutants). Note that modifying the table may resolve some of the comments in bullets above.
Table 4-3		Table 4-3, footnote 2, states that "dry weather target based on 30-day geometric mean WQO while wet weather target is based on

EWMP Reference	MS4 Permit Provision	Comment and Necessary Revision
		single sample maximum WQO." Due to the challenges inherent in conducting a RAA under dry weather conditions and for non-stormwater discharges, the simulation of a 30-day critical dry period is an acceptable approach for the dry weather RAA. However, the RAA must acknowledge that the SGR Bacteria TMDL includes WLAs assigned to MS4 discharges, applicable in dry weather, that are based on a single sample maximum threshold, as well as the geometric mean limitation.
	Part VI.C.5.b.iv.(5) (page 65)	Table 4-3 of the draft EWMP gives RAA results of required pollutant load reductions for some constituents. Section 5.3 of the draft EWMP gives a schedule of milestones and structural BMP capacity (acre-feet) that will be achieved. However, a table must be provided listing the constituents, milestones, and the pollutant load and/or volume reductions (%) that will be achieved through the watershed control measures proposed in the EWMP for the purpose of comparing the modeled RAA pollutant load reductions required with what pollutant load reductions the proposed watershed control measures will actually achieve.
Figure 4-5	Part VI.C.5.b.iv.(5) (page 65)	Figure 4-5 of the draft EWMP gives a map of Zinc Exceedance Volumes for each of the 258 Subwatersheds (end-of-pipe) in the Upper San Gabriel River EWMP area. Likewise, provide a similar map for the City of West Covina in Appendix E of the draft EWMP.
	Part VI.C.5.b.iv.(5) (page 65)	See additional comments on the RAA in Enclosure 2.

Enclosure 2 – Summary of Comments and Necessary Revisions for the Reasonable Assurance Analysis (RAA)

Upper San Gabriel River Enhanced Watershed Management Program (EWMP)

Prepared by: C.P. Lai, Ph.D., P.E. and Thanhloan Nguyen

This memorandum contains the comments on Section 4, Reasonable Assurance Analysis (RAA) in the draft Enhanced Watershed Management Program (EWMP) for the Upper San Gabriel River EWMP Group dated June 2015.

1. The model results of hydrology calibration as shown in Table 4-1 indicate that the performance of the model relative to storm volume is good to very good. The difference in modeled and observed values of annual volume, however, is -24.8% for San Jose Channel. Please provide an explanation regarding why the model may be under-predicting annual volume at this location, and identify data that will be collected over the next several years that could potentially improve model performance in terms of annual volume at this location (e.g., more refined POTW discharge data). In addition, for the water quality calibration, the differences in modeled and observed values for total lead and E. coli are in the "fair" tolerance range. While the model is over-predicting total lead, it is under-predicting E. coli load. Please identify the data that will be collected over the next several years that could potentially improve model performance in terms of predicting E. coli load as well as total lead load.

2. The EWMP separately defines critical conditions for the two limiting pollutants, bacteria and zinc. For zinc and other metals, the critical condition is defined as the 90th percentile Exceedance Volume (EV) as explained in Section 4.2.3.1. Board staff understands that this "EV" approach provides assurance that the receiving water limitations (RWLs) will be met instream. Please also provide a comparison of the EV by subbasin with the 90th percentile of pollutant (zinc) load to demonstrate that the EV approach is protective relative to other metrics including the 90th percentile pollutant load.

3. In addition to the EV statistics, please also provide the model results of the baseline condition in terms of runoff volume, pollutant concentration, and pollutant loadings based on the 90th percentile critical condition of runoff volume and pollutant concentration at each subbasin for each limiting pollutant. In addition, please provide the estimated allowable loads and required load reductions on a pollutant-by-pollutant basis.

4. In section 4, Table 4-6, summary statistics of percent reduction are provided, however, the numbers used to arrive at calculating the percentages are not easily identifiable. Per the RAA Guidelines, the model results for the proposed control measures and potential BMPs should be provided to demonstrate the cumulative effectiveness of the proposed BMPs relative to the required pollutant load reductions and load reduction goals as described in Appendix C-4 and presented in Table C-4-8.

5. Finally, please provide an example validation for a representative waterbody within the USGR or in another EWMP area that demonstrates that with all proposed BMPs in place, as determined from the initial analysis of the necessary volume and/or pollutant load reduction, the RWLs will be achieved.

TO: LA County MS4 Permittees Developing EWMPs

FROM: Renee Purdy, Section Chief RaP
Regional Programs

DATE: October 12, 2015

SUBJECT: **SECOND BOARD WORKSHOP ON DRAFT ENHANCED WATERSHED MANAGEMENT PROGRAMS; LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) NPDES PERMIT (ORDER NO. R4-2012-0175)**

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) will hold public workshop to discuss comments on the Draft Enhanced Watershed Management Programs that were submitted by Permittees to implement the requirements of the Los Angeles County MS4 Permit. Representatives of all Enhanced Watershed Management Programs are expected to attend. The workshop will be held at the regularly scheduled board meeting on:

Thursday, November 5, 2015 at 9:00 AM
Metropolitan Water District of Southern California
Board Room
700 North Alameda Street
Los Angeles, California 90012

Los Angeles Water Board staff will discuss significant comments and issues from the reviews of the draft Enhanced Watershed Management Programs. Permittees of each Enhanced Watershed Management Program group should be prepared to respond to significant comments and issues identified by Board staff and those raised in the public comments received on the draft EWMPs as well as questions from Board members. Additionally, Permittes are encouraged to present an overview of novel technical/modeling approaches (e.g., the exceedance volume/limiting pollutant approach), any new developments regarding their financial strategies, as well as information on early implementation actions.

Please consider the amount of time needed for your group's presentation, and make your request via email to Ivar Ridgeway at Ivar.Ridgeway@waterboards.ca.gov and myself at Renee.Purdy@waterboards.ca.gov **no later than October 26, 2015**. You will be notified regarding final time allotments and the order of the item prior to the meeting. The Los Angeles Water Board may provide general feedback to staff; however, no action or voting will take place at this workshop. Please check the Board's website (http://www.waterboards.ca.gov/losangeles/) for the most up-to-date public meeting location as it is subject to change.

If you have any questions, please contact me at (213) 576-6622 or Renee.Purdy@waterboards.ca.gov or alternatively, Ivar Ridgeway at (213) 620-2150 or Ivar.Ridgeway@waterboards.ca.gov.

Notice of Public Meeting

Thursday, November 5, 2015
9:00 a.m.

Meeting Location:

Metropolitan Water District of Southern California
(Board Room)
700 North Alameda Street
Los Angeles, California 90012

Agenda

The Los Angeles Regional Board strives to conduct an accessible, orderly, and fair meeting. The Chair of the Board will conduct the meeting and establish appropriate rules and time limitations for each agenda item. The Board will only act on items designated as action items. Action items on the agenda are staff proposals, and may be modified by the Board as a result of public comment or Board member input. Additional information about Board meeting procedures is included after the last agenda item.

Generally, the Board accepts oral comments at the meeting on agenda items and accepts written materials regarding agenda items in advance of the meeting. For some items requiring public hearings, written materials and oral comments will be accepted only according to the procedures set forth in a previously issued public notice for the particular agenda item. To ensure a fair hearing and that the Board Members have an opportunity to fully study and consider written material, unless stated otherwise, written materials must be provided to the Executive Officer ***not later than 5:00 p.m. on October 22, 2015. Please consult the agenda item description because certain items may have an earlier deadline for written submissions. If you are considering submitting written materials, please consult the notes at the end of the agenda. Failure to follow the required procedures may result in your materials being excluded from the hearing record; however, failure to timely submit written materials does not preclude a person from testifying before the Board.***

INTRODUCTORY ITEMS

1. **Roll Call.**

2. **Order of Agenda.** Note that the agenda items are numbered for identification purposes only and may not necessarily be considered in this order.

3. **Approval of draft meeting Minutes for the October 8, 2015 Board meeting.** [Ronji Moffett, (213) 576-6612]

4. **Appointment of a Nominating Committee for Selection of 2016 Chair and Vice Chair.**

5. **Board Member Communications.**

   5. a. Ex Parte Disclosure. Board Members will identify any discussions they may have had requiring disclosure pursuant to Government Code section 11430.40.

   5. b. Board Member Reports. The Board Members may discuss communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction.

UNCONTESTED ITEMS

(Items marked with an asterisk are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. Any Board member or person may request that an item be removed from the Uncontested calendar. ***Items removed from the Uncontested calendar may be heard at a future meeting.****)*

BOARD BUSINESS REPORTS

6. **Executive Officer's Report** [Samuel Unger, (213) 576-6605]
7. **Update from State Board.** [Fran Spivy- Weber]

PUBLIC FORUM

8. Any person may address the Board regarding any matter within the Board's jurisdiction provided the matter does not appear elsewhere on this agenda, has not been scheduled to appear on a future agenda, and is not expected to be imminently scheduled for the Board's consideration. Remarks will be limited to three (3) minutes, unless otherwise directed by the Chair. If a person intends to use a PowerPoint presentation or other **visual aids, you must contact Ronji Moffett, (213) 576-6612, at the Regional Board at least 48 hours prior** to the meeting to arrange for equipment use and be prepared to load any PowerPoint presentation on the computer prior to the meeting to assure the orderly conduct of the meeting.

CONTESTED ACTION ITEMS

Waste Discharge Requirements that Serve as Individual NPDES Permits Renewal-

9. Consideration of tentative Waste Discharge Requirements for Los Angeles Department of Water and Power, Scattergood Generating Station, Playa del Rey; NPDES No. CA0000370. (Comment submittal deadline was October 5, 2015) [Jau Ren Chen, (213) 576-6656].

Basin Planning

10. Consideration of the 2014-2016 Triennial Review Selection of Basin Planning Projects. (Comment submittal deadline was October 2, 2015) [Celine Gallon, (213) 576-6784].

WORKSHOP

11. 2nd Public Workshop on the draft Enhanced Watershed Management Programs (EWMPs) submitted pursuant to Part VI.C of the Los Angeles County Municipal Separate Storm Sewer System (MS4) NPDES Permit (Order No. R4-2012-0175). (Staff will make a presentation on the review of the draft EWMPs. Permittees will be invited to give brief presentations on their EWMPs. Other interested persons will have the opportunity to make oral comments subject to time limits. The Board may provide feedback to staff on the draft EWMPs; however, no action or voting will take place at this workshop.) [Renee Purdy, (213) 576-6622; Ivar Ridgeway, (213) 620-2150]

CLOSED SESSION

12. As authorized by Government Code section 11126, the Regional Board will be meeting in closed session. Closed session items are not open to the public. Items the Board may discuss include the following: [Jennifer Fordyce (JF) (916) 324-6682; Frances McChesney (FM) (916) 341-5174; David Coupe (DC) (510) 622-2306]

    12.1 *State Department of Finance, State Water Resources Control Board and Los Angeles Regional Water Quality Control Board v. Commission on State Mandates,* Supreme Court of California Case No. S214855. [Challenging the Commission's decision that portions of the 2001 Los Angeles County MS4 permit created unfunded state mandates]. (JF)

    12.2 *In re: Los Angeles Region Water Permit – Ventura County,* Commission on State Mandate Test Claim No. 110-TC-01 [Regarding a test claim filed by Ventura County Watershed Protection District and the County of Ventura alleging that portions of Order No. R4-2010-0108 created unfunded state mandates]. (JF)

    12.3 *City of Redondo Beach v. Los Angeles Regional Water Quality Control Board and State Water Resources Control Board,* Los Angeles Superior Court Case No. BS152287 [Challenging assessment of administrative civil liability in Order on Complaint No. R4-2008-0058M]. (FM)

    12.4 B*alcom Ranch v. State Water Resources Control Board and Los Angeles Regional Water Quality Control Board*, Ventura County Superior Court Case No. 56-2012-00419048-CU-MC-VTA [Challenging assessment of administrative civil liability in Order on Complaint No. R4-2010-0023) (DC)

    12.5 *In re: Los Angeles Region Water Permit – Cities of Los Angeles County,* Commission on State Mandate Test Claim No. 13-TC-01 [Regarding a test claim filed by several cities within Los Angeles County alleging that portions of Order No. R4-2012-0175 created unfunded state mandates]. (JF)

    12.6 *In re: Los Angeles Region Water Permit – County of Los Angeles,* Commission on State Mandate Test Claim No. 13-TC-02 [Regarding a test claim by the

County of Los Angeles and Los Angeles County Flood Control District alleging that portions of Order No. R4-2012-0175 created unfunded state mandates]. (JF)

12.7 *City of Los Angeles, Acting by and through Its Board of Harbor Commissioners v. California Regional Water Quality Control Board, Los Angeles Region* (Los Angeles County Superior Court), Case No. BS154971 (DC) [Challenging that the Los Angeles Water Board acted beyond its jurisdiction in adopting waste discharge requirements.] (DC)

12.8 *Cities of Duarte and Huntington Park v. State Water Resources Control Board and Los Angeles Regional Water Quality Control Board,* Los Angeles County Superior Court Case No. BS156303 [Challenging the Los Angeles County MS4 Permit, Order No. R4-2012-0175]. (JF)

12.9 *Natural Resources Defense Council and Los Angeles Waterkeeper v. State Water Resources Control Board and Los Angeles Regional Water Quality Control Board,* Los Angeles County Superior Court Case No. BS156962 [Challenging the Los Angeles County MS4 Permit, Order No. R4-2012-0175]. (JF)

12.10 *City of Gardena v. Los Angeles Regional Water Quality Control Board and State Water Resources Control Board,* Los Angeles Superior Court Case No. BS156342 [Challenging the Los Angeles County MS4 Permit, Order No. R4-2012-0175]. (JF)

12.11 *Claudette Earl and Earl Manufacturing Co., Inc. v. Los Angeles Regional Water Quality Control Board,* Los Angeles County Superior Court Case No. BS156123 [Challenging adoption of Cleanup and Abatement Order No. R4-2015-0011] (DC)

12.12 *ALCA Properties, LTD., v. California Regional Water Quality Control Board, Los Angeles Region; State Water Resources Control Board* (Los Angeles County Superior Court), Case No. BS156084. [Challenging failure to issue No Further Action letter and challenging oversight costs.] (FM)

12.13 *Peak Foreclosure Services v. Bayview Loan Servicing, LLC; Del Rey Cleaners et al.,* Los Angeles County Superior Court, Case No. BS157001. [Claim filed for recovery of costs associated with Amended Cleanup and Abatement Order No. R4-2014-0143](DC)

12.14 *Charles Conway, Jr., et al. v. State Water Resources Control Board and Los Angeles Regional Water Quality Control Board,* 235 Cal.App.4th 671 (2015), petition for cert. file, No. 15-337 (U.S. Sept. 14, 2015) [Challenging the McGrath Lake TMDL for polychlorinated biphenyls (PCBs), pesticides, and sediment toxicity]. (JF)

12.15 *In re: Petition of Natural Resources Defense Council, Los Angeles Waterkeeper, and Heal the Bay for Review of Executive Officer's Action to Conditionally Approve nine WMPs Pursuant to the 2012 MS4 Permit,* SWRCB/OCC File A-2386 [Challenging the Executive Officer's approval, with conditions, of nine Watershed Management Programs (WMPs) pursuant to the Los Angeles County MS4 Permit, Order No. R4-2012-0175]. (JF)

12.16 *Barclay Hollander Corporation v. California Regional Water Quality Control Board, Los Angeles Region, et.al.,* Los Angeles County Superior Court, Case Number BS158024 [Challenging issuance of Cleanup and Abatement Order No. R4-2011-0046 (Revised April 30, 2015)] (DC)

12.17 *In the Matter of the Petition for Review of Wishtoyo Foundation,* SWRCB Petition No. A-2412(a) [Challenging water recycling requirements and waste discharge requirements for the City of Oxnard Groundwater Recovery, Enhancement, and Treatment Program, Order No. R4-2011-0079-A01] (DC)

12.18 *In the Matter of the Petition for Review of United Water Conservation District,* SWRCB Petition No. A-2412(b) [Challenging water recycling requirements and waste discharge requirements for the City of Oxnard Groundwater Recovery, Enhancement, and Treatment Program, Order No. R4-2011-0079-A01] (DC)

12.19 Consultation with counsel about:

(a) A judicial or administrative adjudicatory proceeding that has been formally initiated to which the Regional Board is a party;
(b) A matter that, based on existing facts and circumstances, presents significant exposure to litigation against the Regional Board; or
(c) A matter which, based on existing facts and circumstances, the Regional Board is deciding whether to initiate litigation. (JF/FM/DC)

12.20 Consideration of the appointment, employment, or evaluation of performance about a public employee. (JF/FM/DC)

13. **Adjournment of current meeting.** The next regular meeting of the Board will be held on December 10, 2015 at the Metropolitan Water District of Southern California (Board Room), located at 700 North Alameda Street, Los Angeles, CA 90012, beginning at 9:00 a.m.

**

Ex Parte Communications: An ex parte communication is a communication to a board member from any person, about a pending matter, that occurs in the absence of other parties and without notice and opportunity for them to respond. The California Government Code prohibits the board members from engaging in ex parte communications during permitting, enforcement, and other "quasi-adjudicatory" matters. Ex parte communications are allowed on pending general orders (such as general waste discharge requirements, general waivers, and general Clean Water Act section 401 water quality certifications) subject to the disclosure requirements of Water Code section 13287 (for further information and disclosure forms, please visit http://www.waterboards.ca.gov/losangeles/laws_regulations/). The Regional Board discourages ex parte communications during rulemaking and other "quasi-legislative" proceedings. The ex parte rules are intended to provide fairness, and to ensure that the board's decisions are transparent, based on the evidence in the administrative record, and that evidence is used only if stakeholders have had the opportunity to hear and respond to it. Ex parte rules do not prevent anyone from providing information to the water boards or requesting that the water boards take a particular action. They simply require that the information come into the record through proper channels during a duly noticed, public meeting. A board member

who has engaged or been engaged in a prohibited ex parte communication will be required to publicly disclose the communication on the record and may be disqualified from participating in the proceeding. For more information, please look at the ex parte questions and answers document found at www.waterboards.ca.gov/laws_regulations/docs/exparte.pdf.

Procedures: The Regional Board follows procedures established by the State Water Resources Control Board. These procedures are established in regulations commencing with section 647 of title 23 of the California Code of Regulations. The Chair may establish specific procedures for each item, and consistent with section 648, subdivision (d) of title 23 of the California Code of Regulations may waive nonstatutory provisions of the regulations. Generally, all witnesses testifying before the Regional Board must affirm the truth of their testimony and are subject to questioning by the Board Members. The Board does not, generally, require the designation of parties, the prior identification of witnesses, or the cross examination of witnesses. Generally, speakers are allowed three minutes for comments. Any requests for an alternate hearing process, such as requesting additional time to make a presentation, should be made to the Executive Officer in advance of the meeting, and under no circumstances later than 5:00 p.m. on the Thursday preceding the Board meeting. The provisions of this paragraph shall be deemed superseded to the extent that they are contradicted by a hearing notice specific to a particular agenda item.

***

Written Submissions: Written materials (whether hand-delivered, mailed, e-mailed, or facsimiled) ***must be received prior to the relevant deadline*** established in the agenda and public notice for an item. If the submitted material is more than 10 pages or contains foldouts, color graphics, maps, or similar items, 12 copies must be submitted prior to the relevant deadline.

Failure to comply with requirements for written submissions is grounds for the Chair to refuse to admit the proposed written comment or exhibit into evidence. (Cal. Code Regs., tit. 23, § 648.4, subd. (e).) The Chair may refuse to admit written testimony into evidence unless the proponent can demonstrate why he or she was unable to submit the material on time or that compliance with the deadline would otherwise create a hardship. In an adjudicatory matter, where there is a showing of prejudice to any party or the Board from admission of the written testimony, the Chair may refuse to admit it.

***

Administrative Record: Material presented to the Board as part of testimony that is to be made part of the record must be left with the Board. This includes photographs, slides, charts, diagrams, etc. All Board files pertaining to the items on this Agenda are hereby made a part of the record submitted to the Regional Board by staff for its consideration prior to action on the related items.

***

Accessibility: Individuals requiring special accommodations or language needs should contact Dolores Renick at (213) 576-6629 or drenick@waterboards.ca.gov at least ten working days prior to the meeting. TTY/TDD Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

***

Availability of Complete Agenda Package: A copy of the complete agenda package is available for examination at the Regional Board Office during regular working hours (8:00 a.m. to 5:00 p.m. Monday through Friday) beginning 10 days before the Board meeting. Questions about specific items on the agenda should be directed to the staff person whose name is listed with the item.

***

Continuance of Items: The Board will endeavor to consider all matters listed on this agenda. However, time may not allow the Board to hear all matters listed. Matters not heard at this meeting may be carried over to the next Board meeting or to a future Board meeting. Parties will be notified in writing of the rescheduling of their item. Please contact the Regional Board staff to find out about rescheduled items.

***

Challenging Regional Board Actions: Pursuant to Water Code section 13320, any aggrieved person may file a petition to seek review by the State Water Resources Control Board of most actions taken by the Regional Board. A petition must be received within 30 days of the action. Petitions must be sent to State Water Resources Control Board, Office of Chief Counsel; Attn: Phil Wyels, Assistant Chief Counsel; 1001 "I" Street, 22nd Floor; Sacramento, CA 95814.

Environmental Protection Agency
• State Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SIGN-IN SHEET
Regional Board Meeting
November 5, 2015

RB-AR 3467

Name	Mail Address Company Name/Organization	E-Mail Address or Telephone Number	Add Name to Mail List
TRACY EGOSCUE	EGG	tracye@egoscuelaw.com	
Shana Rapoport	srapoport@waterboards.ca.gov → LARWQCB		
Shawn Warren	FOLAR	swarren@folar.org	✓
Matt Magener	City of West Hollywood	mmagener@wehho.org	
DAVE JONES	CH2M	Dave.Jones@CH2M.com	
Zora Baharians	City of LA	zora.baharians@lacity.org	✓
Jacqueline McMillen	Alta Environmental	jacqueline.mcmillen@altaenviron.com	
Shannon Bishop	LACSD	shbishop@lacsd.org	

Environmental Protection Agency
• State Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SIGN-IN SHEET
Regional Board Meeting
November 5, 2015

Name	Mail Address Company Name/Organization	E-Mail Address or Telephone Number	Add Name to Mail List
Ian McAleese	City of South El Monte	imcaleese@soelmonte.org	
Bruce Dezoito	LA Waterkeeper	bruce@lawaterkeeper.org	
ARNE ANSELM	VCWPD	ARNE.ANSELM@VENTURA.ORG	
Kori Susilo	GEOSYNTEC	ksusilo@geosyntec.com	
CYNTHIA GABALDON	CGRME	CYNTHIAGABALDON@cgrme.com	YES

RB-AR 3468

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

Please Print Legibly

SPEAKER REQUEST CARD

Date: 11/5/15

I wish to speak during the Board Meeting:

V I wish to speak on Agenda Item No. _____
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Shahram Kharaghani
___ Representing Self
___ Representing: City of LA

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print Legibly

Date: 11/5/15

I wish to speak during the Board Meeting:

✓ I wish to speak on Agenda Item No. 11 FINANCE PANEL
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: KEN FARFSING
___ Representing Self
✓ Representing: CITY OF CARSON

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print Legibly

Date: _____

I wish to speak during the Board Meeting:

___ I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.
Financing Panel

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Richard WATSON
___ Representing Self
_✓_ Representing: California Contract City Association

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print Legibly

Date: 11/5

I wish to speak during the Board Meeting:

_✓_ I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: DUSTIN BAMBIC, PARADIGM ENVIRONMENTAL
___ Representing Self
___ Representing: (RAA PANEL)

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

Environmental Grps (15 min.)

SPEAKER REQUEST CARD

Please Print Legibly

Date: 11/5/15

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I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Becky Hayat, Arthur Pugsley, Rita Kampalath
___ Representing Self
___ Representing: NRDC, LA Waterkeeper, Heal the Bay

Unless exempted by the Board, comments are limited to three (3) minutes.

Request 15 min

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print Legibly

Date: 11/5/15

I wish to speak during the Board Meeting:

+ I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Paul Alva
___ Representing Self
+ Representing: Los Angeles County

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print legibly !

Date: 11/5/15

I wish to speak during the Board Meeting:

X I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Linda Lee Miller (USGR EWMP)
___ Representing Self
X Representing: Los Angeles County

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11/5/15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).
✓ I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

RB-AR 3472

Name: Hubertus Cox Representing City of LA

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Please Print legibly

Date: 11/5/15

I wish to speak during the Board Meeting:

x I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Bill Johnson (Peninsula Cities EWMP)
___ Representing Self
x Representing: Los Angeles County

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11/5/15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item). PRESENTATION #16

✓ I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: KAREN YOUNG Representing CULVER CITY

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11 - 5 . 15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

___ I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: MARGARET CLARK Representing CITY OF ROSEMEAD MAYOR

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11 . 5 . 15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

___ I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: RAY TAHIR Representing TRES ENVIRONMENTAL

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11.5.15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

X I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: Jeffrey Nelson Representing City of Glendora

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11.5.15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

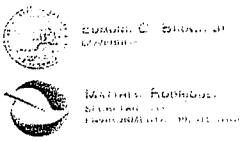
\ I wish to speak on Agenda Item No. ___

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: DAN MEDINA Representing CITY OF CARDENA CITY COUNCIL

State of California



Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11.5.15

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

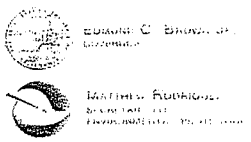
✓ I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: GLEN KAU Representing CITY OF COMPTON

State of California



Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11/6/2015

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

X I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: JOHN CAPOCCIA Representing CITY OF SIERRA MADRE

State of California
Environmental Protection Agency
Water Resources Control Board
Los Angeles Regional Water Quality Control Board

Please Print legibly

SPEAKER REQUEST CARD

Date: 11/5/15

I wish to speak during the Board Meeting:

___ I wish to speak on Agenda Item No. 11
___ I wish to speak during Public Forum on a non-agenda item.

I do not wish to speak but I do want to express the following position:

___ I support Agenda Item No. _____
___ I oppose Agenda Item No. _____

Name: Rex Frankel
___ Representing Self
___ Representing: Friends of LA Clean Connected Creek to Peak Parks

Unless exempted by the Board, comments are limited to three (3) minutes.

State of California

CALIFORNIA Water Boards

Los Angeles Regional Water Quality Control Board

SPEAKER REQUEST CARD

Date: 11/5/2015

I wish to speak during the Board Meeting:

___ I wish to speak during Public Forum (non-agenda item).

X I wish to speak on Agenda Item No. 11

I do not wish to speak, but express the following position:

___ I SUPPORT Agenda Item No. ___ ___ I OPPOSE Agenda Item No. ___

Name: Joce Dillard Representing _____

November 2015 Board Workshop on Draft Enhanced Watershed Management Programs

Tentative Time Allotment Plan -- Anticipated Start Time: 10:30 AM

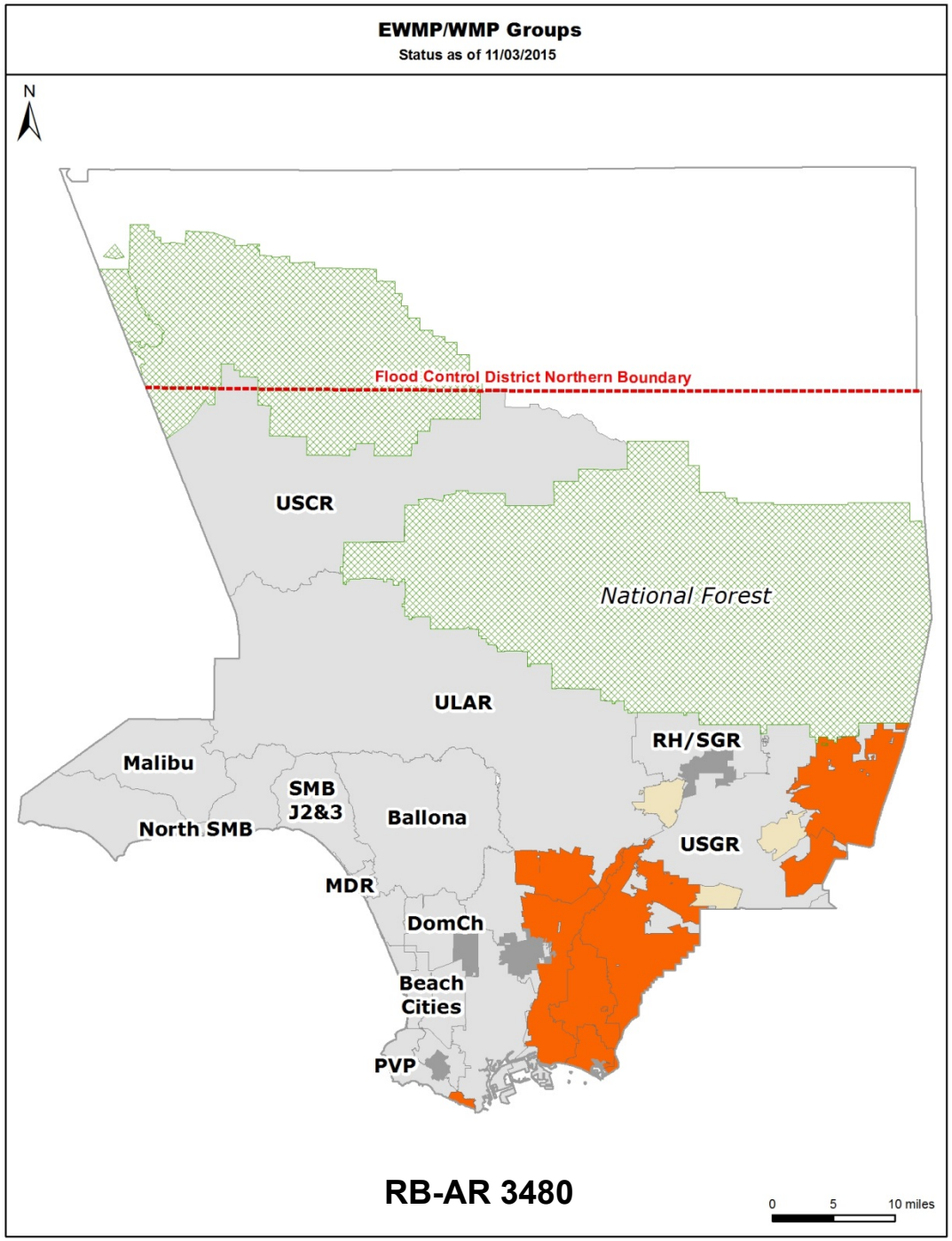
Workshop Segment	Time (min)	Topic
Board Staff Presentation (Renee)	~20-30	-EWMP Review Process -Summary of Comments on EWMPs -Introduction to Cost Considerations & Funding Strategies Panel
Funding Strategies Panel	60	-**Update on Stormwater Funding Options Report & City Managers' Steering Committee** (Ken Farfsing, Interim City Manager, Carson & Richard Watson, Rich Watson & Associates) [15 min.] -**City of LA Funding Strategies** (Dr. Shahram Kharaghani) [10 min.] -**Environmental Organizations' role & perspective** (Dr. Rita Kampalath) [10 min.] -**State Board Office of Chief Counsel updates on Prop 218 and other legislative actions** (Chief Counsel Michael Lauffer) **[~10 min.]**
RAA Panel	70	**-Purpose and foundations of RAA** (Sam & Ivar) **[~10 min.]** **-WMMS development and updates** (TJ Moon, LA County [10 min.] **-RAA approach for Beach Exceedance Days** (Ken Susilo, Principal, Geosyntec) [15 min.] **-RAA "Exceedance Volume" approach** (Dustin Bambic, Director, Paradigm Environmental) [15 min.]
General Comments on and Discussion of Draft EWMPs		
Joint Presentation by HTB, NRDC, LAWK	15	Environmental Groups' comments on draft EWMPs
Beach Cities EWMP Group	5	Beach Cities EWMP (John Dettle, Torrance)
Palos Verdes Peninsula EWMP Group	5	Palos Verdes Peninsula Group EWMP
Los Angeles County	10	County implementation efforts in 11 EWMPs (Paul Alva, County of LA)
Upper San Gabriel EWMP Group	5	USGR EWMP (Linda Lee Miller, County of LA)
Upper LAR, Ballona Creek, Dominguez Channel, and Santa Monica Bay J2/J3	20	Representing 4 EWMP groups, focus on progress with projects (City of LA presenting)
Culver City	5	In conjunction with MDR & Ballona Creek, focus on Costco Regional Infiltration Project & Culver Blvd. Median project (Mr. Kayden Young, Culver City)
Mr. Ray Tahir	5	
Other speakers	3 min each	

~ Approximate times

Second Public Workshop on Draft Enhanced Watershed Management Programs: *Review of Comments*

Item 11

November 5, 2015


EWMP/WMP Groups
Status as of 11/03/2015
N
Flood Control District Northern Boundary
USCR
National Forest
ULAR
RH/SGR
Malibu
SMB
J2&3
Ballona
North SMB
USGR
MDR
DomCh
Beach
Cities
PVP
RB-AR 3480
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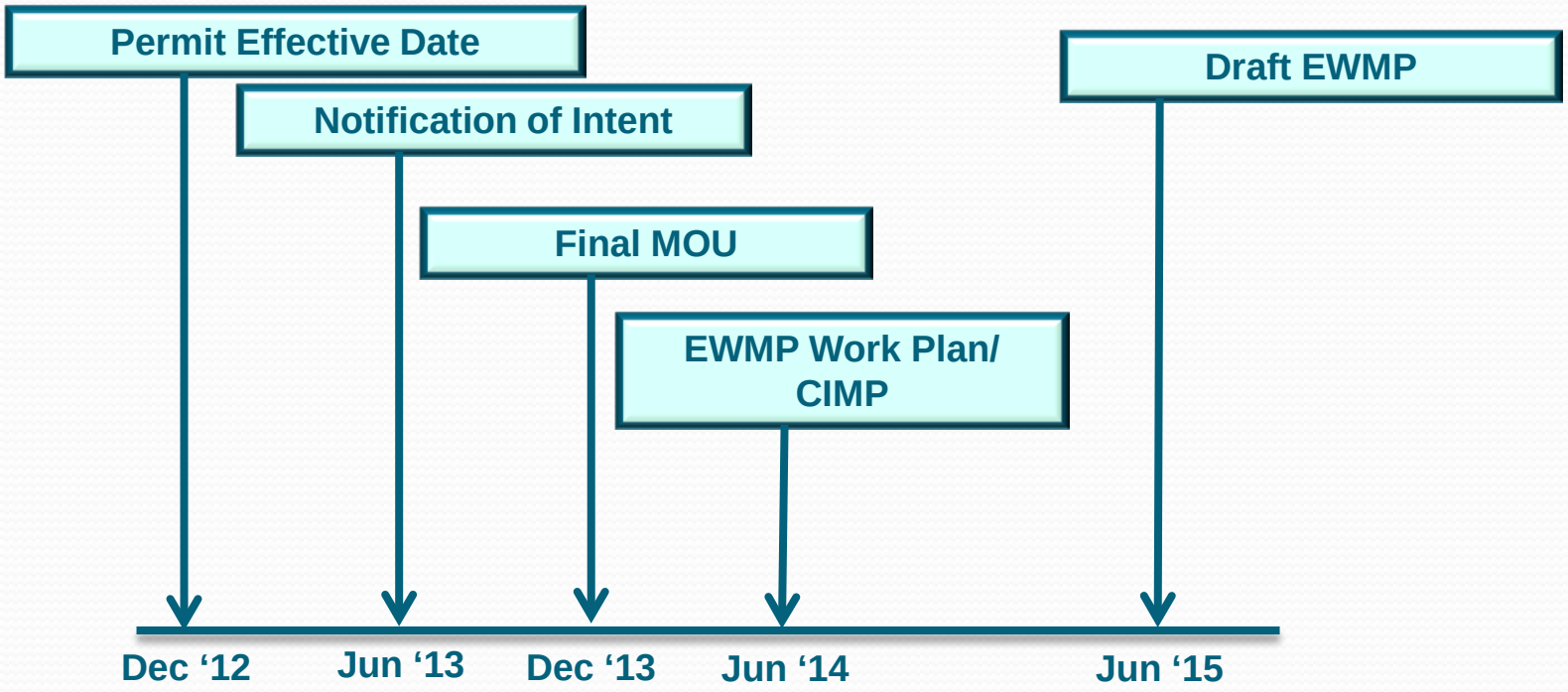
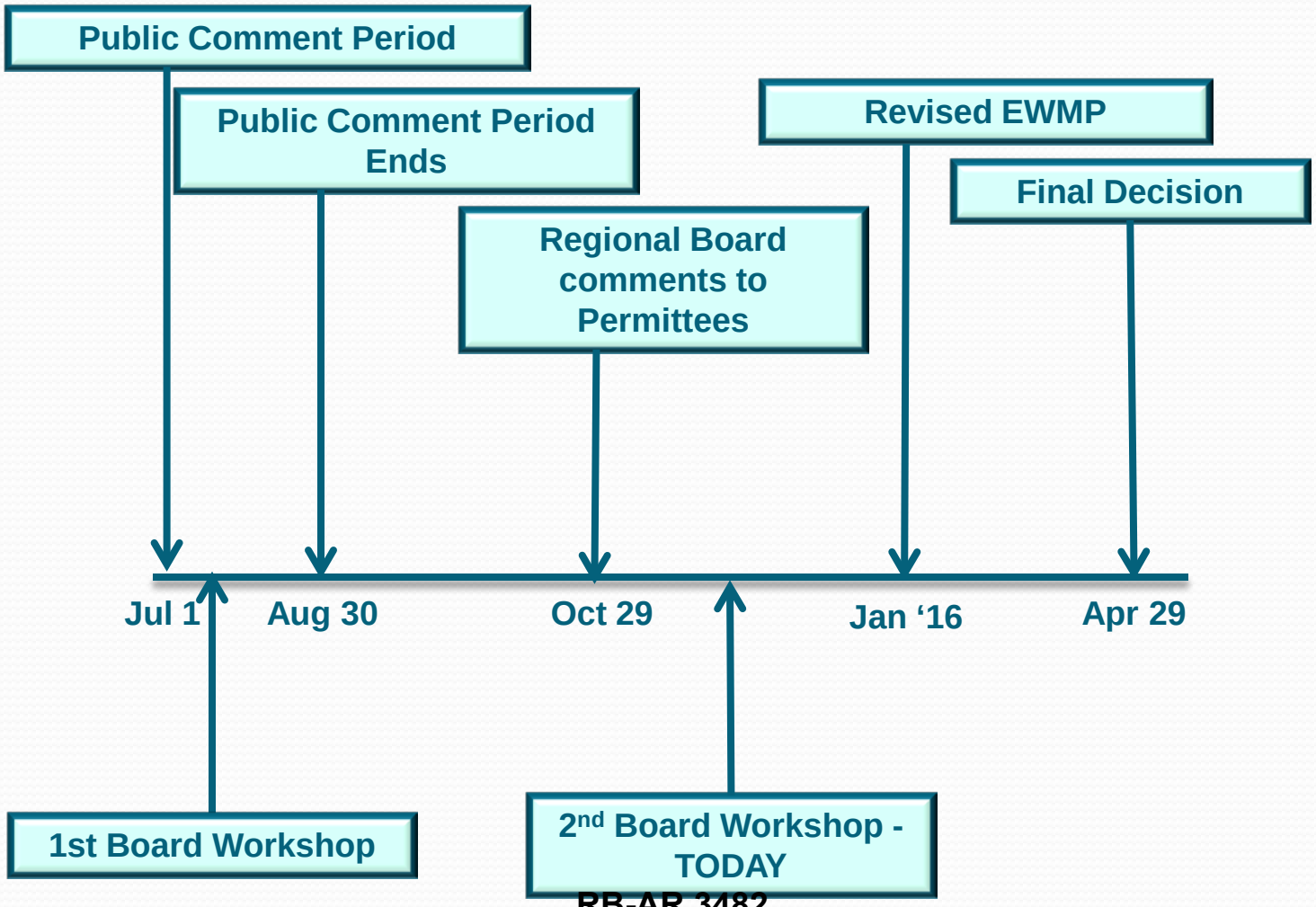
5
10 miles

EWMP Timeline: Milestones



EWMP Timeline: Milestones (cont.)



RB-AR 3482

General EWMP Review Criteria

- Water quality issues related to MS4 discharges are identified & prioritized
- Actions to achieve water quality outcomes are selected
  - Comprehensive evaluation of opportunities for multi-benefit regional stormwater retention projects
  - Innovative technologies, approaches & practices, including green infrastructure
- Reasonable Assurance Analysis was conducted using appropriate methods
- Compliance schedules consistent with TMDLs are proposed
- Measurable milestones (i.e., specific actions and/or outcomes) and deadlines are included to evaluate progress & compliance

Public Comments

- Construction Industry Coalition on Water Quality
- County Sanitation Districts of Los Angeles County (PVP EWMP)
- Heal the Bay, NRDC, & LA Waterkeeper
- Joyce Dillard

Public Comments:
Cost of Implementation & Financial Strategies

- Concerns over the cost of implementation, including monitoring
  (CICWQ; Joyce Dillard)

- Concern over sufficiency of financial strategies
  (Heal the Bay/NRDC/LAWK; Joyce Dillard)

Public Comments: Reasonable Assurance Analysis

- RAA approaches
  - "Exceedance Volume"
- Calibration in some EWMPs
- Updates to RAA based on monitoring data
- Reliance on adaptive management

Public Comments: Watershed Control Measures

- Achievability of green street implementation & regional projects on private property
- Assumptions regarding:
  - Redevelopment rates
  - Effectiveness of catch basin inserts for pollutant removal
  - Pollutant reductions from institutional controls
- Lack of detail on trash controls

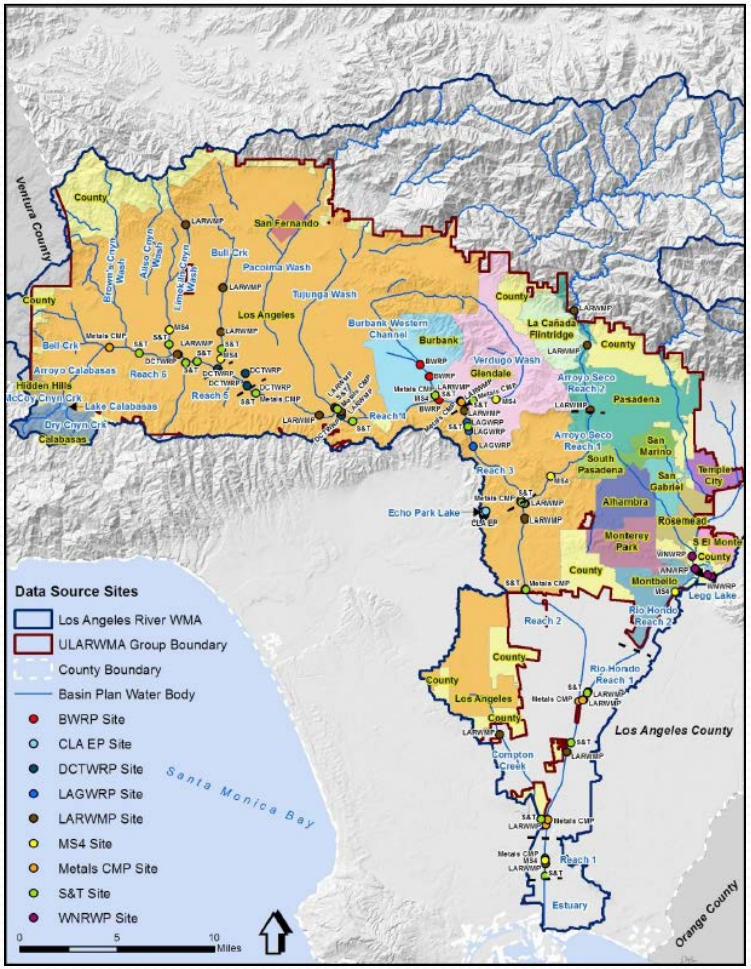
Public Comments: Compliance Schedules

- Scheduling for pollutants not addressed by a TMDL
  - Same class
  - Different class
- Milestones for pollutants not addressed by a TMDL

Board Staff Comments on Draft EWMPs

Water Quality Priorities

- Characterization
- Pollutant Categorization
- Source Assessment
- Prioritization
  - Compliance Schedules

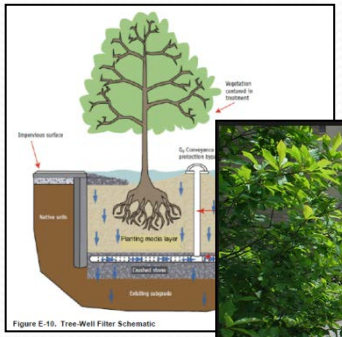


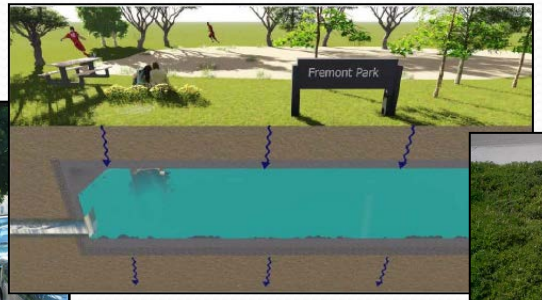
RB-AR 3490

Watershed Control Measures

Watershed Control Measures

- Structural
  - Other
  - LID
  - Green Streets
  - Regional Projects
- Non-Structural
  - MCMs
  - Institutional Controls
  - Source controls





RB-AR 3491

Watershed Control Measures

- Descriptions of Control Measures:
  - 85th Percentile Regional Projects
  - Institutional Controls
- Timelines for Implementation:
  - Regional Projects
- Feasibility of Control Measures
  - Control Measures on Private Property

Reasonable Assurance Analysis

- RAA Approaches
- Model Calibration Measures
- Selection of Limiting Pollutants
- Model Verification

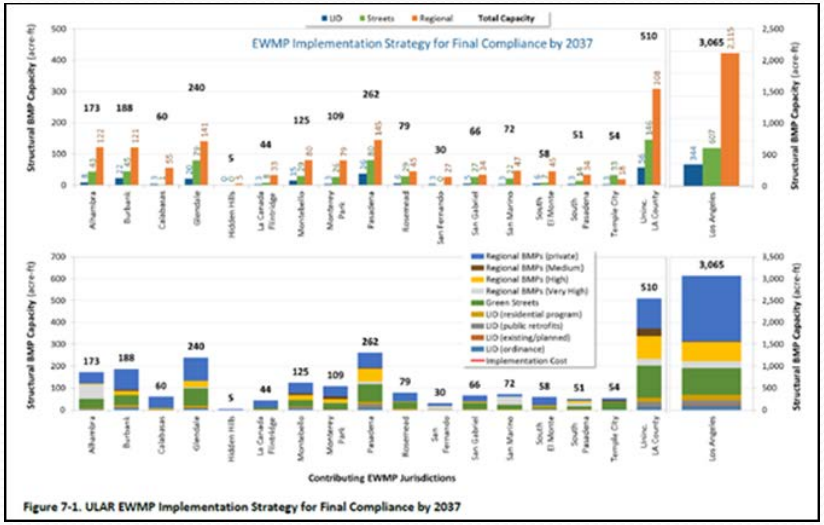


Figure 7-1. ULAR EWMP Implementation Strategy for Final Compliance by 2037

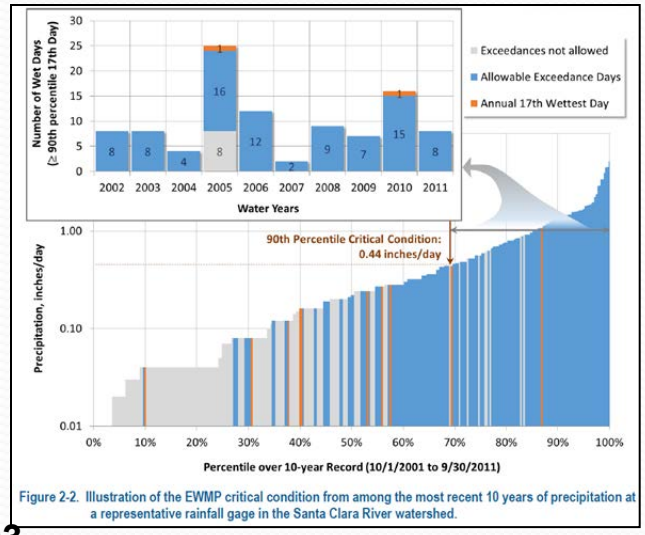


Figure 2-2. Illustration of the EWMP critical condition from among the most recent 10 years of precipitation at a representative rainfall gage in the Santa Clara River watershed.

RB-AR 3493

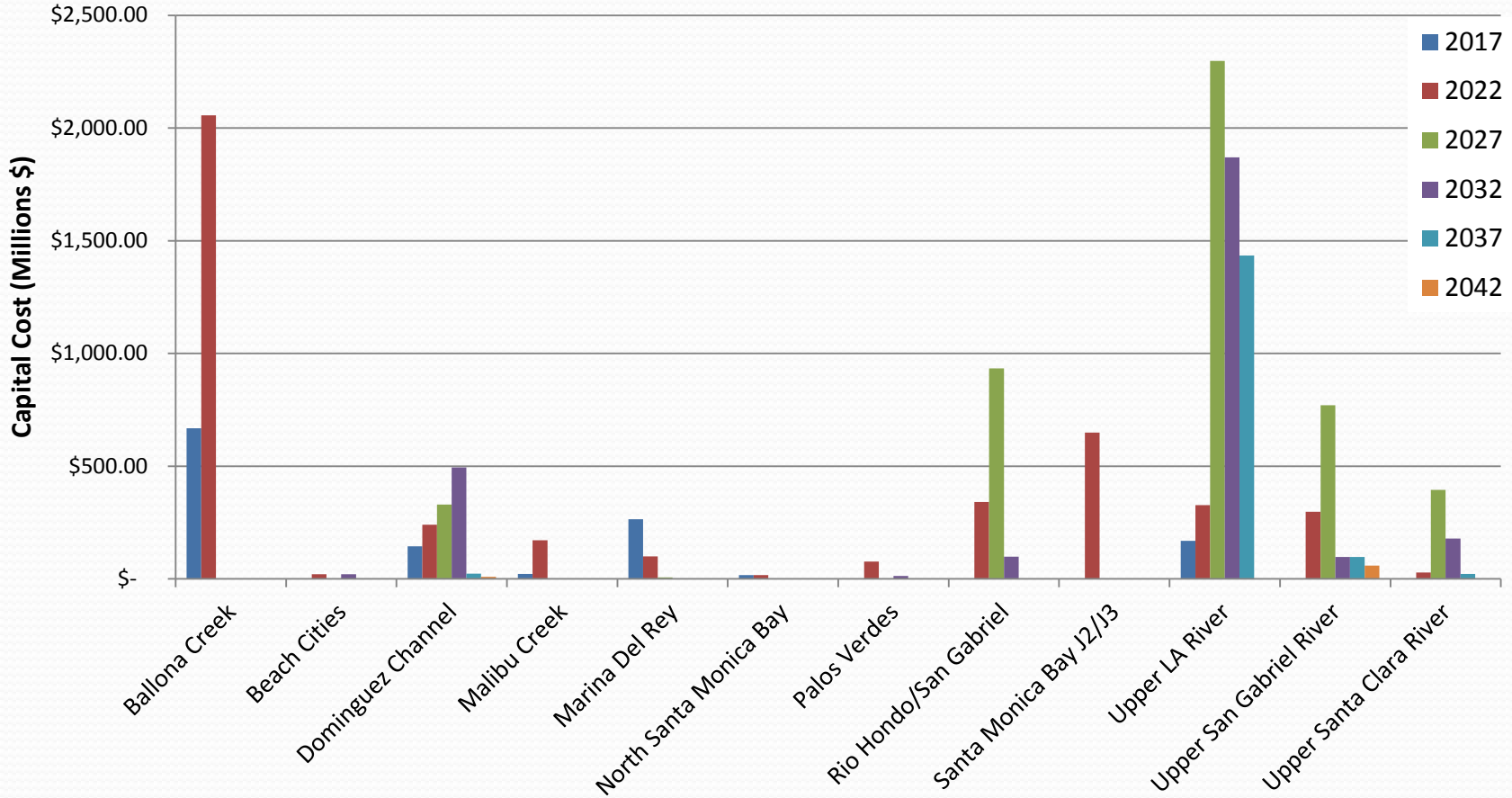
EWMP Provisions

- Process of Identifying and Selecting Regional Projects
- Financial Strategy

Table 8-2. Potential Funding Strategies

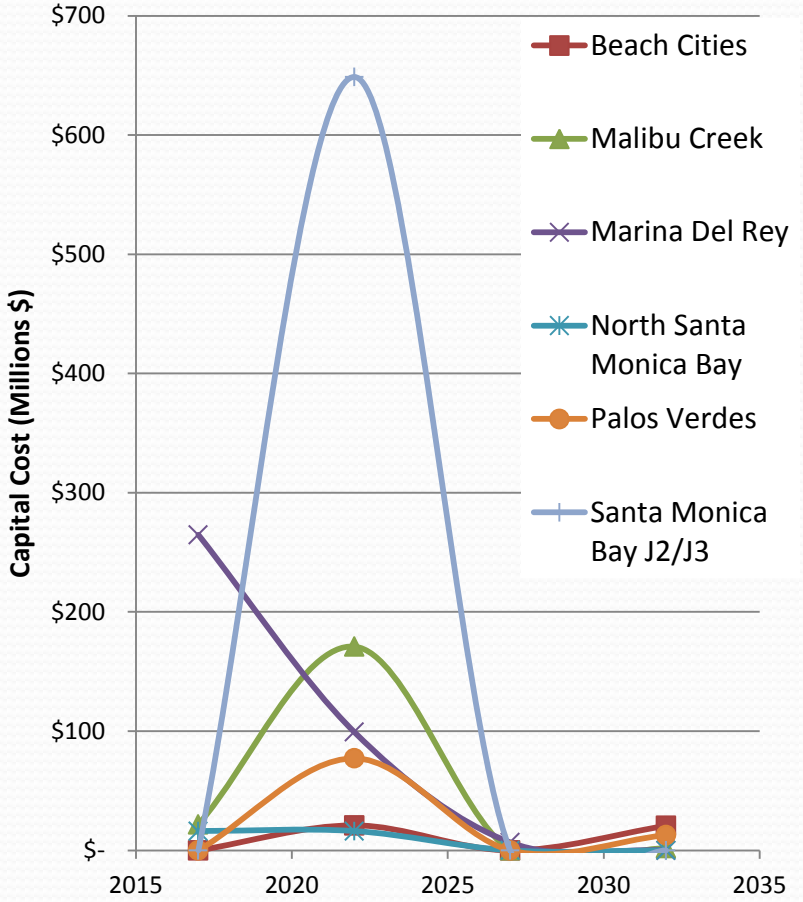
Type	Background	Potential	Process	Conditions	Challenges
Enhanced Infrastructure Financing Districts (EIFD)s	Government entity created by City or County to construct or improve infrastructure, governed by a public financing authority (PFA) to use a portion of property taxes from the participating jurisdictions or other fees or investments to fund regional infrastructure projects	Signed into law in Fall 2014, will allow cross jurisdictional projects to collaboratively fund improvements affecting water problems which don't follow jurisdictional boundaries	• Determine if the prerequisites are met • ID projects, stakeholders, district members • Establish PFA • Formalize EIFD • Develop Infrastructure Financing Plan (IFP) • Review with public • Adopt IFP and begin work	• Receive Finding of Completion (FOC) • Certify no SA assets under litigation will benefit • Comply with State Controller's asset transfer review	New concept which will need time to become standard practice. Will require educating local decision makers of the benefits of EIFDs
State Revolving Fund (SRF) Loans	Funding source for any city county or district to fund projects including stormwater treatment, water reclamation and wastewater treatment systems	Continuously available for application	Application available online on SWRCB site.	Limitations apply to types of projects eligible	Limited supply of funds
Bonds	Traditional infrastructure bonds	Vary by project funding needs and jurisdiction	Traditional bond development and approval processes	Vary by type of bond and details	Lack of public support from lack knowledge of infrastructure funding shortcomings Timelines of bond issuance process don't always match project timelines

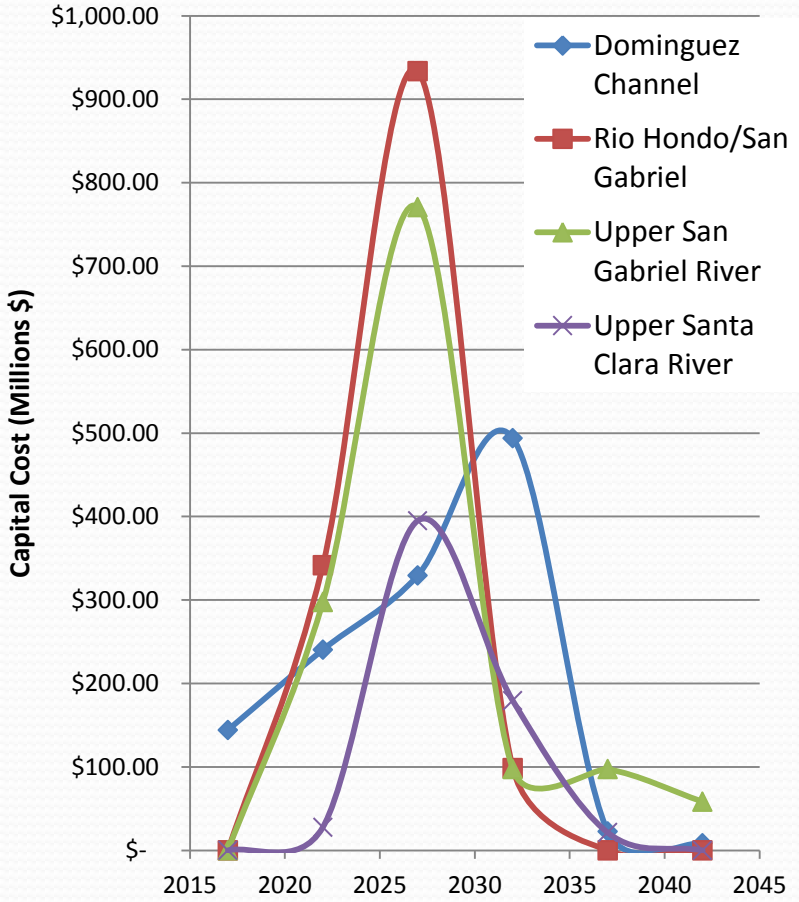
EWMP capital costs over 25 years



RB-AR 3495

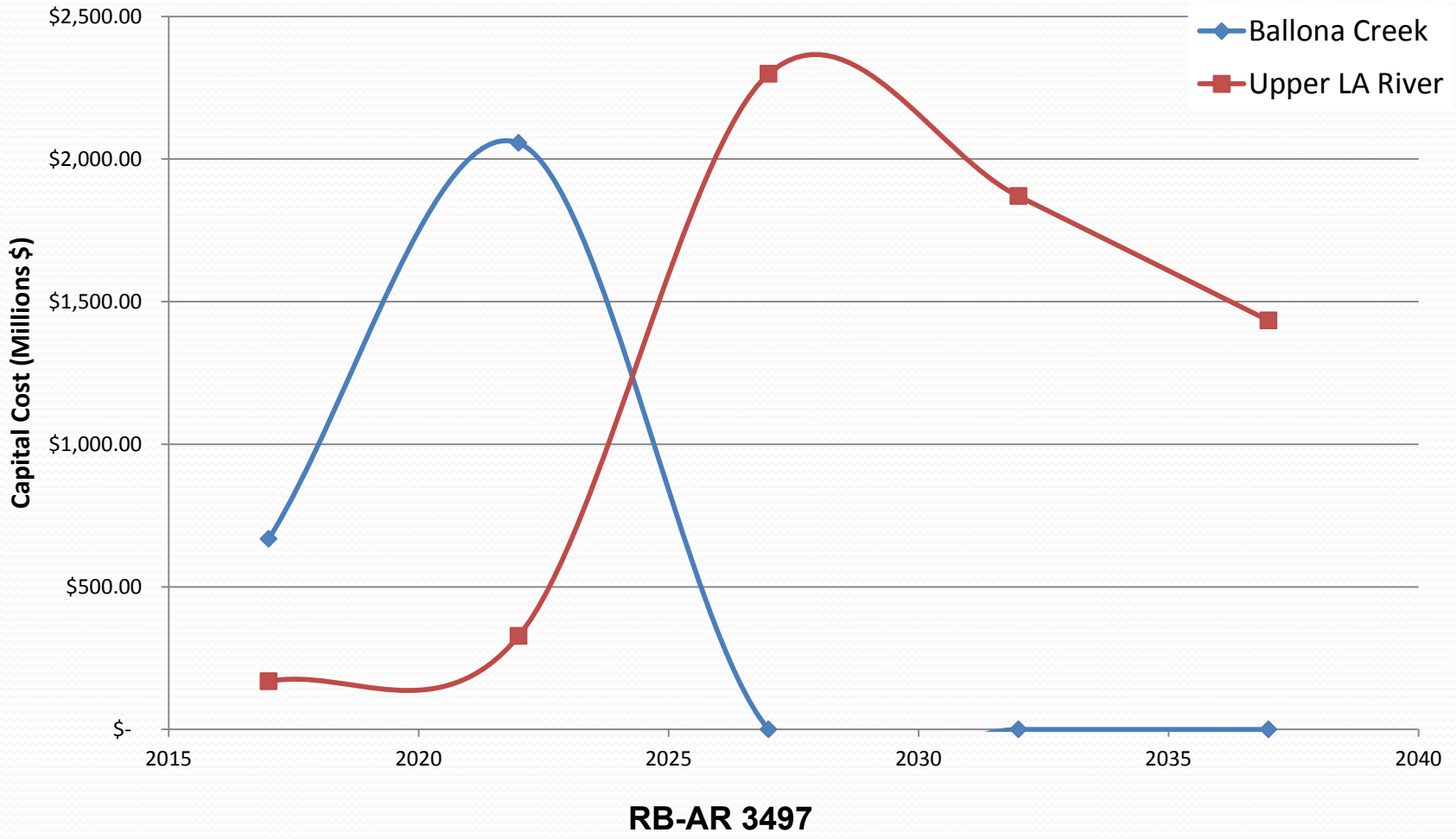
Timing of Capital Costs (pt. 1)





RB-AR 3496

Timing of Capital Costs (pt. 2)



Sampling of EWMP Structural Projects reflected in Capital Costs (2016-'20)

EWMP Group	Date	Milestone	Projects	Costs
Upper Los Angeles River	2017	Metals (31%) Milestone	LID	$7,890,000
Upper Los Angeles River	2017	Metals (31%) Milestone	Green Streets	$72,090,000
Upper Los Angeles River	2017	Metals (31%) Milestone	Regional Projects	$61,050,000
Upper Los Angeles River	2017	Metals (31%) Milestone	Regional Projects (Private)	$27,740,000
Rio Hondo/San Gabriel	2020	Interim	Recreation Park	$10,251,000
Rio Hondo/San Gabriel	2020	Interim	Sierra Vista Park	$4,818,000
Rio Hondo/San Gabriel	2020	Interim	LADWP Easement	$6,436,000
Rio Hondo/San Gabriel	2020	Interim	Encanto Park	$16,255,000
Rio Hondo/San Gabriel	2017	Interim	SGR Watershed Green Streets	$43,596,432
Ballona Creek	2016	Metals (50%) Milestone	LID	$10,010,000
Ballona Creek	2016	Metals (50%) Milestone	Green Streets	$42,310,000
Ballona Creek	2016	Metals (50%) Milestone	Regional Projects	$51,330,000
Ballona Creek	2016	Metals (50%) Milestone	Regional Projects (Private)	$40,160,000
Santa Monica Bay J2/J3	2018	Bacteria (50%) Milestone	Regional BMPs	$48,800,000
Santa Monica Bay J2/J3	2018	Bacteria (50%) Milestone	Green Streets	$277,001,600
Marina del Rey	2017	project	Costco	$6,707,599
Marina del Rey	2020	project	Venice Boulevard	$90,699,590

Next Up…

Funding Strategies Panel

- **Update on Stormwater Funding Options Report**
  Ken Farfsing, Interim City Manager, Carson
  Richard Watson, Rich Watson & Associates
- **City of LA Funding Strategies**
  Dr. Shahram Kharaghani
- **Environmental Organizations' Role & Perspective**
  Dr. Rita Kampalath
- **State Board Office of Chief Counsel Legislative Updates**
  Chief Counsel Michael Lauffer

RAA Panel

- **Purpose and foundations of RAA**
  Sam Unger
  Ivar Ridgeway
- **WMMS development and updates**
  TJ Moon, LA County
- **RAA approach for Beach Exceedance Days**
  Ken Susilo, Principal, Geosyntec
- **RAA "Exceedance Volume" approach**
  Dustin Bambic, Director, Paradigm Environmental

STORMWATER FUNDING OPTIONS

Update on Implementation of the Los Angeles County Stormwater Funding Options Report

A presentation to the
Los Angeles Regional Water Quality Control Board
by

Kenneth C. Farfsing, City of Carson
Richard A. Watson, Richard Watson & Associates

Los Angeles, California
05 November 2015



RB-AR 3500

Stormwater Funding Options Report

- **Prepared for the League of California Cities, Los Angeles County Division and the California Contract Cities Association**
- **Final Report published October 14, 2014**
- **Lead by an Elected Officials Steering Committee and a City Manager Work Group/Included extensive Los Angeles County/LACSD participation**
- **Developed as an educational tool and contained a menu of funding strategies and 42 recommendations**
- **Laid the foundation for prioritizing funding strategies**
- **Found that MS4 programs are the "orphaned utilities," without the Proposition 218 fee support that traditional utilities rely upon**

Stormwater Funding Options Report
(Continued)

- **Organizational Recommendations, Education and Outreach Recommendations, Proposed Legislation, Clean Water, Clean Beaches Recommendations, Local Funding Options and Recommendations to the Regional Water Board.**
- **It also discussed evolving funding opportunities and has been generally well received statewide.**
- **The report has already resulted in AB 2403 and SB 485, signed into law by the Governor.**
- **Steering Committee worked with the League of Cities and CCCA to provide input and support for Proposition 1**
- **Why is the funding report important and what are the next steps?**

Stormwater Funding Options (Continued)

- **Local governments understand that improving water quality and increasing water supply are critical goals.**
- **However, economic models are showing billions of dollars in estimated MS4 compliance costs in Los Angeles County.**
- **For example, Carson is participating in the Dominquez Channel EWMP - $1.739 billion estimated watershed costs (Source: Paradigm Environmental).**
- **Carson costs are estimated at $419,367,797 ($21.9 million per square mile).**
- **Under California law, Carson is a disadvantaged community/ Per capita income is $23,672/State per capita income is $29,527.**
- **City has run multi-million dollar budget deficits for 7 of the last ten years.**
- **Like most cities, there is no dedicated source of funding for stormwater.**

RB-AR 3503

2015-16 Follow-Up

- **Contract Cities and the Los Angeles County Division of the League of Cities taking the lead to implement the report.**
- **59 Cities in Los Angeles County have agreed to fund a $202,000 budget to fund the work plan to address developing a funding options "tool box" with specific actions/steps to be taken to pursue recommended strategies.**
- **A 10-member Elected Officials Steering Committee has been formed – ½ League, ½ CCCA**
- **The first meeting of the new steering committee has been set for November 12th.**
- **Emphasis will be given to both short-term and long-term funding.**

RB-AR 3504

Initial Anticipated Actions

- Review work plan
- Revise budget
- Organize a City Manager Committee
- Organize a Public Works Officials Subcommittee
- Organize a Public Information Officials Subcommittee
- Organize a Stakeholder Committee
- Pursue immediate short-term funding for WMP/EWMP implementation–Caltrans Cooperative Implementation Agreements are potential sources of funding

Draft Work Plan

- Clean Water, Clean Beaches
  - Initiate discussions with County staff re: CWCB Initiative
  - Meet with Members of Board of Supervisors
- Partnership with Los Angeles County Sanitation Districts
  - Work with LACSD on Implementation of SB 485
  - Develop additional partnerships
- Capture and Use of Stormwater
  - Explore technical and regulatory hurdles to capture and use of stormwater
  - Explore legislation to resolve liability issues surrounding stormwater infiltration projects on public lands.

RB-AR 3506

(Continued)

Draft Work Plan
(Continued)

- Proposition 218 Reform
  - Work with organizations that are exploring a Constitutional Amendment – volunteer to assist
- Special Assessment District
  - Explore the use of Assessment Districts for stormwater, including whether legislation would be needed
- Water Conservation Districts
  - Explore possible use of the Water Conservation District Act of 1931 to form Urban Water Conservation Districts
- State Projects
  - Explore legislation to require State projects, including school construction, community college improvements and park projects constructed with state and local bond funds to comply with water quality standards and that the State architect be required to compel that projects be consistent requirements in MS4 Permits.

RB-AR 3507

(Continued)

Draft Work Plan
(Continued)

- Source Control Legislation
  - Consider sponsoring or supporting legislation on the removal of zinc in tires
  - Engage in the DTSC rulemaking process
- Local Funding Options
  - Explore local funding options (i.e. stormwater development impact fees and amendments to refuse/street sweeping contracts)

Draft Work Plan
(Continued)

- Regional Water Board Recommendations
  - Initiate discussions with Regional Board on the report's recommendations on how best to assist local government
- Other Items
  - Engage in State Water Board's efforts to develop stormwater policy
  - Coordinate with U.S. Conference of Mayors on Federal issues
  - Meet with State Board members and staff on need to follow federal Fiscal Capability Analysis (FCA) policy.

Draft Work Plan
(Continued)

Education and Outreach Programs

1. Inventory the existing public education and outreach programs – revise the public education and outreach effort; form a subcommittee to work on the public education programs.
2. Educate local elected officials.
3. Reach out to the school districts, as well as to federal and state officials – set meetings with the Steering Committee.
4. Communicate with the Governor and the legislature on the need for additional funding opportunities – set meetings with the Steering Committee.

Draft Work Plan
(Continued)

Education and Outreach Programs (Continued)

5. Initiate a program to conduct outreach to the local Congressional delegation – set meetings with the Steering Committee.
6. Initiate outreach program to conduct outreach to Los Angeles County legislative delegation.
7. Encourage the incorporation of stormwater–specific standards into the Basin Plan.
8. Steering Committee meetings with MTA Board members and key staff.

Conclusions

- Appears that County will wait for support from cities before moving forward on a stormwater fee
- There is not a single answer to solve the funding needs for the orphaned stormwater utilities.
- Efforts this year will be directed toward a “tool box” of funding options and pursuing short-term funding opportunities.
- With the development of WMPs and EWMPs there is a lot more information on project costs and local elected officials have a better understanding of the need for additional funding.
- Outreach and education will be critical.

CONTACT

Questions?

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Email: kfarfsing@carson.ca.us

Richard Watson

Richard Watson & Associates, Inc. (RWA)

Tel. 949.855.6272

Email: rwatson@rwaplanning.com

RB-AR 3513

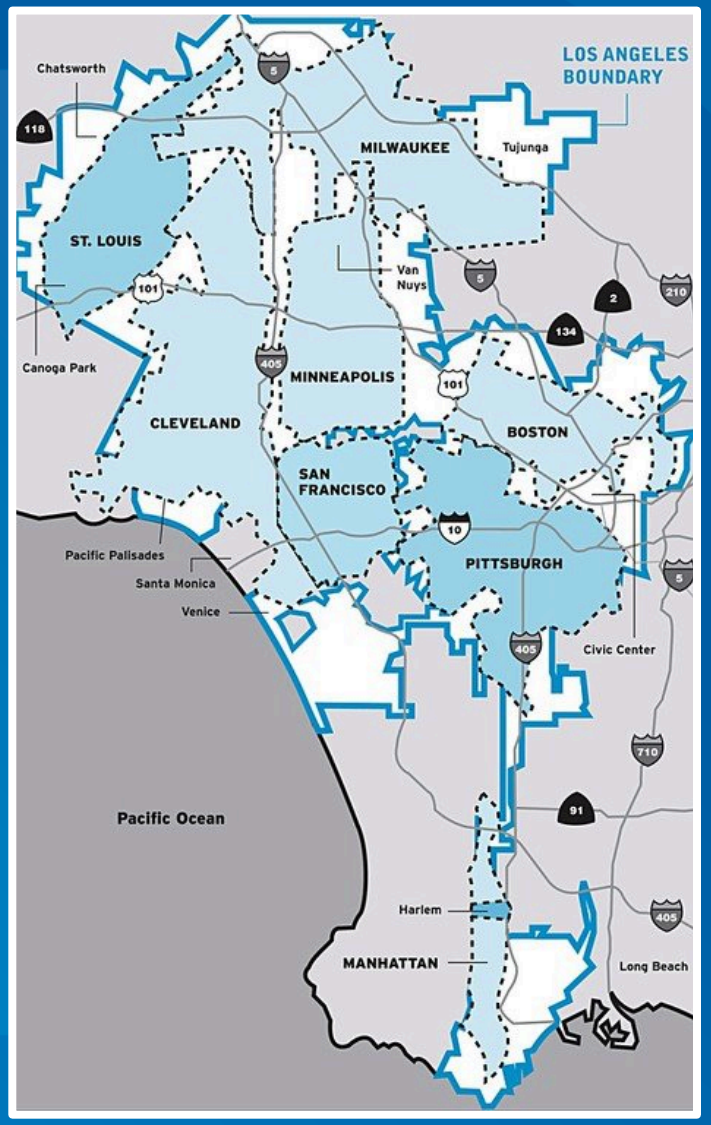
Update on EWMP Funding Efforts for the City of Los Angeles

SHAHRAM KHARAGHANI, Ph.D, PE, BCEE
Stormwater Manager
LA Sanitation, City of Los Angeles

RB-AR 3514

Presentation Overview

- Current Funding Status
- EWMP Costs for Los Angeles
- Capital Improvement Program
- Funding Options
- Closing Remarks
- Questions

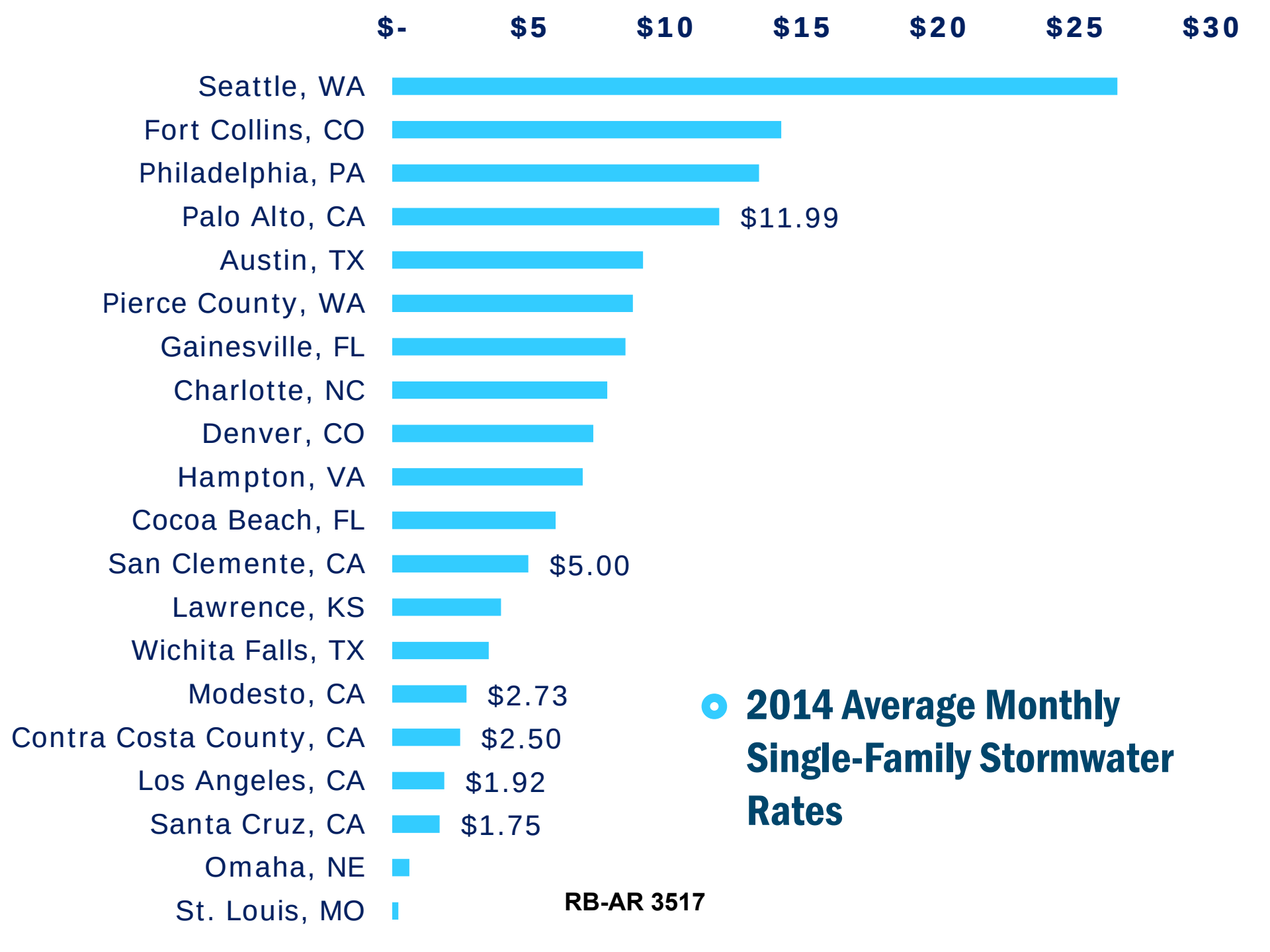


RB-AR 3515

Current Funding Status

- Total Stormwater Program Budget = $35M/yr
- Primary Funding for Stormwater Program:
  - Stormwater Pollution Abatement Fund = $28.5M/yr
  - Equivalent to ~ $2/residential parcel
- Additional Funds:
  - General fund = $6.5M/yr
  - Grants = ~ $1M/yr
- Other Funds: Prop O
  - Prop O =$500M over 15 years

LA environment SANITATION
CITY OF LOS ANGELES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Wichita Falls, TX
Modesto, CA
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Contra Costa County, CA
$2.50
Los Angeles, CA
$1.92
Santa Cruz, CA
$1.75
Omaha, NE
St. Louis, MO
2014 Average Monthly Single-Family Stormwater Rates

RB-AR 3517

EWMP Costs for Los Angeles

- Capital cost, no escalation, no O&M

Watershed	Compliance Date	Capital Cost of BMPs ($ millions)
Marina del Rey	2021	$250
Santa Monica Bay	2021	$410
Dominguez Channel	2032	$530
Ballona Creek	2021	$2,280
Upper LA River	2037	$3,820
Total	2021-2037	$7,300

RB-AR 3518

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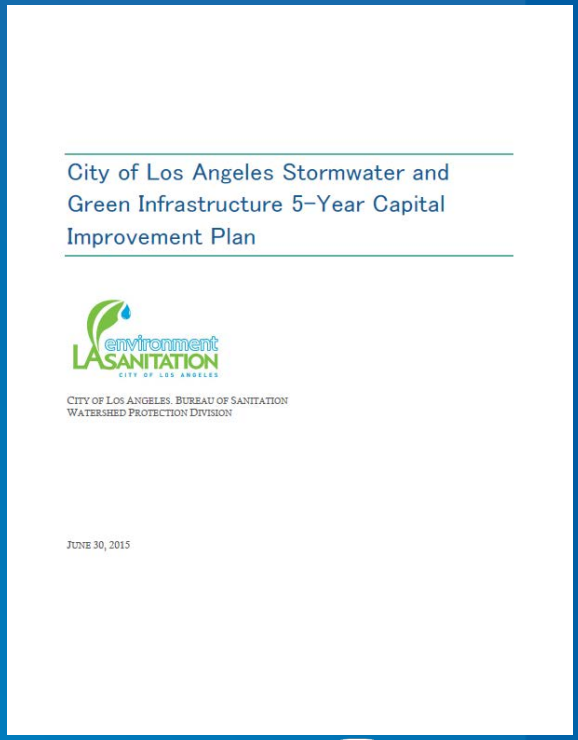
CITY OF LOS ANGELES

Capital Improvement Program (CIP)

- Stormwater CIP: short-term (5 yrs) but more detailed than EWMPs
- Completed initial CIP effort in June 2015
- Identified $850M in specific projects for early EWMP milestones
  - Signature regional projects
  - Distributed green streets
  - Rainwater capture & water supply
  - Flood control needs
- Expanding CIP to $1.5B by Dec 2015


City of Los Angeles Stormwater and Green Infrastructure 5-Year Capital Improvement Plan

environment LA SANITATION CITY OF LOS ANGELES

CITY OF LOS ANGELES. BUREAU OF SANITATION
WATERSHED PROTECTION DIVISION

JUNE 30, 2015

RB-AR 3519

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Funding Options

- Loans: State Revolving Fund
- Grants: Prop 1 Water Bond
- Increased stormwater fees/taxes
- Out-of-box ideas

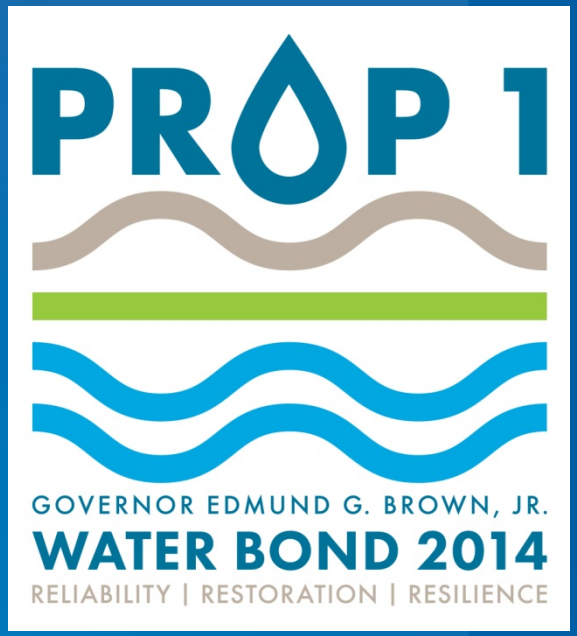
Funding Options: Loans

- State Revolving Fund
  - Readily available funding = reduced time to implement projects
  - Allows time for other funding approaches to come on line
  - Favorable loan terms (<2%)

LA environment SANITATION
CITY OF LOS ANGELES

Funding Options: Grants

- Prop 1 Water Bond
  - Statewide funding < $200M
  - Matching funds and internal resources required
  - Developed Prop 1 project list for 1st round
- Grants are time consuming and resource intensive
- Appropriate for individual projects, but less so for programs



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CITY OF LOS ANGELES

Funding Options: Stormwater Fees

- City Fees/Taxes, County-wide Funding, Source Specific Taxes
  - Highest revenue generation potential
  - Long-term, sustainable revenue source
  - Requires 2/3 approval of voters or 50% of property owners
  - Politically challenging
  - Will take time

Funding Options: Stormwater Fees

- Pay as you go:
  - $1.5B CIP = $300M/yr
  - ~10 fold increase from $2 to $20/mo per household
  - Requires time to pass funding measure
- Debt financing:
  - $1.5B CIP = $100M/yr in P&I
  - Only pay P&I on what is used when it is used
  - ~ 3 fold increase from $2 to $6/mo per household
  - Allows time for funding measure

Funding Options: Out-of-Box Ideas

- Public Private Partnerships (P3)
  - Identify revenue potential and steps to utilize P3 and stormwater credit trading/in lieu fees
- Joint Power Authorities (JPA)
  - Evaluate JPAs as a potential approach to focus revenue generation and utilization on a more targeted basis
- Partnerships with public agencies
  - Evaluate partnerships with public agencies outside of MS4 control (e.g., school districts, Metro, federal and state government, etc.)
- Stormwater Credit Trading
  - Identify opportunities for in-lieu fees private/public, or credit trading private/private

Closing Remarks

- Over $7.3B are needed to fully implement EWMPs across City of LA (25 years, 22 TMDLs)
- City of LA has initiated the CIP Planning process to ensure projects are ready to receive funding
- Traditional and creative funding options are being pursued
- Ability to utilize debt financing while working on revenue generation looks promising

Conclusion

Questions?

SHAHRAM KHARAGHANI, Ph.D, PE, BCEE

Stormwater Manager

LA Sanitation, City of Los Angeles

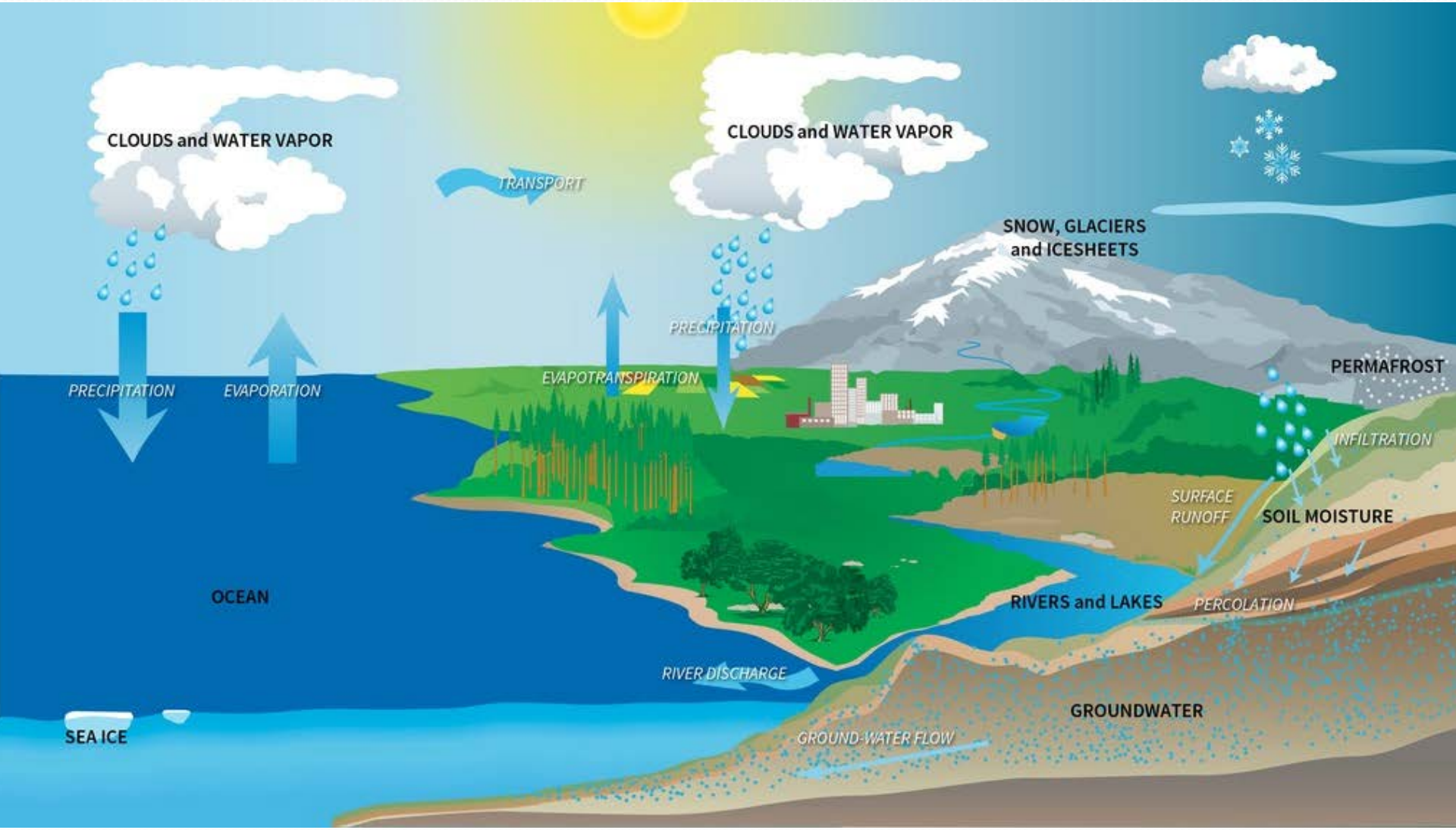
environment LA SANITATION CITY OF LOS ANGELES

Los Angeles County Watershed Management Modeling System

TJ Moon
Los Angeles County Flood Control District

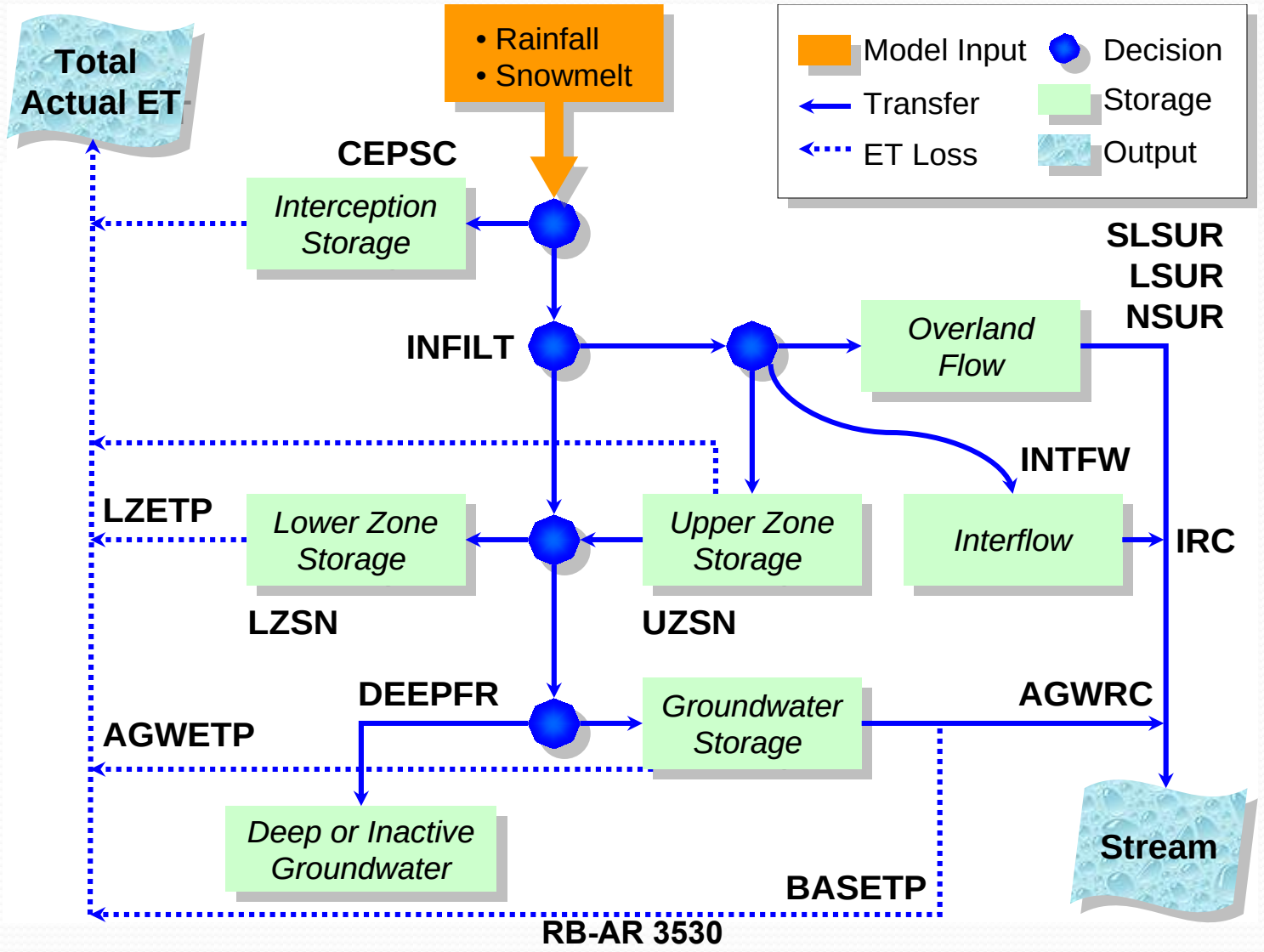
www.LACountyWMMS.com

Water Cycle



RB-AR 3529

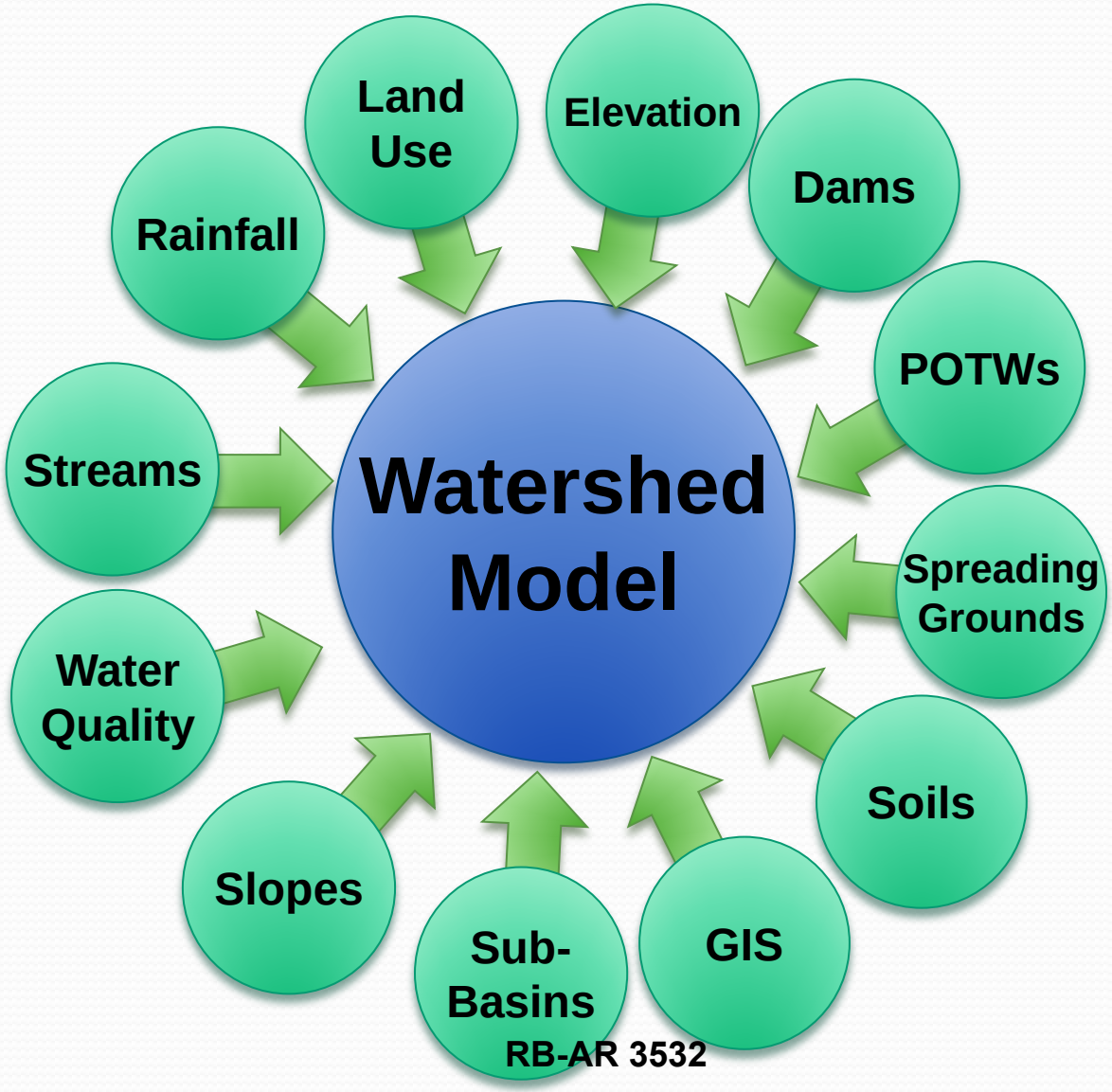
Modeling Overview



TMDLs & Models

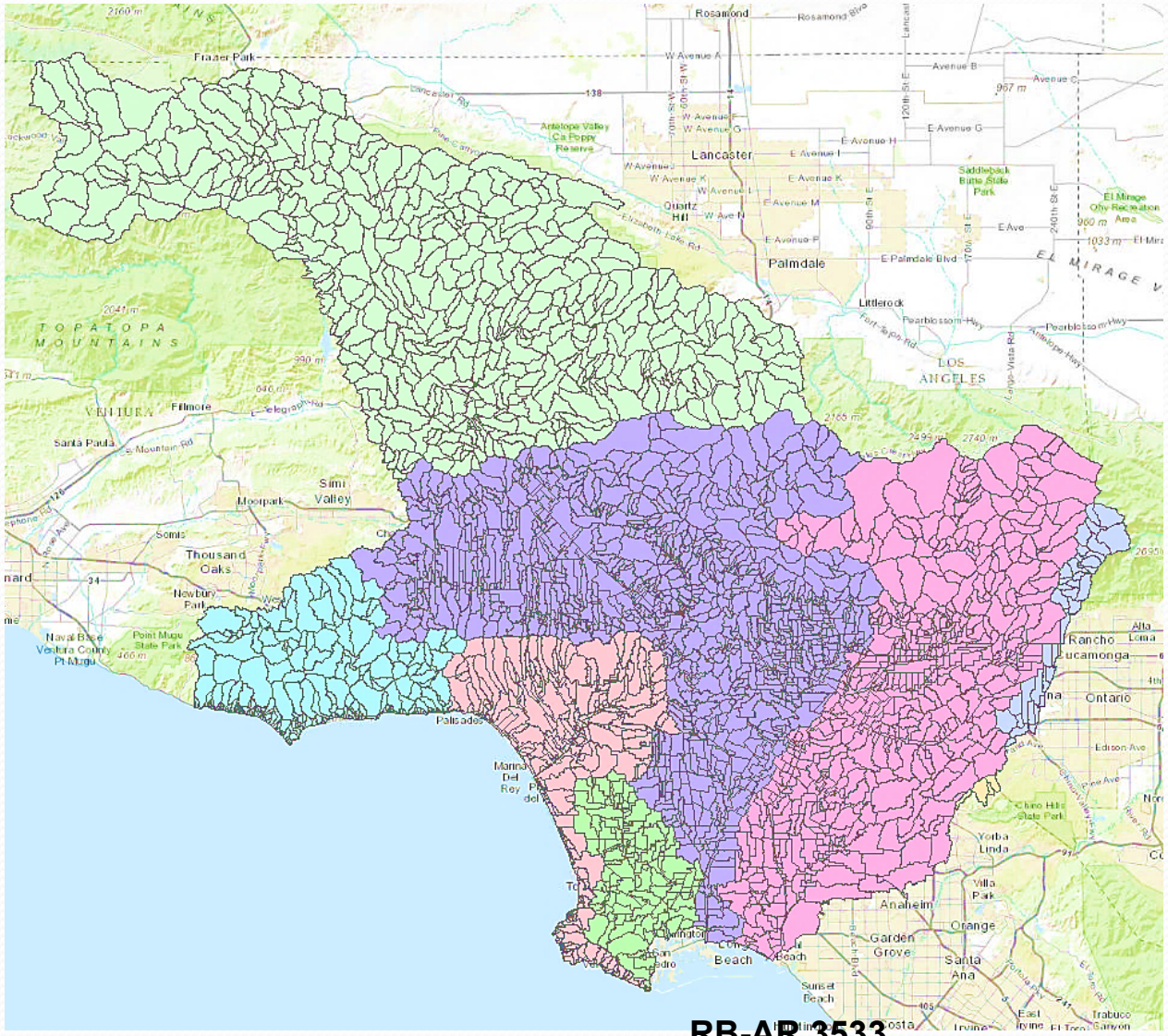
- Malibu Creek Bacteria TMDL (2006)
- Santa Monica Bay Beaches Bacteria TMDL (2003)
- Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL (2011)
- Ballona Creek Toxics/Metals TMDL (2006)
- Calleguas Creek Metals and Selenium TMDL (2007)
- LA River Metals TMDL (2008)

The "Model" Solution



RB-AR 3532

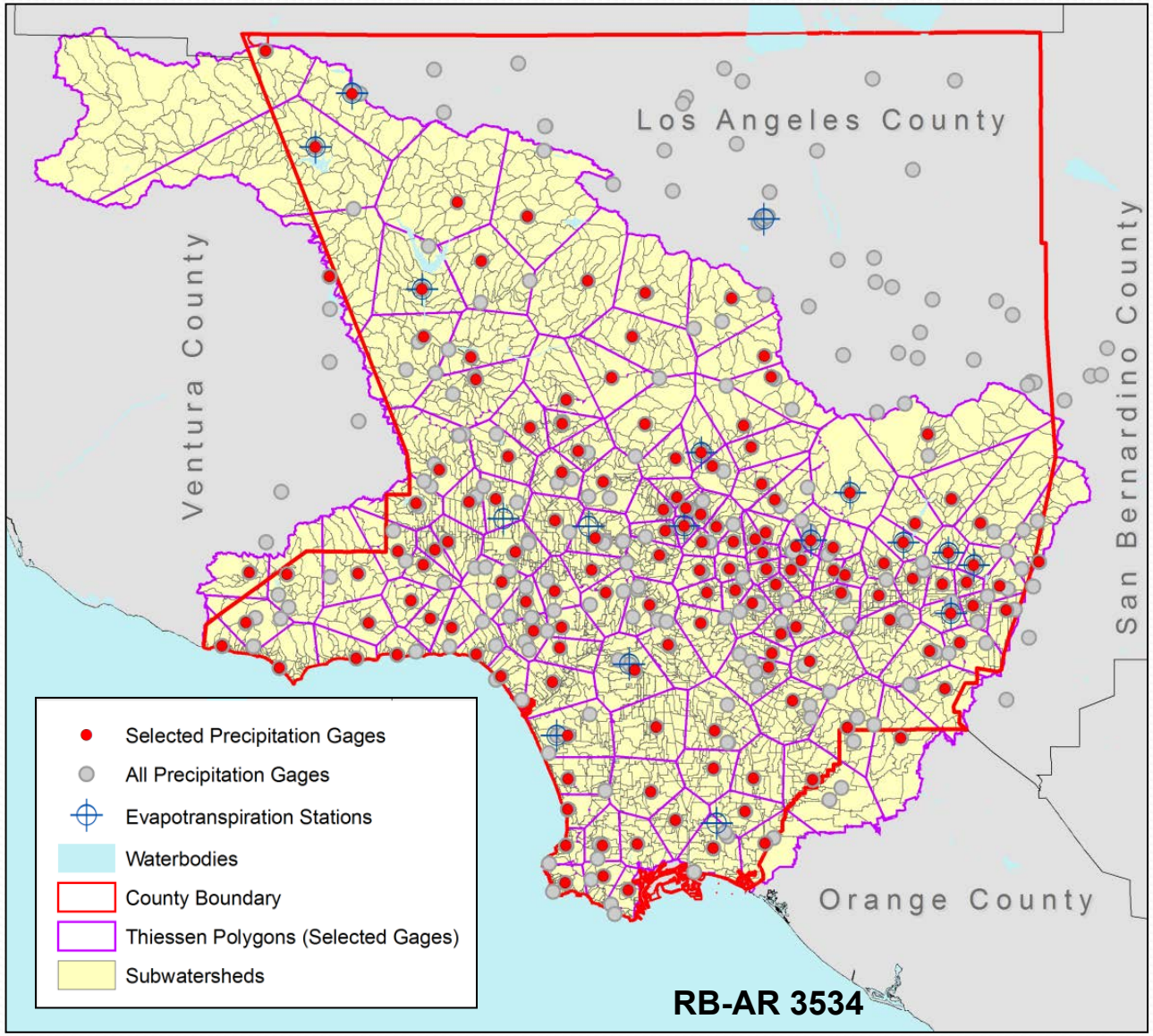
Subwatershed Representation



- **2,655** Subwatersheds
- **941** Reach Segments

RB-AR 3533

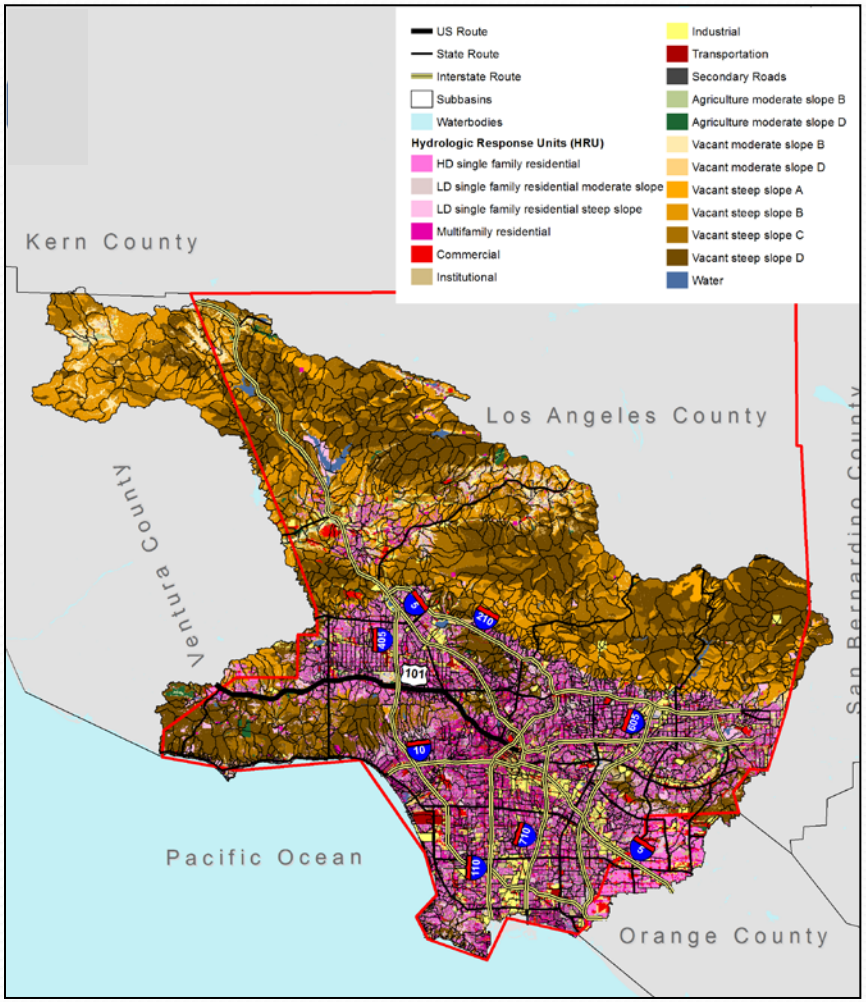
Weather Representation

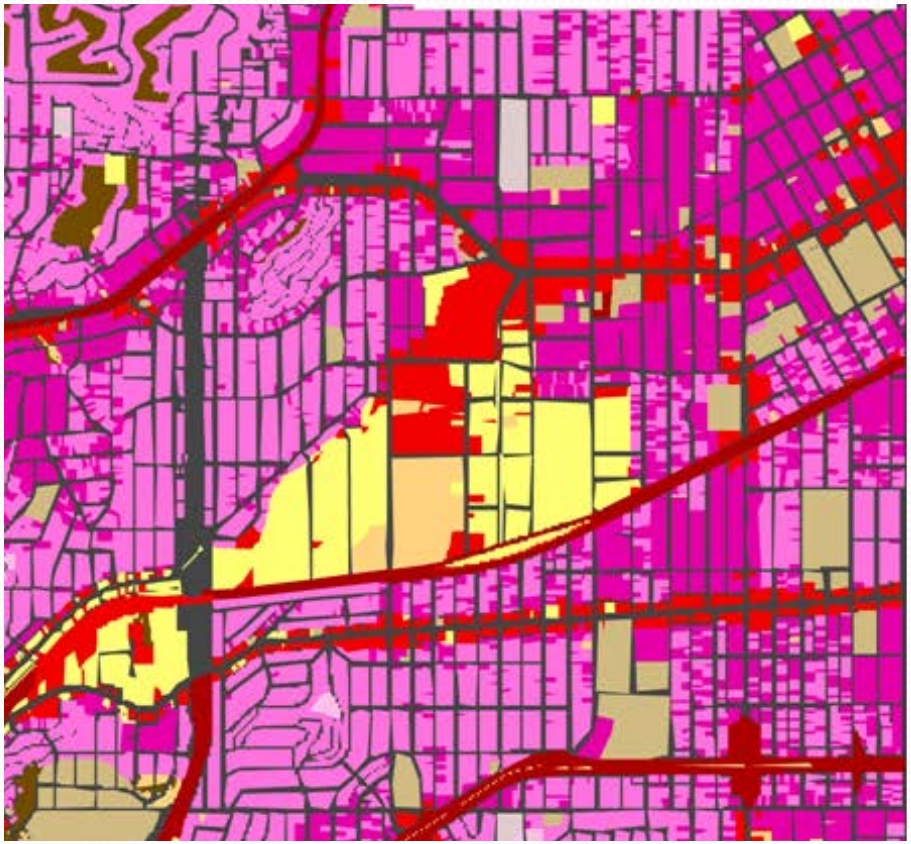


Rainfall Data

- Analyzed 448 Rainfall Gages
- Selected 148 Rainfall Gages

Land Use Representation





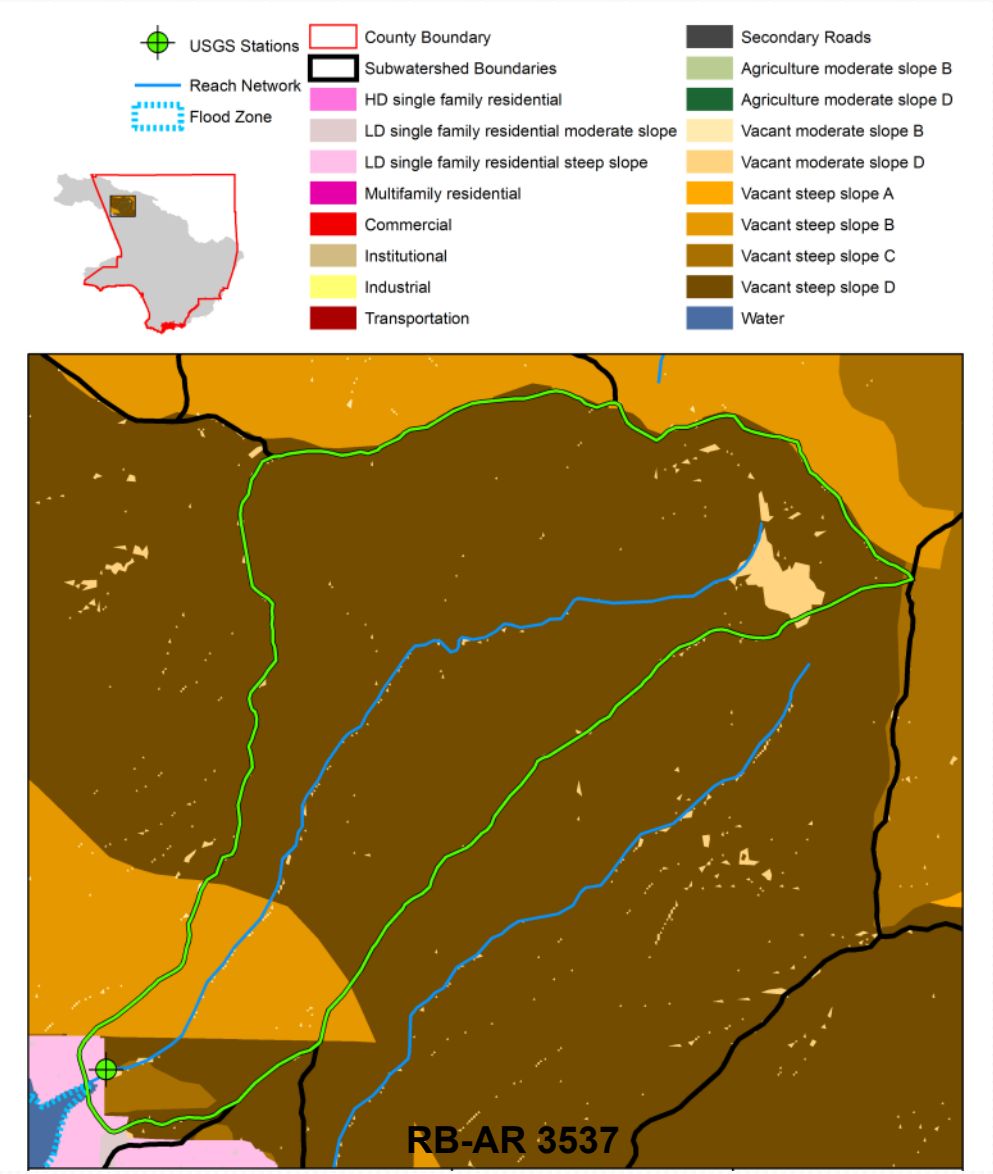
RB-AR 3535

LA County Complexity

RB-AR 3536

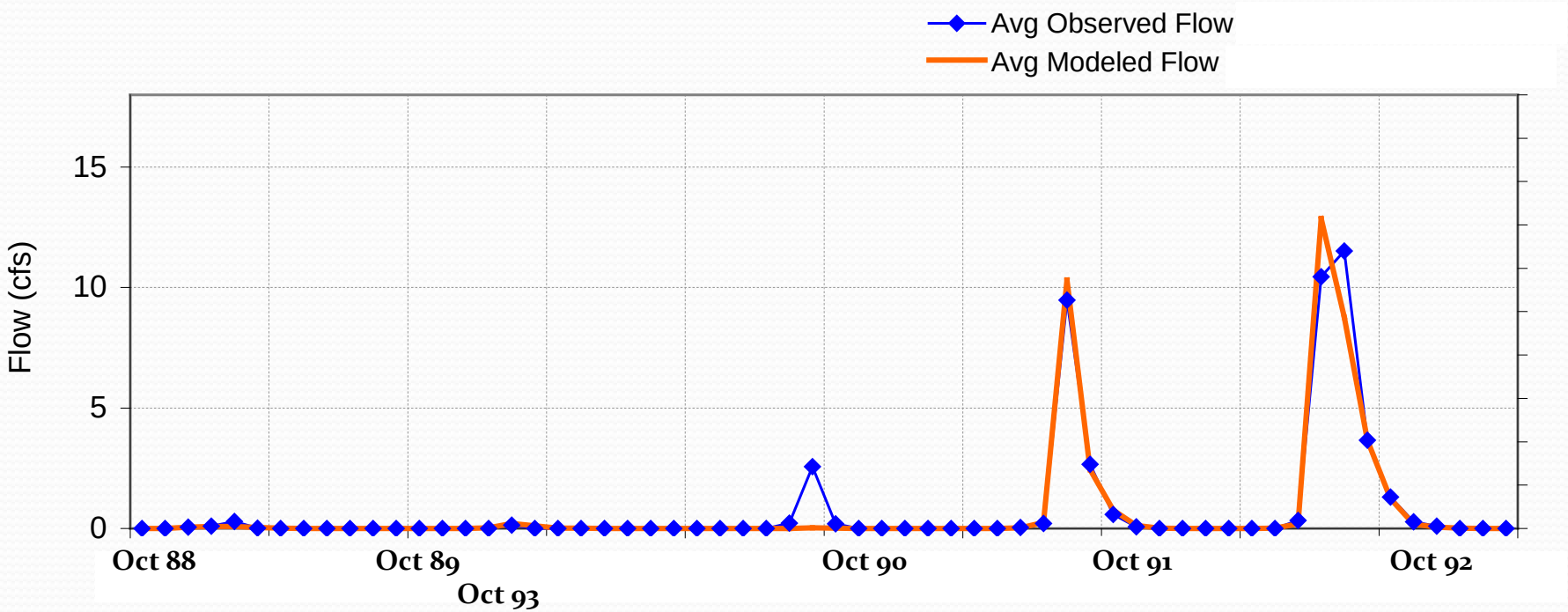
Hydrological Calibration Location

Vacant, Steep Slope, Soil D



Hydrological Calibration Location

Vacant, Steep Slope, Soil D

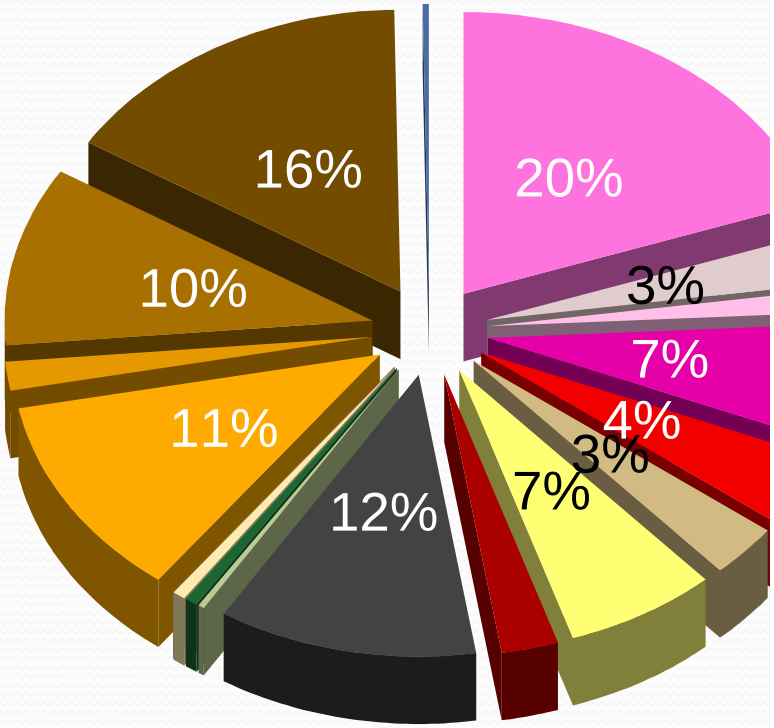


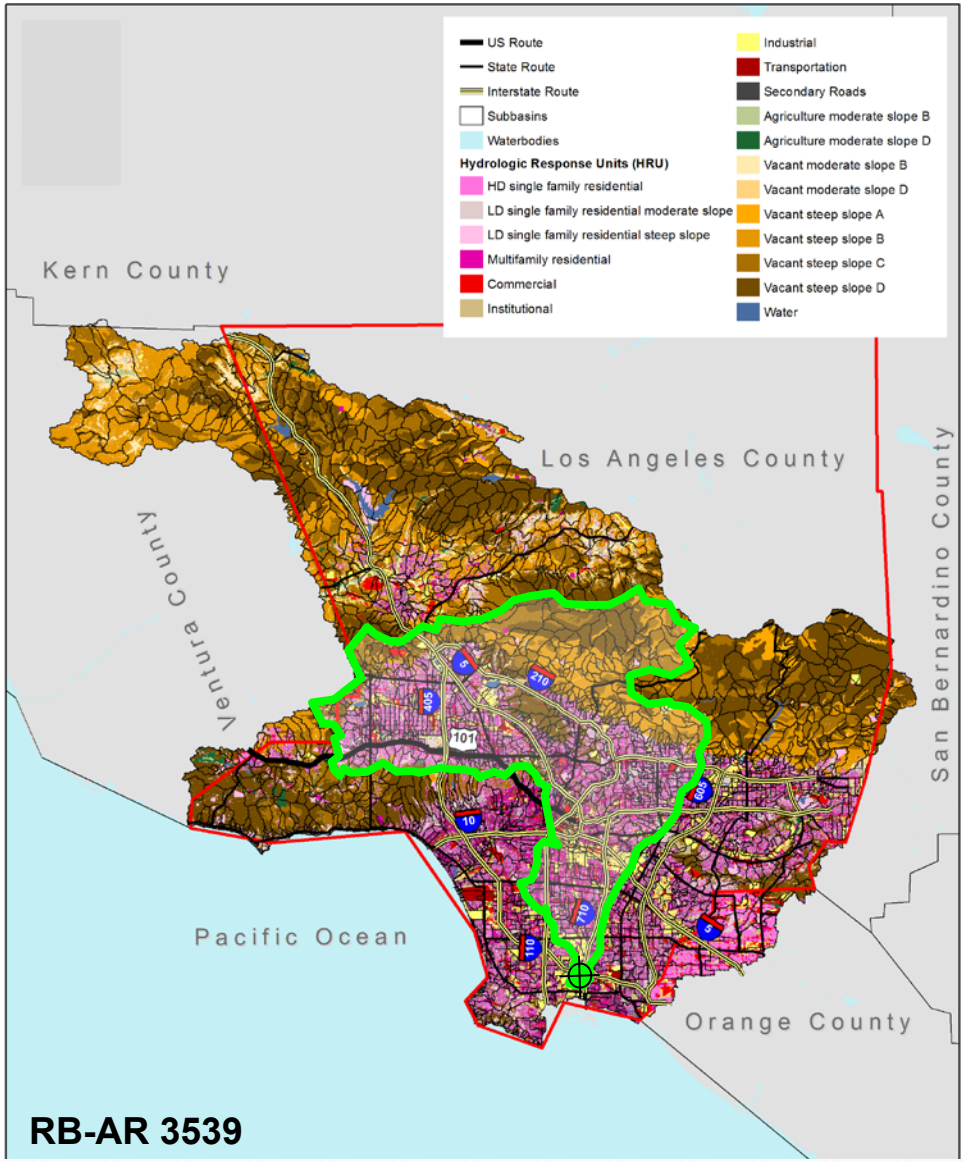
Observed vs. Modeled Flow

RB-AR 3538

Hydrological Validation Location

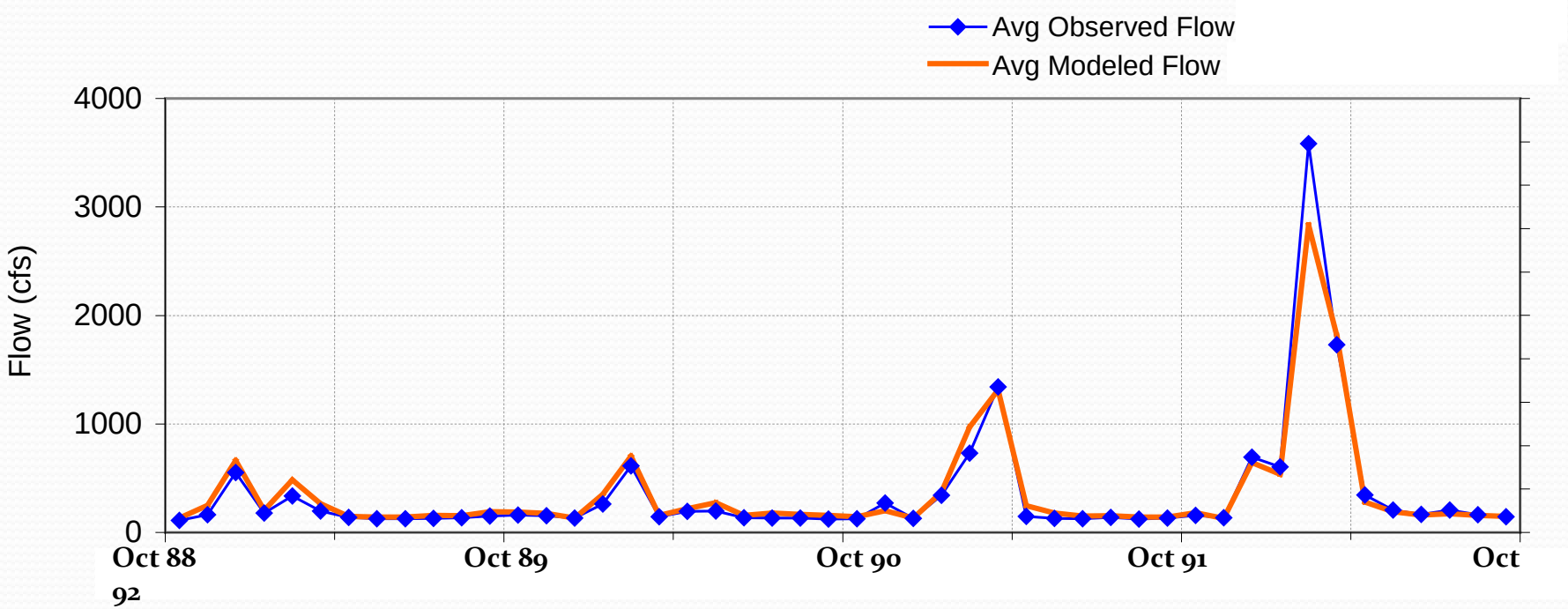
Los Angeles River above Long Beach





Hydrological Validation Location

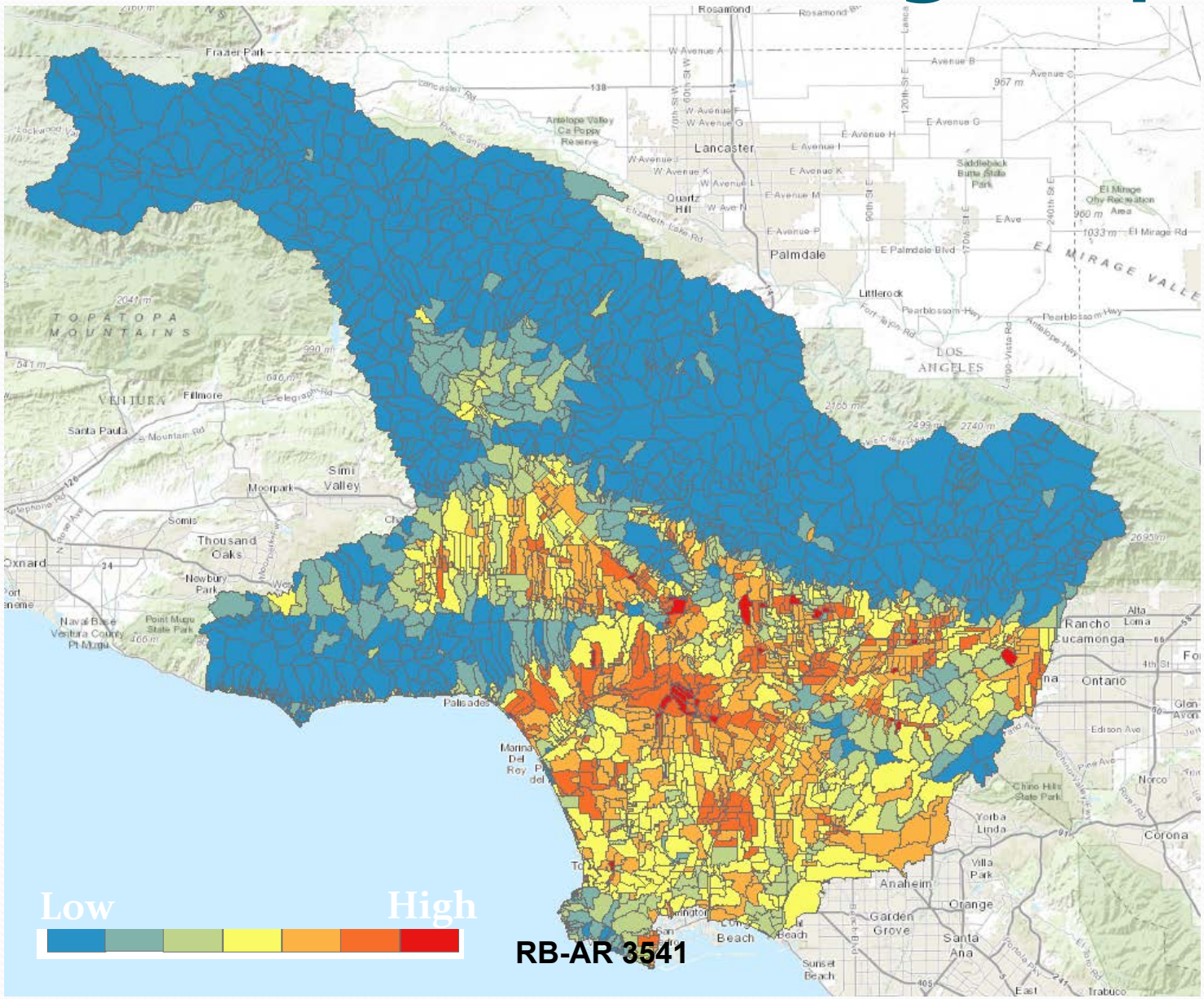
Los Angeles River above Long Beach



Modeled Flow vs. Observed Flow

RB-AR 3540

Zinc Pollutant Loading Map



Water Quality Plans

County TMDL Implementation Plans (2011)

- Marina del Rey
- Los Angeles River
- Ballona Creek
- Machado Lake

EWMP Plans (2015)

- Upper Los Angeles River
- Santa Clara River
- Malibu Creek
- Ballona Creek
- Marina del Rey
- Dominguez Channel
- Upper San Gabriel River
- Rio Hondo/San Gabriel River
- Palos Verdes/Peninsula Cities

RB-AR 3542

Other Uses

- **MS4 Permit – TMDL Compliance –** California Water Quality Regional Board
- **Climate Change Studies -** U.S. Bureau of Reclamation
- **Stormwater Master Plans -** Los Angeles Department of Water and Power
- **Research -** UCLA's Water Sustainability Analysis Project
- **Research** – Pardee Rand Graduate School Project

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Reasonable Assurance Analysis - Bacteria

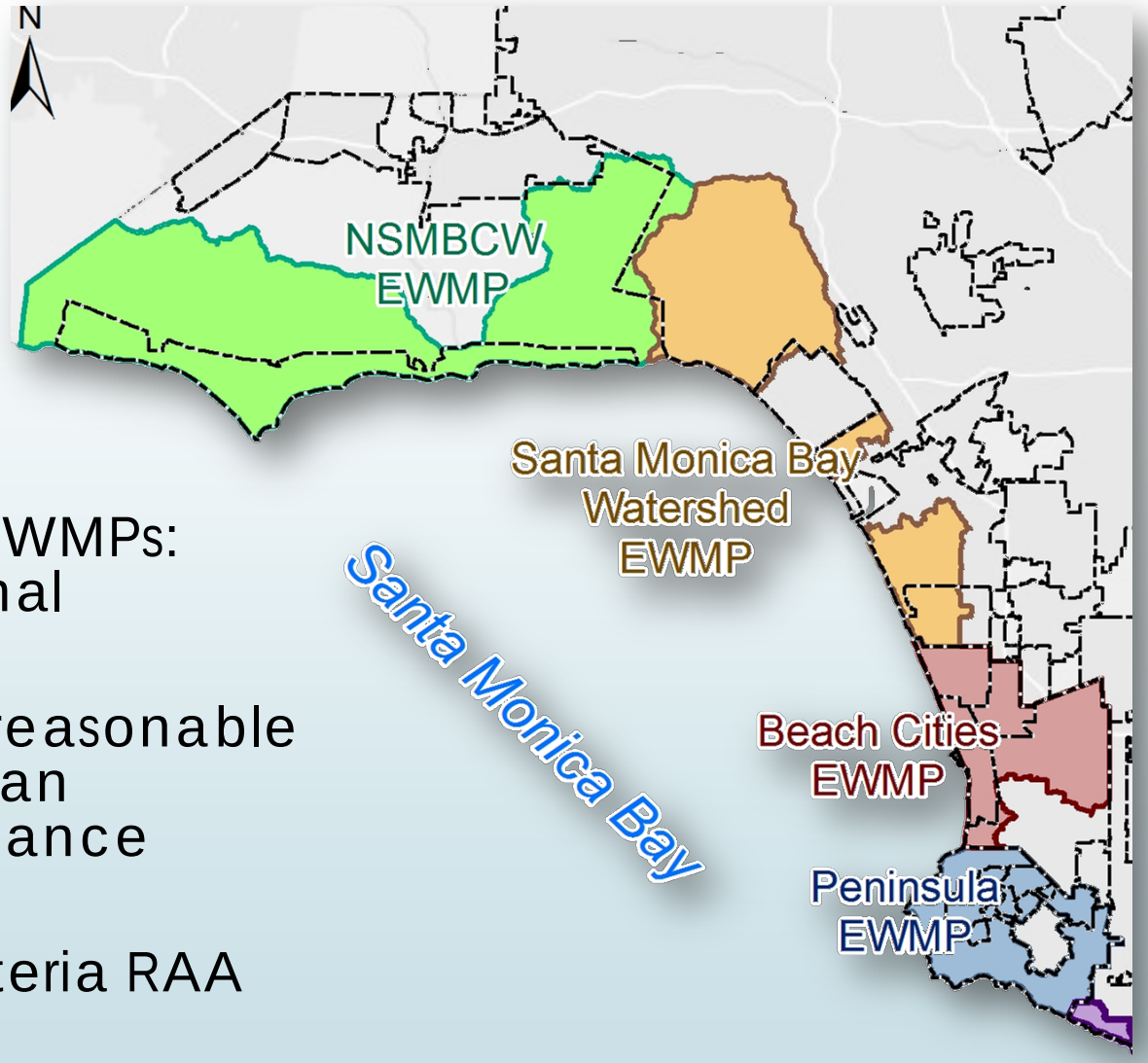
Los Angeles Regional Water Quality Control Board Workshop
November 5, 2015, Los Angeles, CA

Ken Susilo, PE, D.WRE, CPSWQ, Principal, Geosyntec Consultants

RB-AR 3544

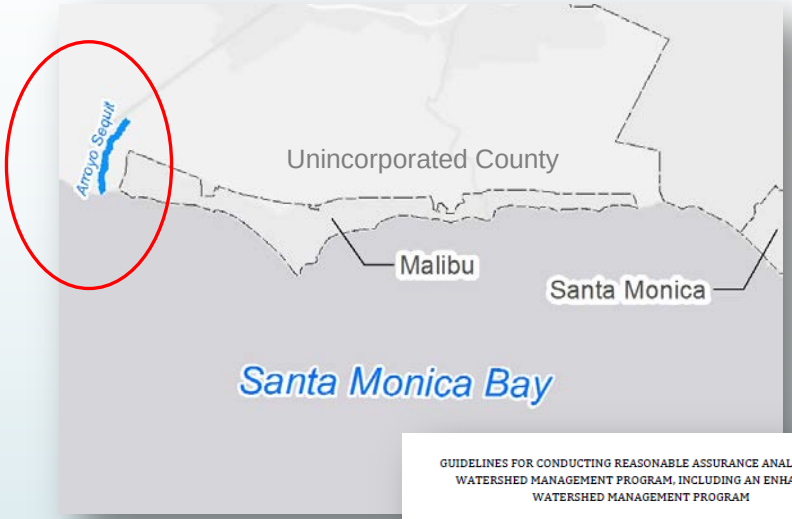
Introduction

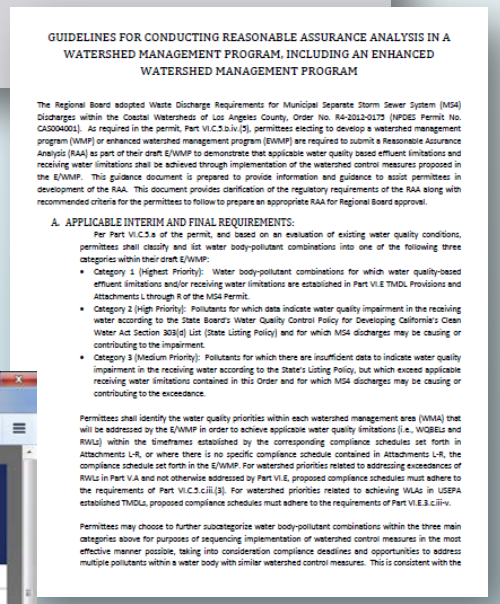
- Affected EWMPs (13 Entities, 180 sq. mi)
- Purpose of Bacteria-driven EWMPs: to attain/protect Recreational beneficial uses
- Purpose of RAA: to provide reasonable assurance that the EWMP is an appropriate basis for compliance
- Purpose of presentation: to demonstrate validity of Bacteria RAA approach



Baseline Assumptions/Discussion

- Fecal Indicator Bacteria is the indicator for Human Health Risk
- Reference watershed approach – Arroyo Sequit (**Exceedance Day** criteria)
- Anti-degradation considerations
- Modeling Tool SBPAT (Permit & Guidance) – what is it?





GUIDELINES FOR CONDUCTING REASONABLE ASSURANCE ANALYSIS IN A WATERSHED MANAGEMENT PROGRAM, INCLUDING AN ENHANCED WATERSHED MANAGEMENT PROGRAM

The Regional Board adopted Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Order No. R4-2012-0175 (NPDES Permit No. CAS004001). As required in the permit, Part VI.C.5.b.iv.(5), permittees electing to develop a watershed management program (WMP) or enhanced watershed management program (EWMP) are required to submit a Reasonable Assurance Analysis (RAA) as part of their draft E/WMP to demonstrate that applicable water quality based effluent limitations and receiving water limitations shall be achieved through implementation of the watershed control measures proposed in the E/WMP. This guidance document is prepared to provide information and guidance to assist permittees in development of the RAA. This document provides clarification of the regulatory requirements of the RAA along with recommended criteria for the permittees to follow to prepare an appropriate RAA for Regional Board approval.

A. APPLICABLE INTERIM AND FINAL REQUIREMENTS:

Per Part VI.C.5.a of the permit, and based on an evaluation of existing water quality conditions, permittees shall classify and list water body-pollutant combinations into one of the following three categories within their draft E/WMP:

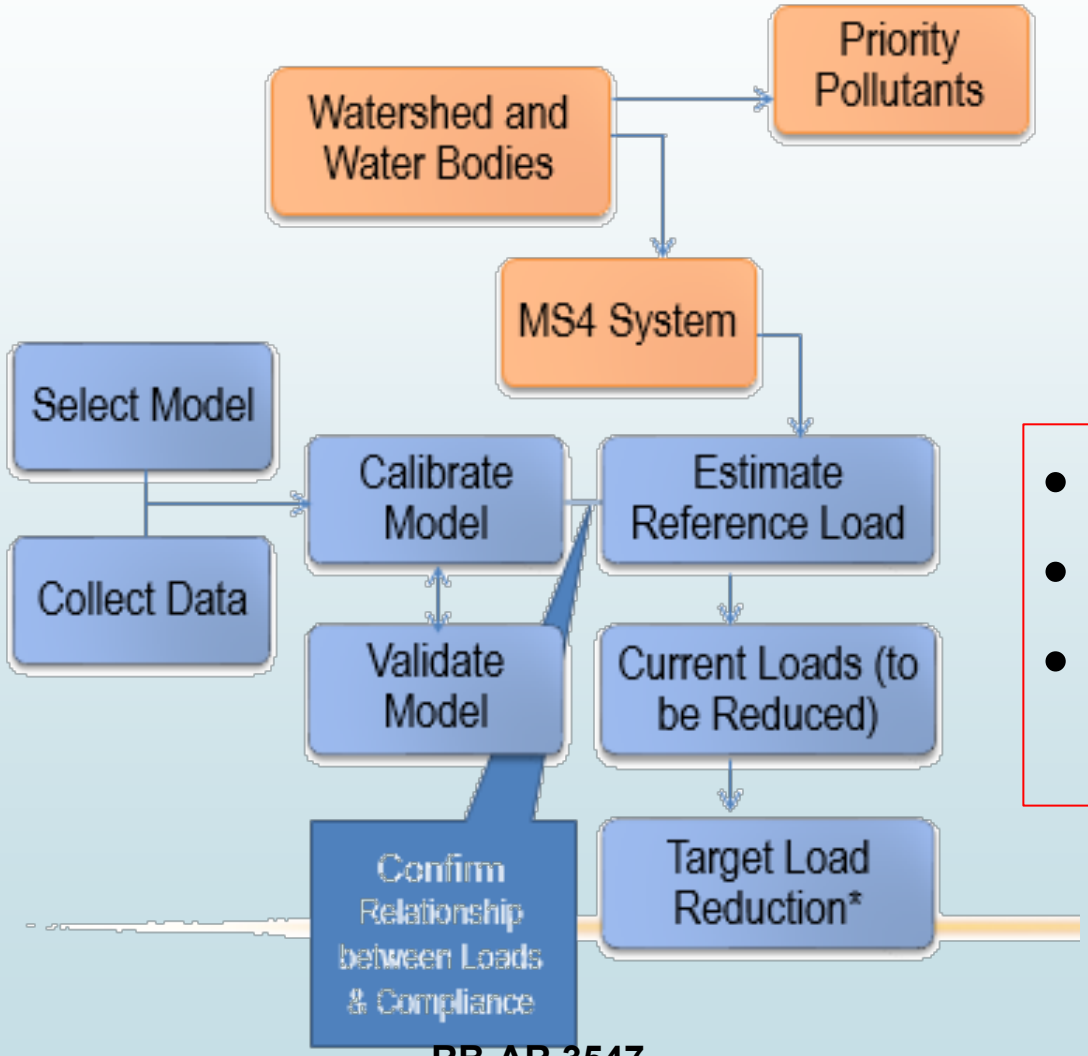
- Category 1 (Highest Priority): Water body-pollutant combinations for which water quality-based effluent limitations and/or receiving water limitations are established in Part VI.E TMDL Provisions and Attachments L through R of the MS4 Permit.
- Category 2 (High Priority): Pollutants for which data indicate water quality impairment in the receiving water according to the State Board's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State Listing Policy) and for which MS4 discharges may be causing or contributing to the impairment.
- Category 3 (Medium Priority): Pollutants for which there are insufficient data to indicate water quality impairment in the receiving water according to the State's Listing Policy, but which exceed applicable receiving water limitations contained in this Order and for which MS4 discharges may be causing or contributing to the exceedance.

Permittees shall identify the water quality priorities within each watershed management area (WMA) that will be addressed by the E/WMP in order to achieve applicable water quality limitations (i.e., WQBELs and RWLs) within the timeframes established by the corresponding compliance schedules set forth in Attachments L-R, or where there is no specific compliance schedule contained in Attachments L-R, the compliance schedule set forth in the E/WMP. For watershed priorities related to addressing exceedances of RWLs in Part V.A and not otherwise addressed by Part VI.E, proposed compliance schedules must adhere to the requirements of Part VI.C.5.c.iii.(3). For watershed priorities related to achieving WLAs in USEPA established TMDLs, proposed compliance schedules must adhere to the requirements of Part VI.E.3.c.iii-v.

Permittees may choose to further subcategorize water body-pollutant combinations within the three main categories above for purposes of sequencing implementation of watershed control measures in the most effective manner possible, taking into consideration compliance deadlines and opportunities to address multiple pollutants within a water body with similar watershed control measures. This is consistent with the

RB-AR 3546

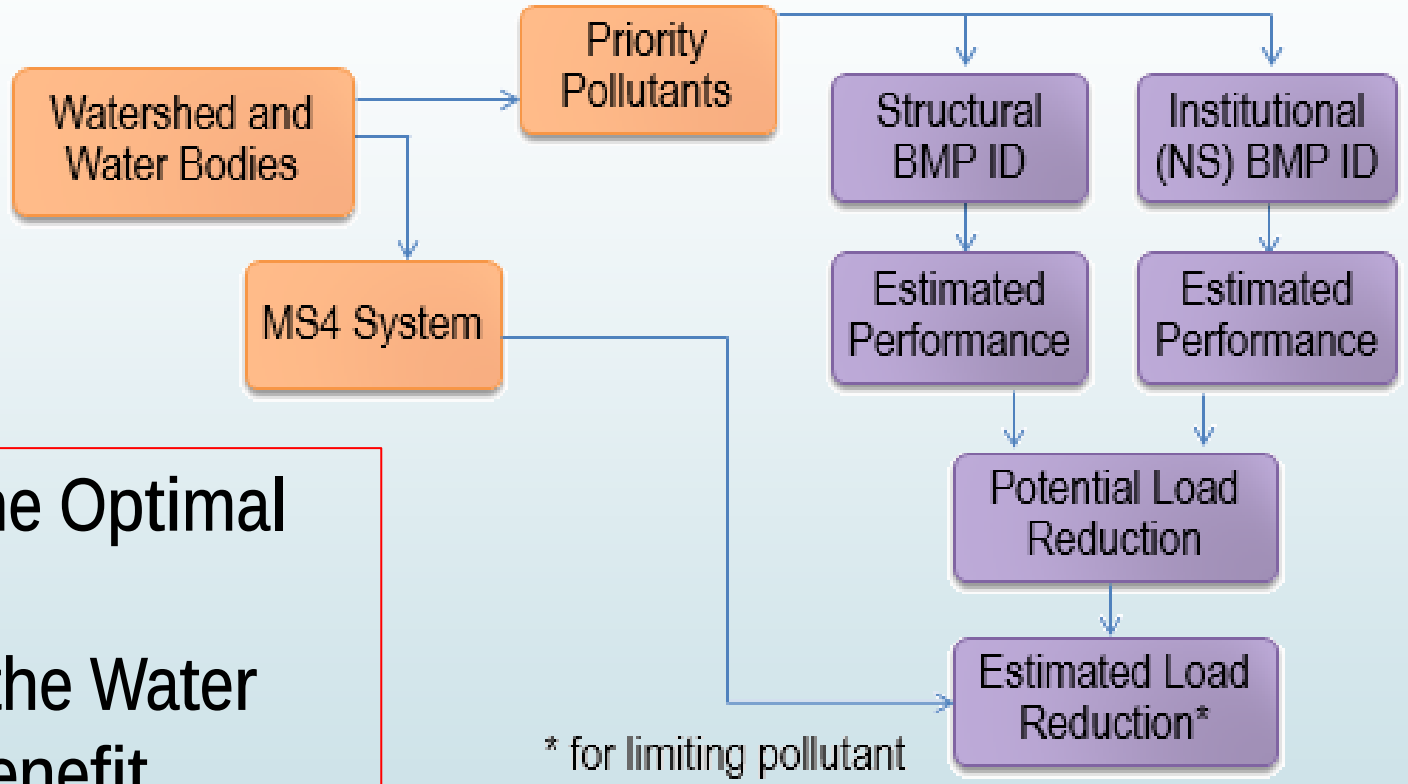
RAA Modeling Approach



- Identify the Issues
- Select the Tools
- Determine the Goals & Set the Targets

From
SMB EWMP RAA

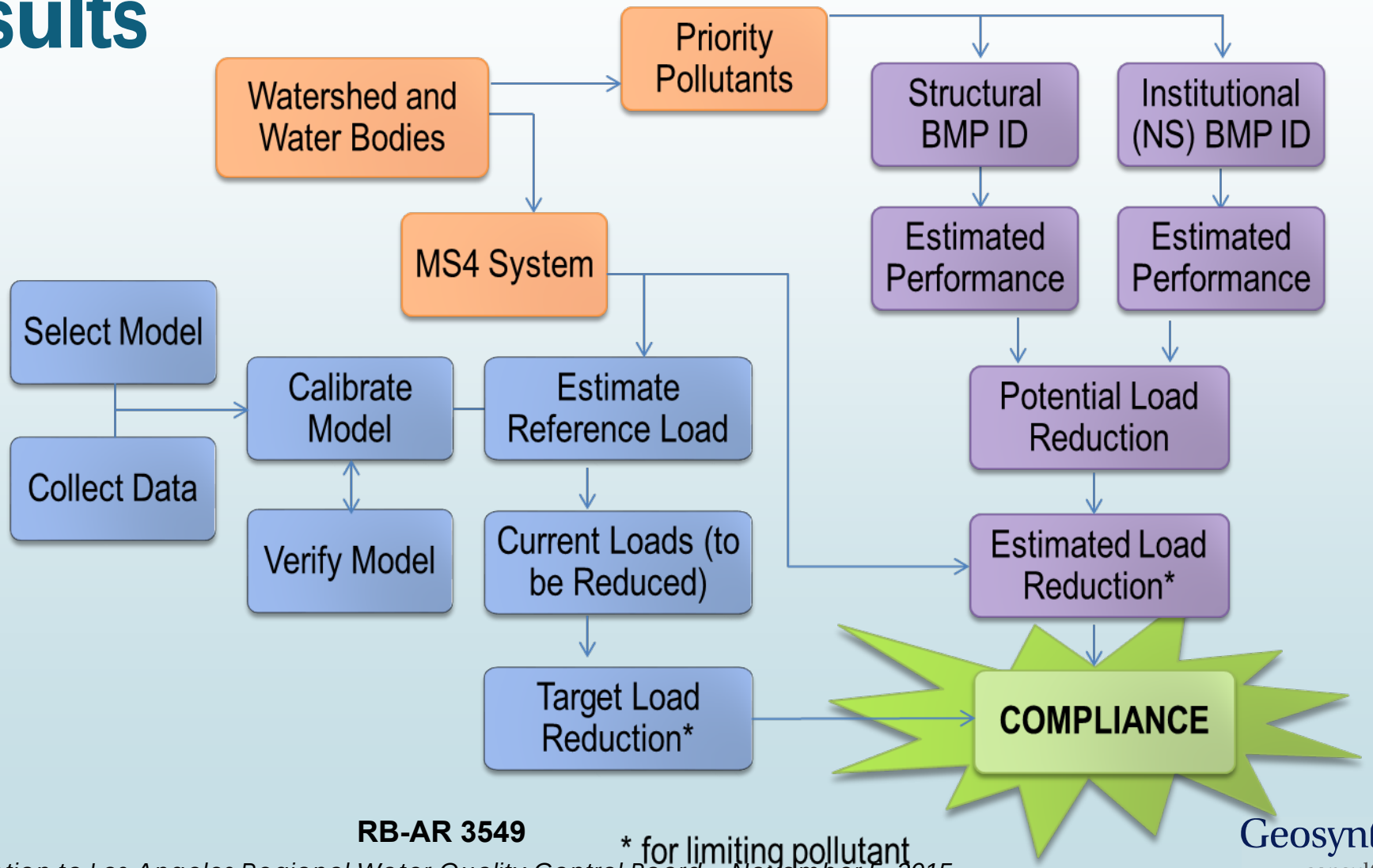
RAA Modeling Approach



- Identify the Optimal Approach
- Quantify the Water Quality Benefit (Load Reduction)

From
SMB EWMP RAA

Reasonable Assurance Analyses Results



From
SMB EWMP RAA

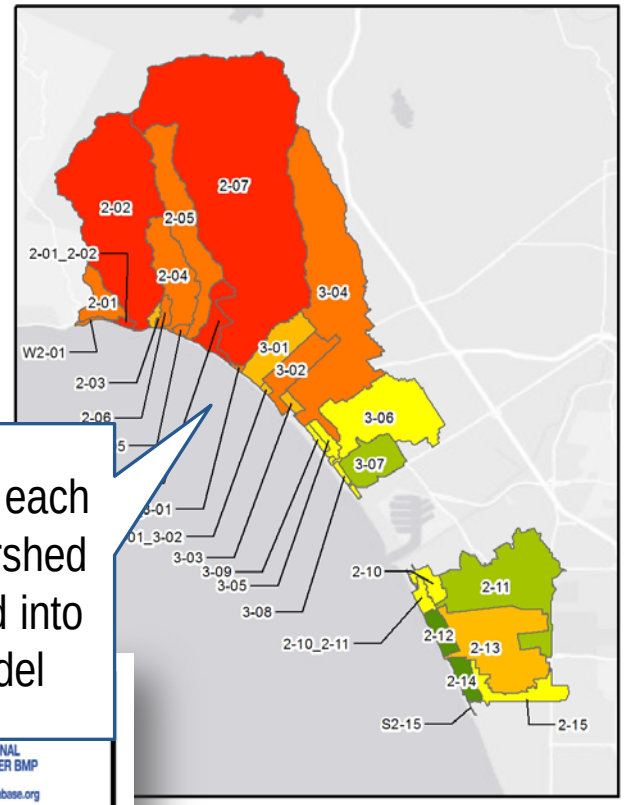
RB-AR 3549

* for limiting pollutant

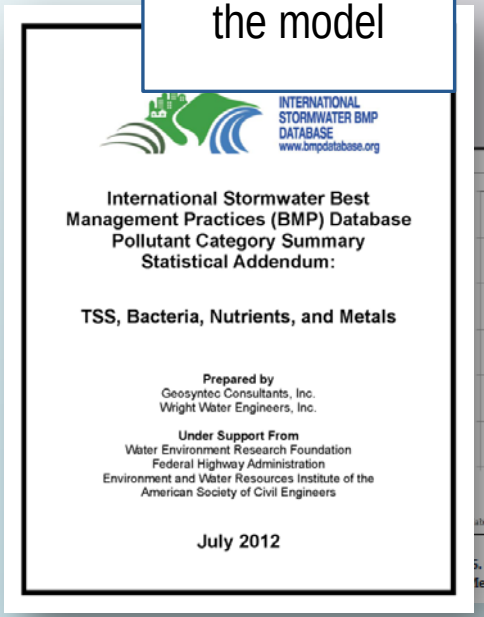
Geosyntec consultants

Data Sources

- Monitoring data integrated into Conceptual Model
- Land Use EMCs – monitoring data/distributions/updates
- Hydrology – rainfall 90th percentile year = 1995
- BMPs – BMP database (size, location, characteristics)



data from each sub-watershed integrated into the model


INTERNATIONAL STORMWATER BMP DATABASE
www.bmpdatabase.org

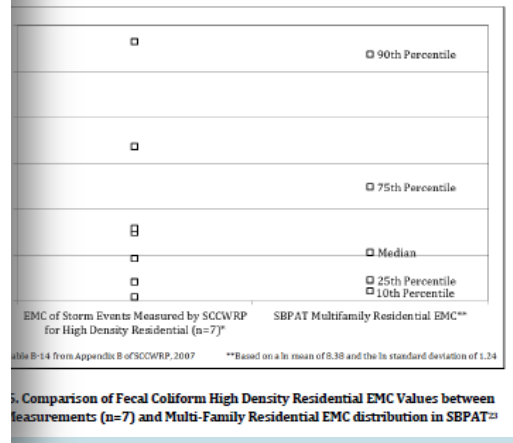
International Stormwater Best Management Practices (BMP) Database Pollutant Category Summary Statistical Addendum:

TSS, Bacteria, Nutrients, and Metals

Prepared by
Geosyntec Consultants, Inc.
Wright Water Engineers, Inc.

Under Support From
Water Environment Research Foundation
Federal Highway Administration
Environment and Water Resources Institute of the American Society of Civil Engineers

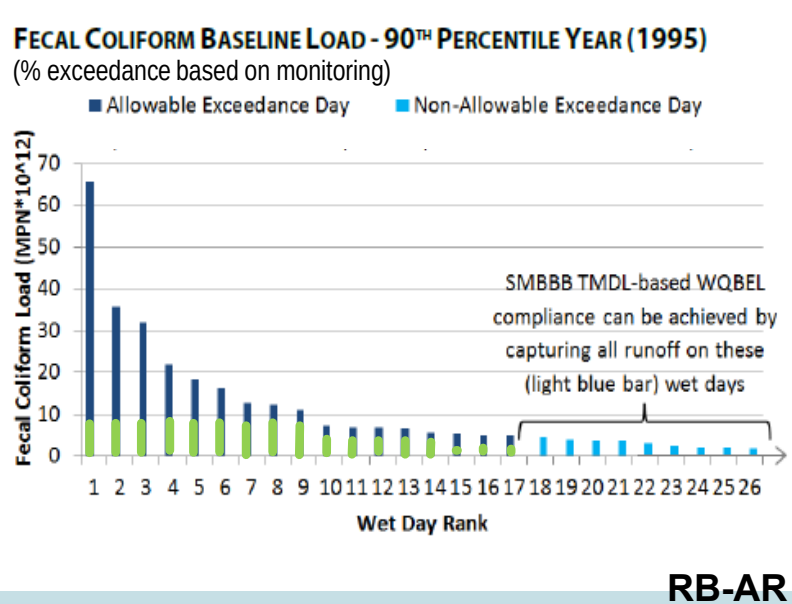
July 2012

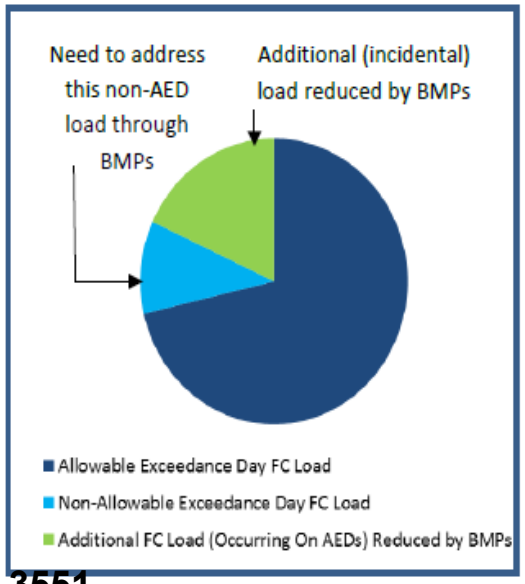


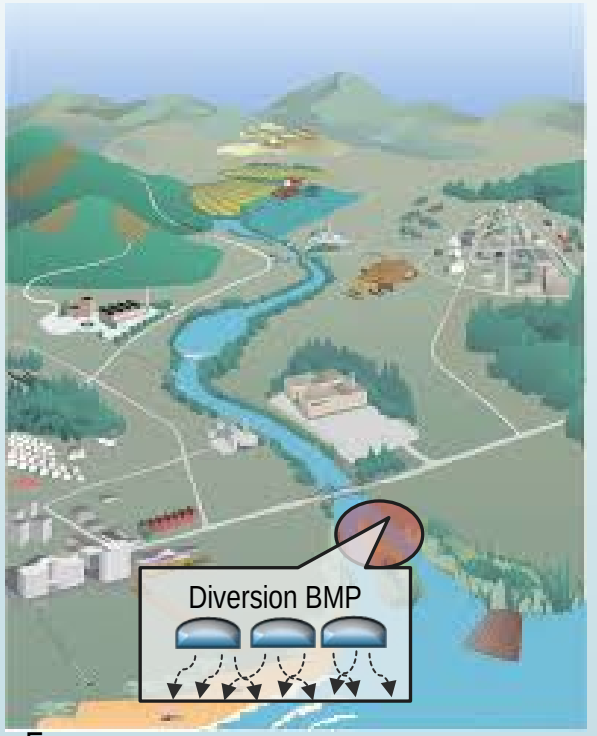
5. Comparison of Fecal Coliform High Density Residential EMC Values between Measurements (n=7) and Multi-Family Residential EMC distribution in SBPAT

Translating Allowable Exceedance Days to Target Load Reductions

- Design for Allowable Exceedance Days (AED) at each subwatershed
  AED = Discharge days * frequency of exceedance per monitoring data
- Evaluate 90th Percentile Year
  - Conduct continuous watershed simulation
  - Iteratively upsize "Diversion BMP" until AED criteria met
  - Total volume/load captured is Target Load Reduction







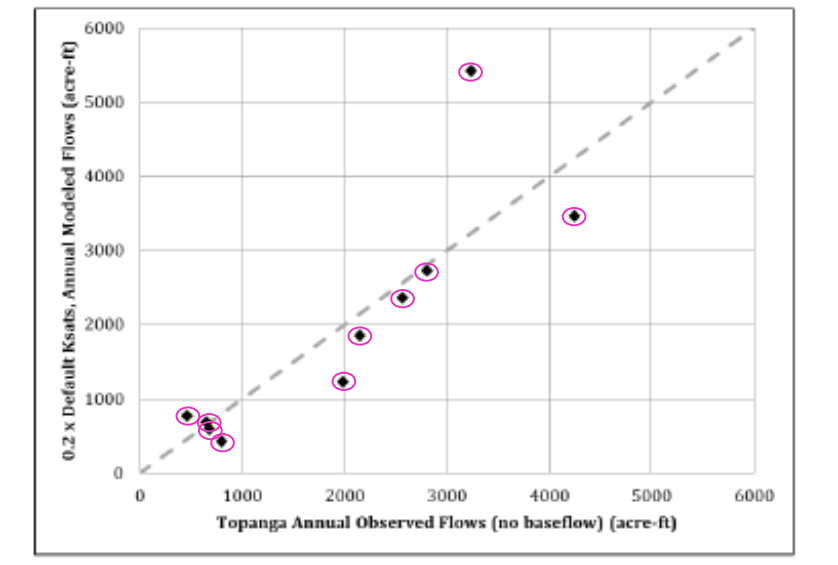
From www.epa.gov

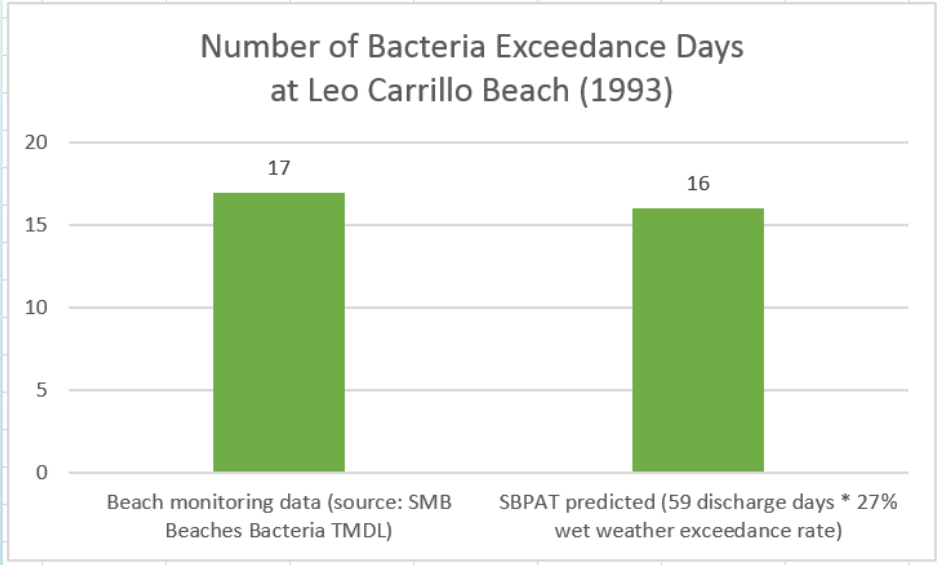
RB-AR 3551

Geosyntec consultants

Model Calibration & Calibration Results

- Data - <u>all</u> available data were used for model development (EMCs, compliance monitoring locations, etc.) and calibration
- Hydrology – average relative prediction error = (0.24%)
- WQ Validation - Arroyo Sequit AED comparison 6% (1/17) difference





RB-AR 3552

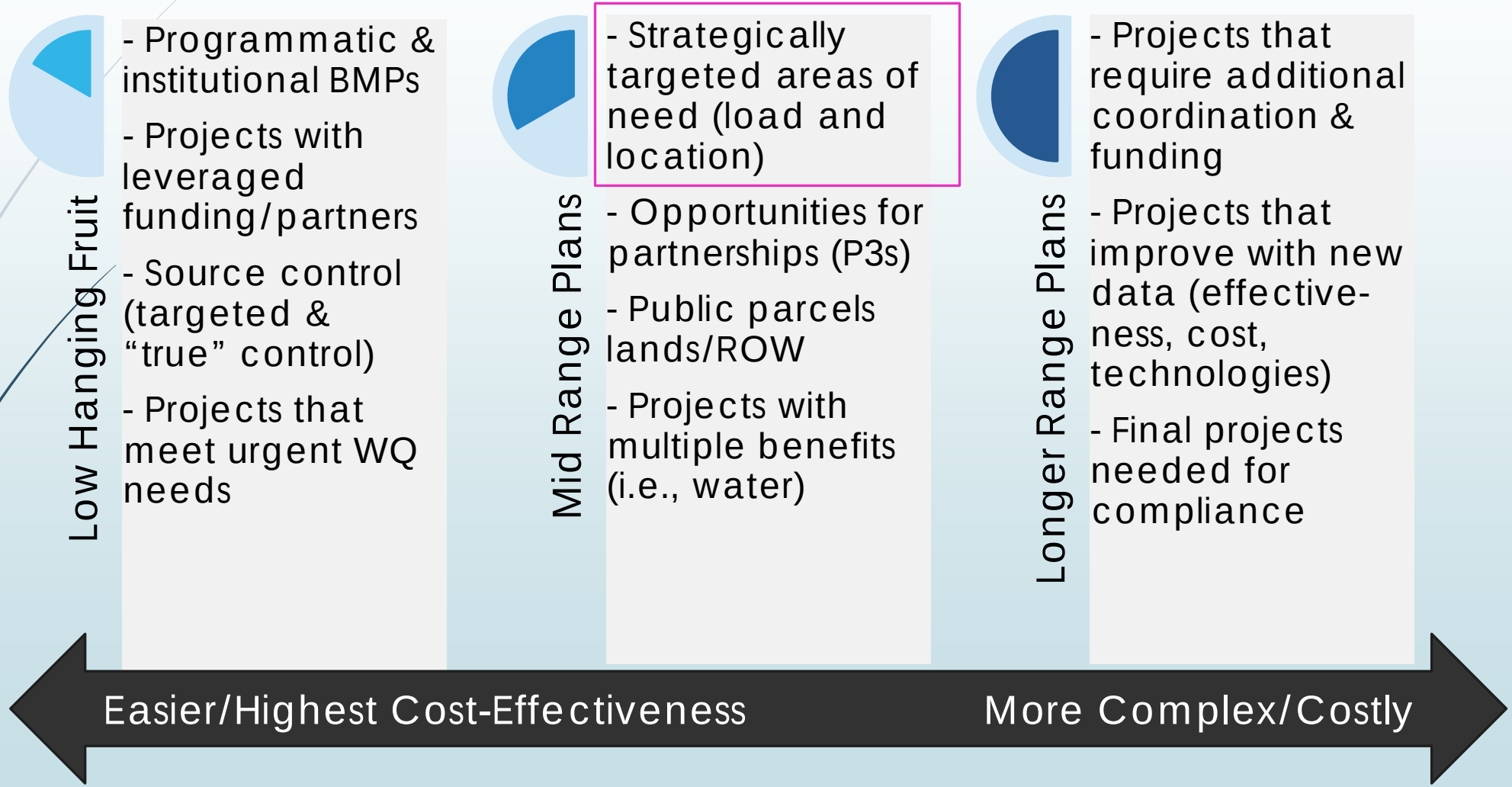
Geosyntec consultants

BMPs Selected

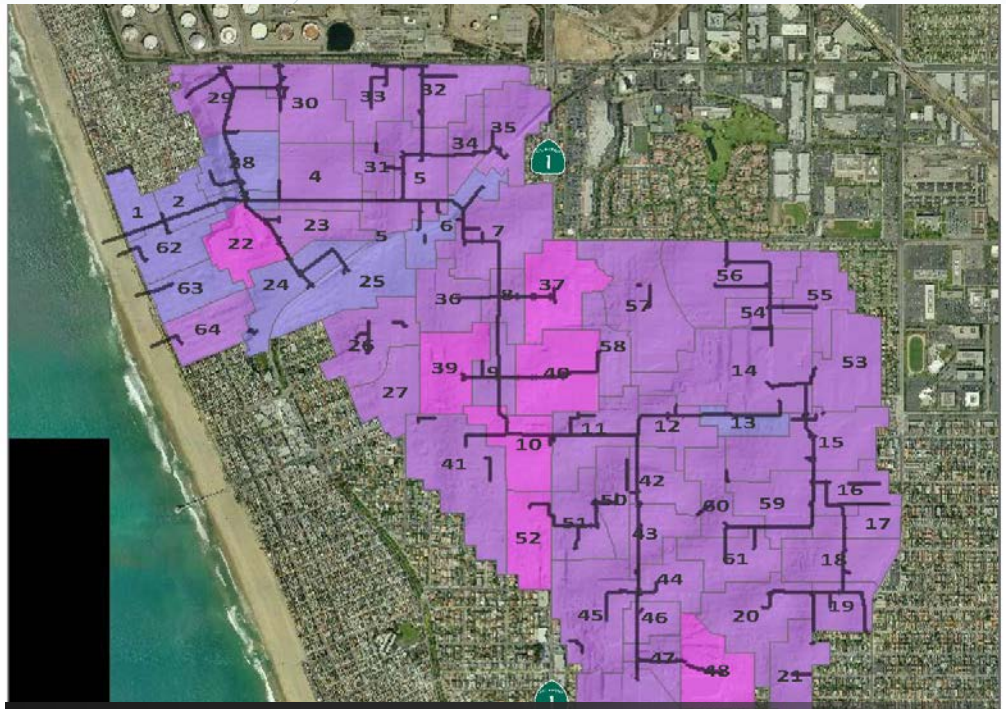
- BMP types
  - Institutional
  - Distributed
  - Regional/Centralized

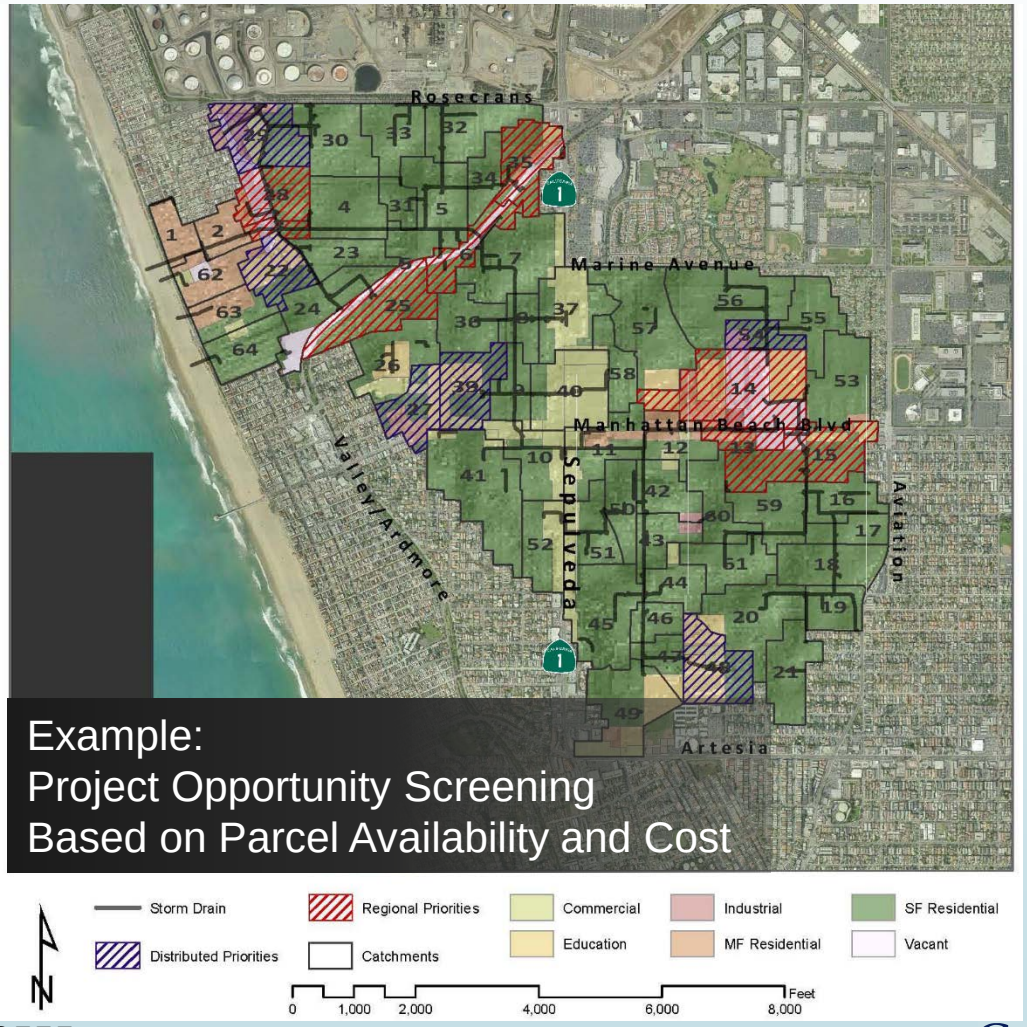
RB-AR 3553

Project/BMP Development Process



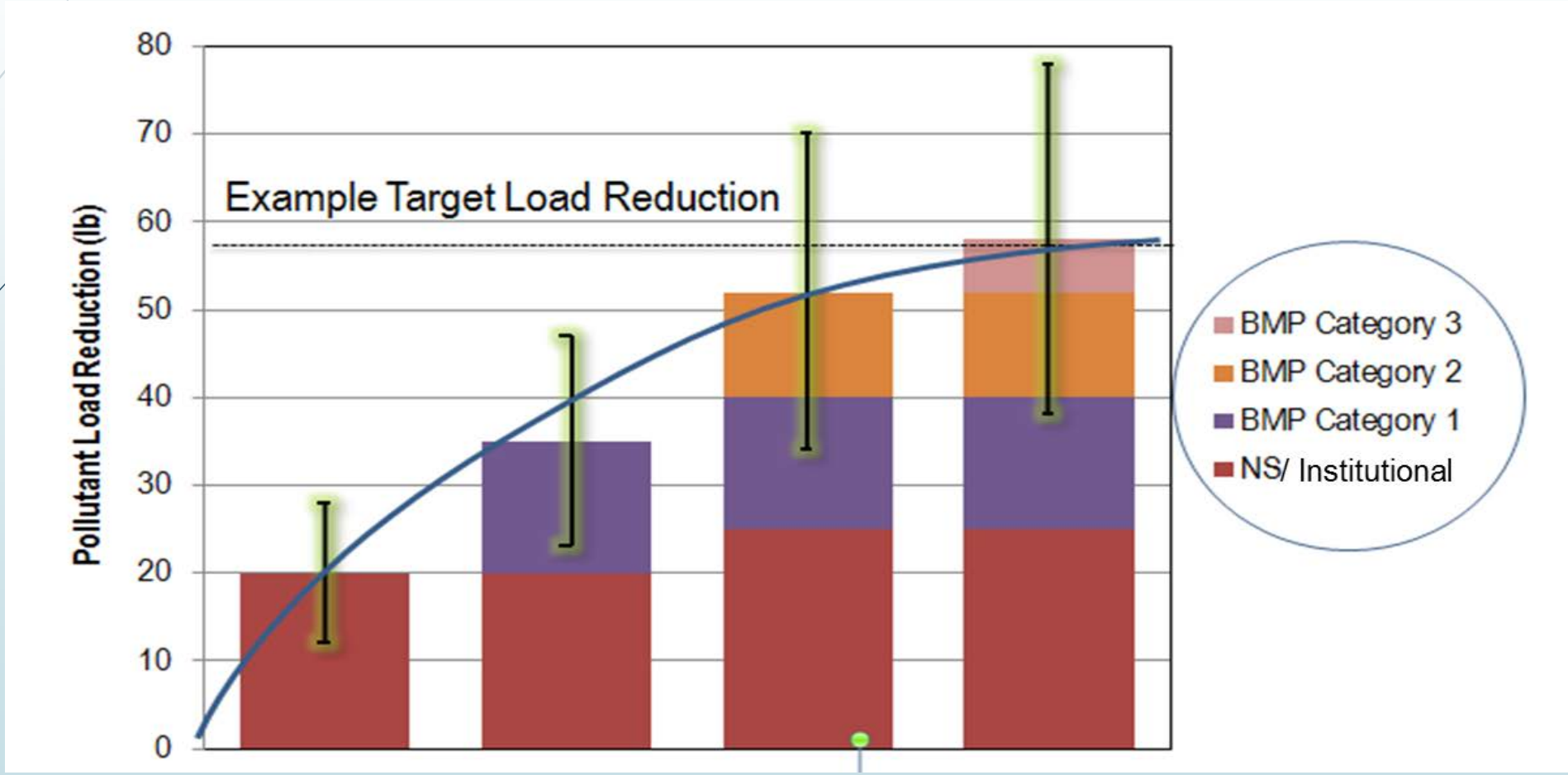
Strategically Targeted Areas Example (Project Screening for Need and Opportunity*)



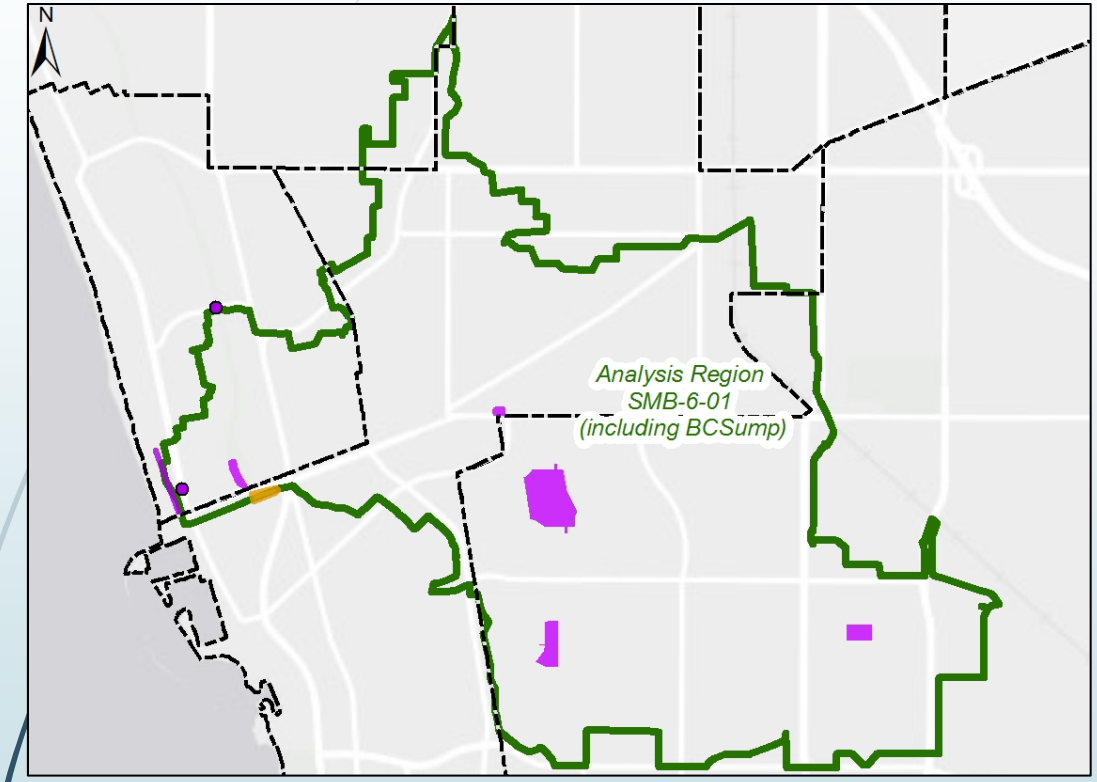


*Supporting Project Siting Study Utilizing SBPAT

Progressive/Timely Compliance



Example Implementation (Herondo)



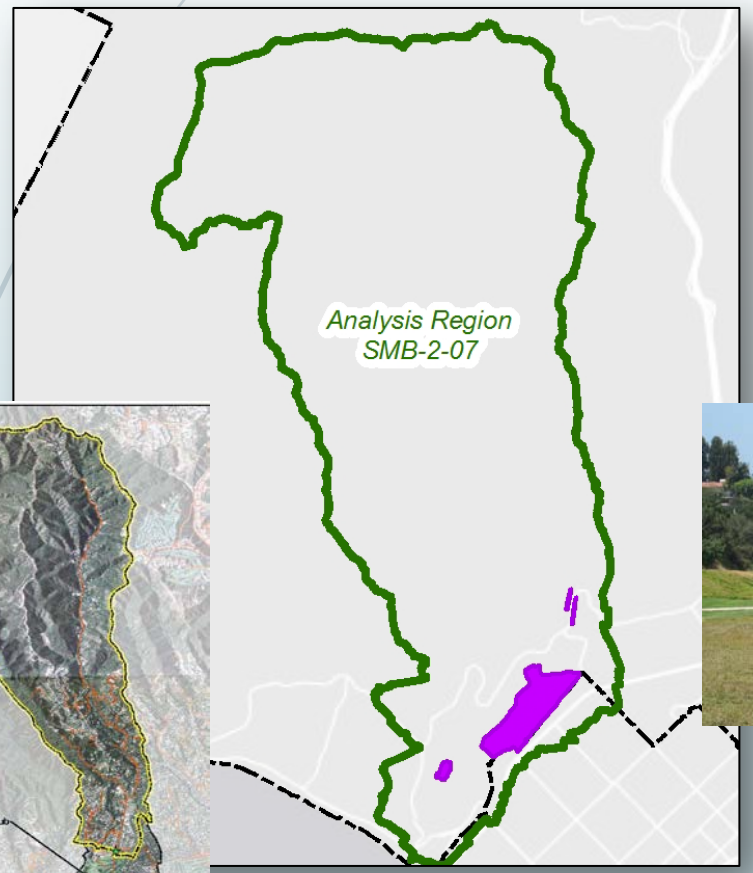
Herondo Drain	Load Reduction (%)
Target Load Reduction (TLR)	**45%**
Non-Structual BMPs	5%
Public Retrofit Incentives & Redevel.	3%
Non-MS4	3%
Regional BMPs	
Pier Avenue Improvement Project	0.2%
Amie Basin Enhancement	8.8%
Henrietta Basin Enhancement	4.6%
Entradero Basin Enhancement	2.6%
Hermosa Beach Infiltration Project	0.3%
Hermosa Greenbelt Project	15.1%
Park #3 Project	1.3%
Distributed BMPs	2.0%
Total Achieved > TLR	**46%**

- ✓ Target Load Reduction (TLR) fully met
- ✓ Multiple regional retrofit BMPs
- ✓ Robust BMP selection/alternative sites identified
- ✓ Climate change considerations
- ✓ Torrance, Redondo Beach, Manhattan Beach, Hermosa Beach

COMPLIANCE

RB-AR 3557

Example Implementation (Santa Monica Canyon)



- ✓ Target Load Reduction fully met
- ✓ Redundancy
- ✓ Multiple regional retrofit BMPs (water resources)
- ✓ Public Private Partnership

SMB 2-07	Load Reduction (%)
Target Load Reduction	**36%**
Non-Structual BMPs	5%
Public Retrofit Incentives & Redevelopment	5%
Non-MS4	0.1%
Regional BMPs	
Riviera Project	14.5%
Rustic Canyon Reg. BMP	0.7%
Riviera Barranca	25.5%
Mandeville Canyon	1.6%
Old Oak Road Reg. BMP	1.5%
Total Achieved > TLR	**54%**

COMPLIANCE

RB-AR 3558

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Variability and Adaptive Improvement

- Variability – precipitation patterns, monitoring data, BMP performance, climate change
- Continuous Improvement Process: examine O&M, evolving targets, changing technologies

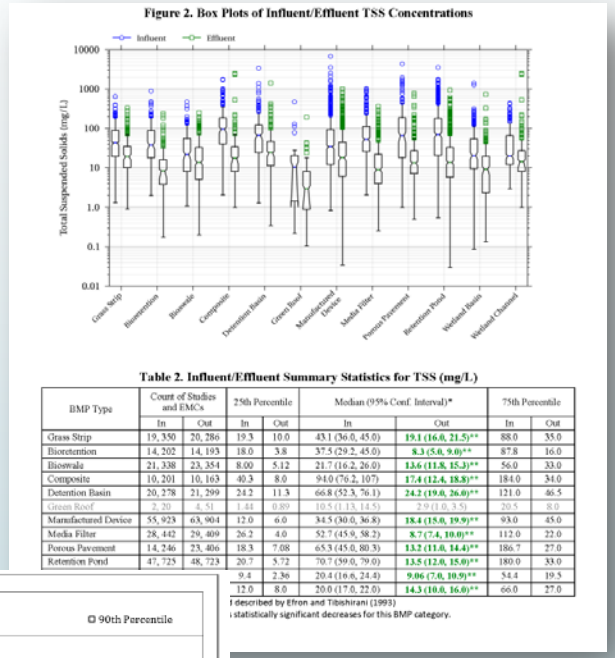


Figure 2. Box Plots of Influent/Effluent TSS Concentrations

Table 2. Influent/Effluent Summary Statistics for TSS (mg/L)

BMP Type	Count of Studies and EMCs		25th Percentile		Median (95% Conf. Interval)*		75th Percentile	
	In	Out	In	Out	In	Out	In	Out
Grass Strip	19, 350	20, 286	19.3	10.0	43.1 (36.0, 45.0)	**19.1 (16.0, 21.5)****	88.0	35.0
Bioretention	14, 202	14, 193	18.0	3.8	37.5 (29.2, 45.0)	**8.3 (5.0, 9.0)****	87.8	16.0
Bioswale	21, 338	23, 354	8.00	5.12	21.7 (16.2, 26.0)	**13.6 (11.8, 15.3)****	56.0	33.0
Composite	10, 201	10, 163	40.3	8.0	94.0 (76.2, 107)	**17.4 (12.4, 18.8)****	184.0	34.0
Detention Basin	20, 278	21, 299	24.2	11.3	66.8 (52.3, 76.1)	**24.2 (19.0, 26.0)****	121.0	46.5
Green Roof	2, 20	4, 51	1.44	0.89	10.5 (1.13, 14.5)	2.9 (1.0, 3.5)	20.5	8.0
Manufactured Device	55, 923	63, 904	12.0	6.0	34.5 (30.0, 36.8)	**18.4 (15.0, 19.9)****	93.0	45.0
Media Filter	28, 442	29, 409	26.2	4.0	52.7 (45.9, 58.2)	**8.7 (7.4, 10.0)****	112.0	22.0
Porous Pavement	14, 246	23, 406	18.3	7.08	65.3 (45.0, 80.3)	**13.2 (11.0, 14.4)****	186.7	27.0
Retention Pond	47, 725	48, 723	20.7	5.72	70.7 (59.0, 79.0)	**13.5 (12.0, 15.0)****	180.0	33.0
			9.4	2.36	20.4 (16.6, 24.4)	**9.06 (7.0, 10.9)****	54.4	19.5
			12.0	8.0	20.0 (17.0, 22.0)	**14.3 (10.0, 16.0)****	66.0	27.0

described by Efron and Tibshirani (1993)
statistically significant decreases for this BMP category.

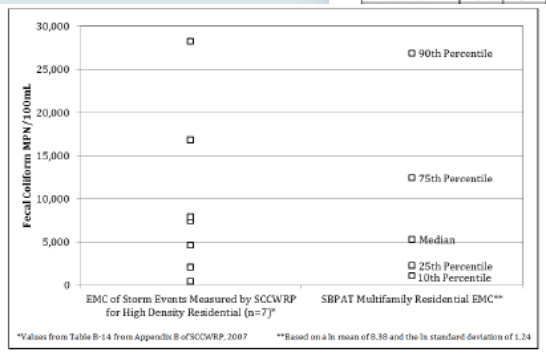


Figure 3-5. Comparison of Fecal Coliform High Density Residential EMC Values between SCCWRP Measurements (n=7) and Multi-Family Residential EMC distribution in SBPAT

Prop O Optimization Study

Conclusions

- Planning efforts were developed using a strategic and robust modeling approach with best available data.
- Adaptive improvement will help enhance plan performance, targets, and project designs.
- Reasonable assurance is demonstrated.

Questions

Ken Susilo, PE, D.WRE, CPSWQ

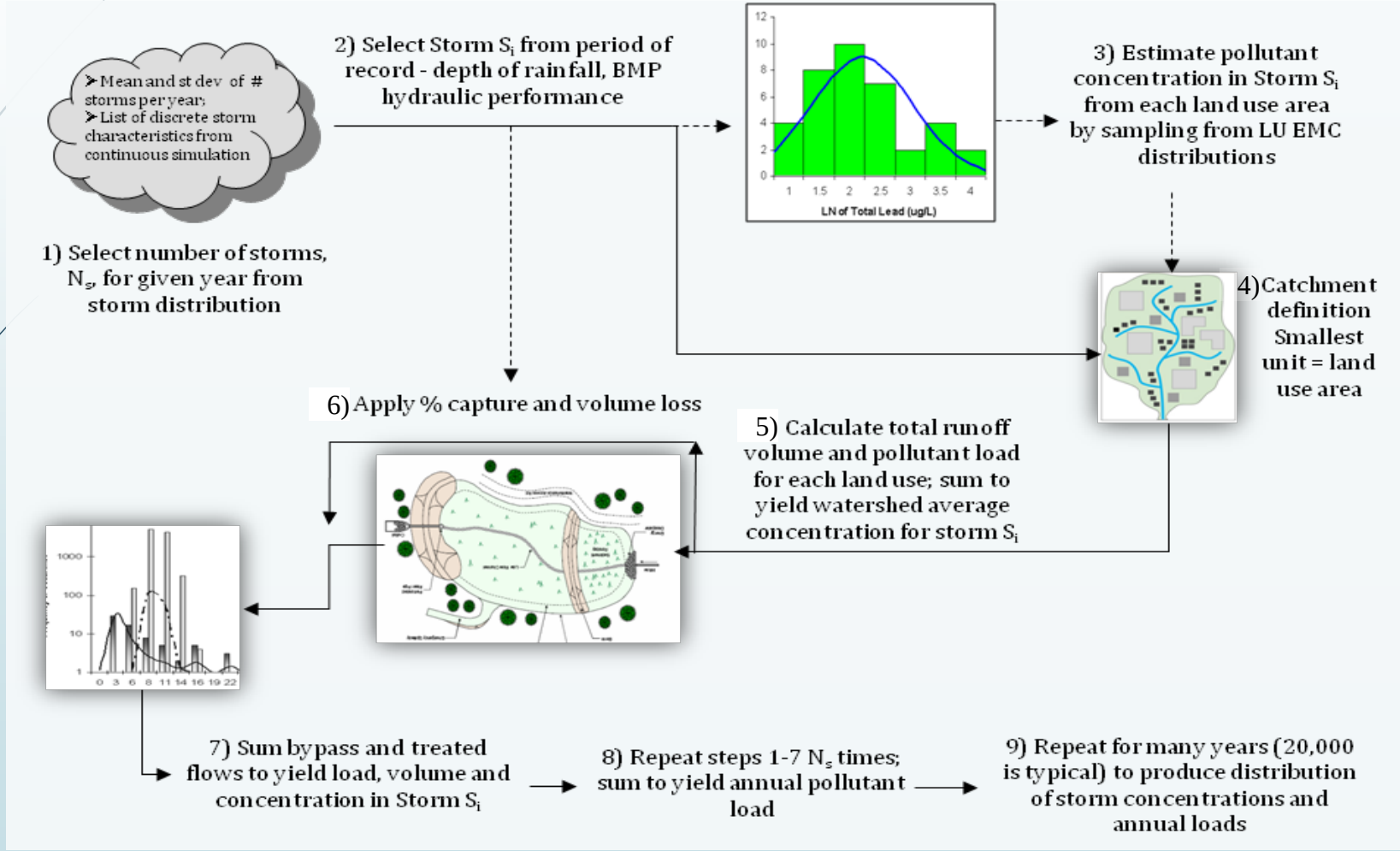
Principal, Geosyntec Consultants

310-957-6111

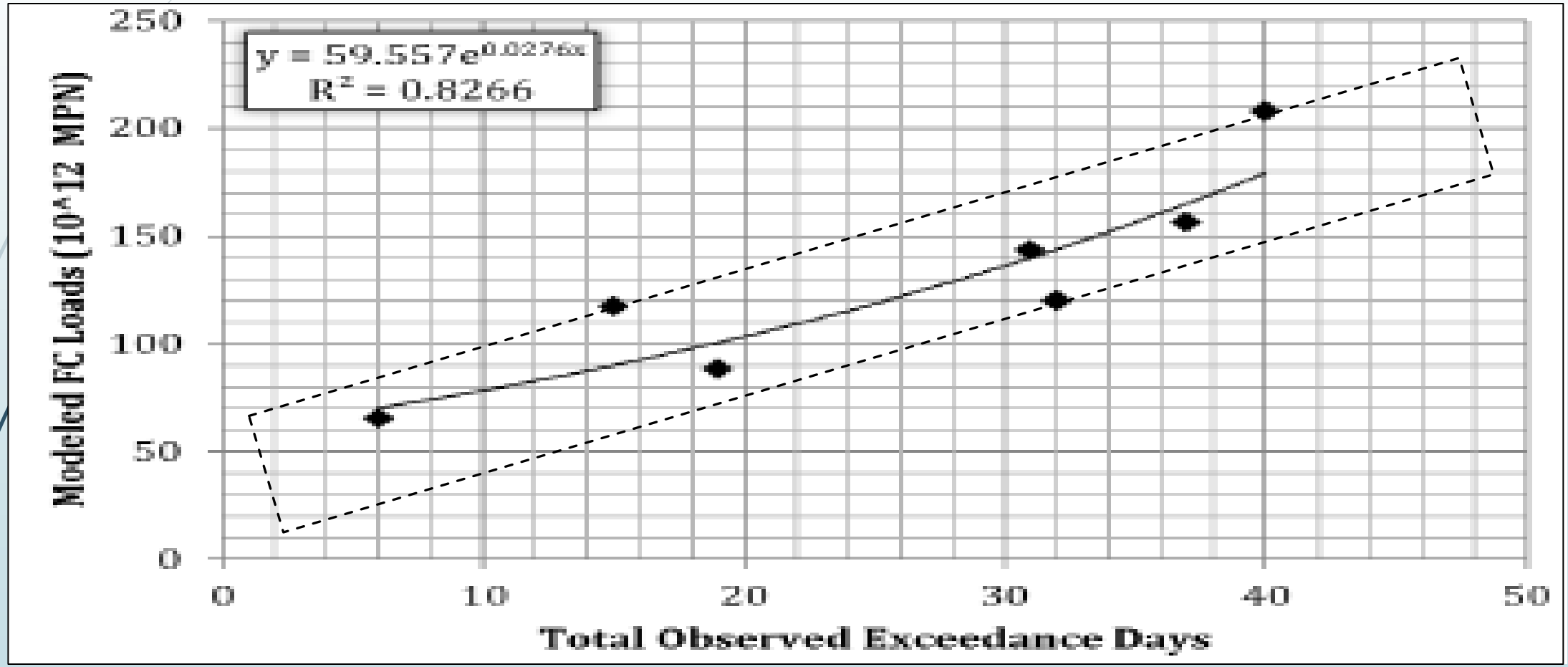
ksusilo@Geosyntec.com

Extra slides

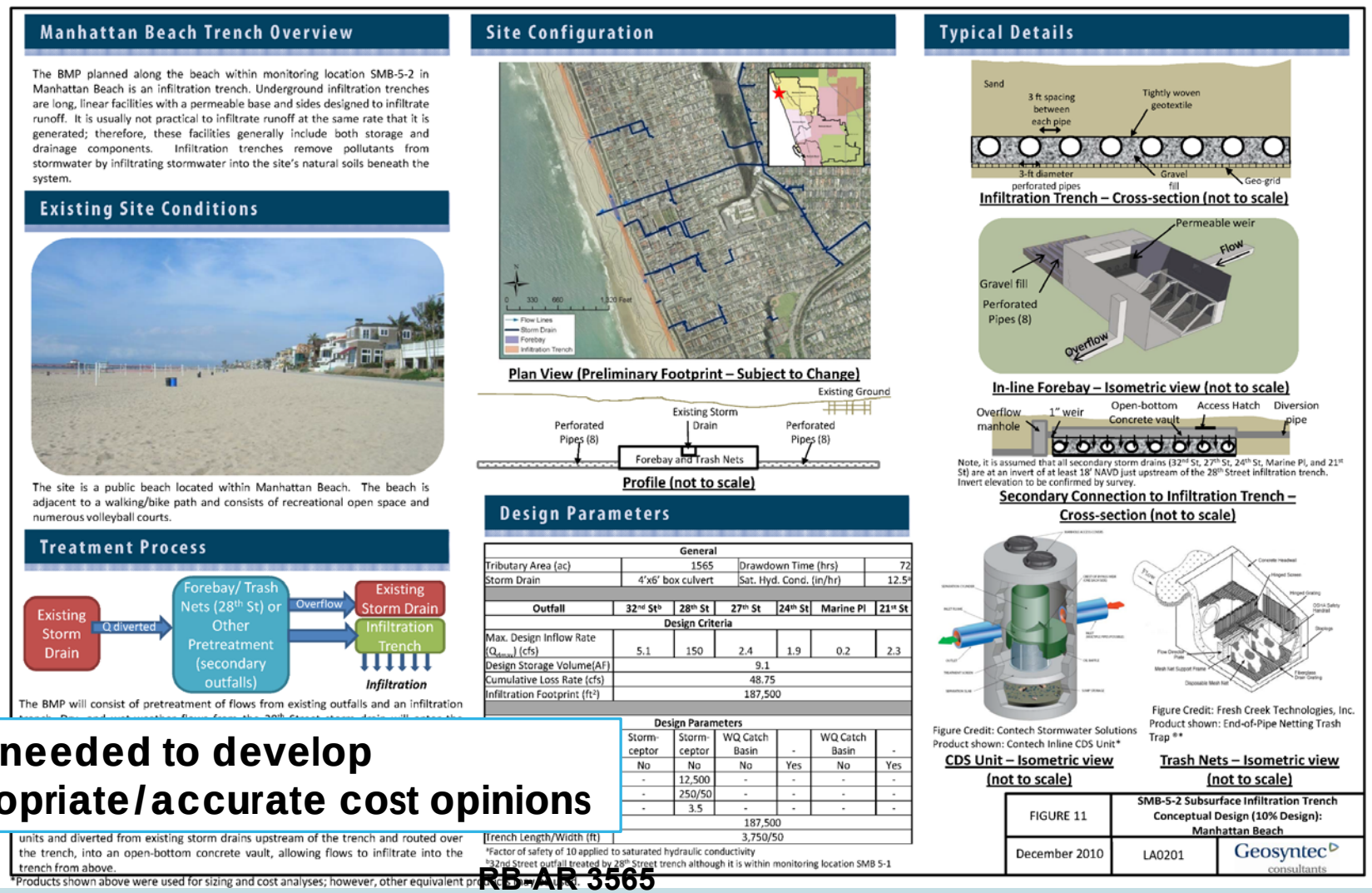
Modeling process (SBPAT)



Exceedance days can be related to loads



Project Concepts Validate Efficacy & Cost



Manhattan Beach Trench Overview

The BMP planned along the beach within monitoring location SMB-5-2 in Manhattan Beach is an infiltration trench. Underground infiltration trenches are long, linear facilities with a permeable base and sides designed to infiltrate runoff. It is usually not practical to infiltrate runoff at the same rate that it is generated; therefore, these facilities generally include both storage and drainage components. Infiltration trenches remove pollutants from stormwater by infiltrating stormwater into the site's natural soils beneath the system.

Existing Site Conditions

The site is a public beach located within Manhattan Beach. The beach is adjacent to a walking/bike path and consists of recreational open space and numerous volleyball courts.

Treatment Process

Existing Storm Drain → Q diverted → Forebay/ Trash Nets (28th St) or Other Pretreatment (secondary outfalls) → Overflow → Existing Storm Drain; Infiltration Trench → *Infiltration*

The BMP will consist of pretreatment of flows from existing outfalls and an infiltration

units and diverted from existing storm drains upstream of the trench and routed over the trench, into an open-bottom concrete vault, allowing flows to infiltrate into the trench from above.

*Products shown above were used for sizing and cost analyses; however, other equivalent pr

Site Configuration

Plan View (Preliminary Footprint – Subject to Change)

Profile (not to scale)

Design Parameters

General						
Tributary Area (ac)	1565			Drawdown Time (hrs)		72
Storm Drain	4'x6' box culvert			Sat. Hyd. Cond. (in/hr)		12.5[4]
Outfall	**32nd St[b]**	**28th St**	**27th St**	**24th St**	**Marine Pl**	**21st St**
Design Criteria						
Max. Design Inflow Rate (Q_{design}) (cfs)	5.1	150	2.4	1.9	0.2	2.3
Design Storage Volume(AF)	9.1					
Cumulative Loss Rate (cfs)	48.75					
Infiltration Footprint (ft²)	187,500					

Design Parameters						
	Storm-ceptor	Storm-ceptor	WQ Catch Basin	-	WQ Catch Basin	-
	No	No	No	Yes	No	Yes
	-	12,500	-	-	-	-
	-	250/50	-	-	-	-
	-	3.5	-	-	-	-
	187,500					
Trench Length/Width (ft)	3,750/50					

*Factor of safety of 10 applied to saturated hydraulic conductivity

[b]32nd Street outfall treated by 28th Street trench although it is within monitoring location SMB 5-1

Typical Details

Infiltration Trench – Cross-section (not to scale)

In-line Forebay – Isometric view (not to scale)

Note, it is assumed that all secondary storm drains (32nd St, 27th St, 24th St, Marine Pl, and 21st St) are at an invert of at least 18' NAVD just upstream of the 28th Street infiltration trench. Invert elevation to be confirmed by survey.

Secondary Connection to Infiltration Trench – Cross-section (not to scale)

Figure Credit: Contech Stormwater Solutions
Product shown: Contech Inline CDS Unit*

CDS Unit – Isometric view (not to scale)

Figure Credit: Fresh Creek Technologies, Inc.
Product shown: End-of-Pipe Netting Trash Trap **

Trash Nets – Isometric view (not to scale)

FIGURE 11	SMB-5-2 Subsurface Infiltration Trench Conceptual Design (10% Design): Manhattan Beach	
December 2010	LA0201	Geosyntec consultants

Specificity needed to develop more appropriate/accurate cost opinions

RB-AR 3565

Geosyntec consultants

Reasonable Assurance Analysis - Overview for Five EWMPs:

Upper Los Angeles River, Ballona Creek, Malibu Creek, Upper San Gabriel River and Upper Santa Clara River

Dustin Bambic, PH, Paradigm Environmental

PARADIGM ENVIRONMENTAL

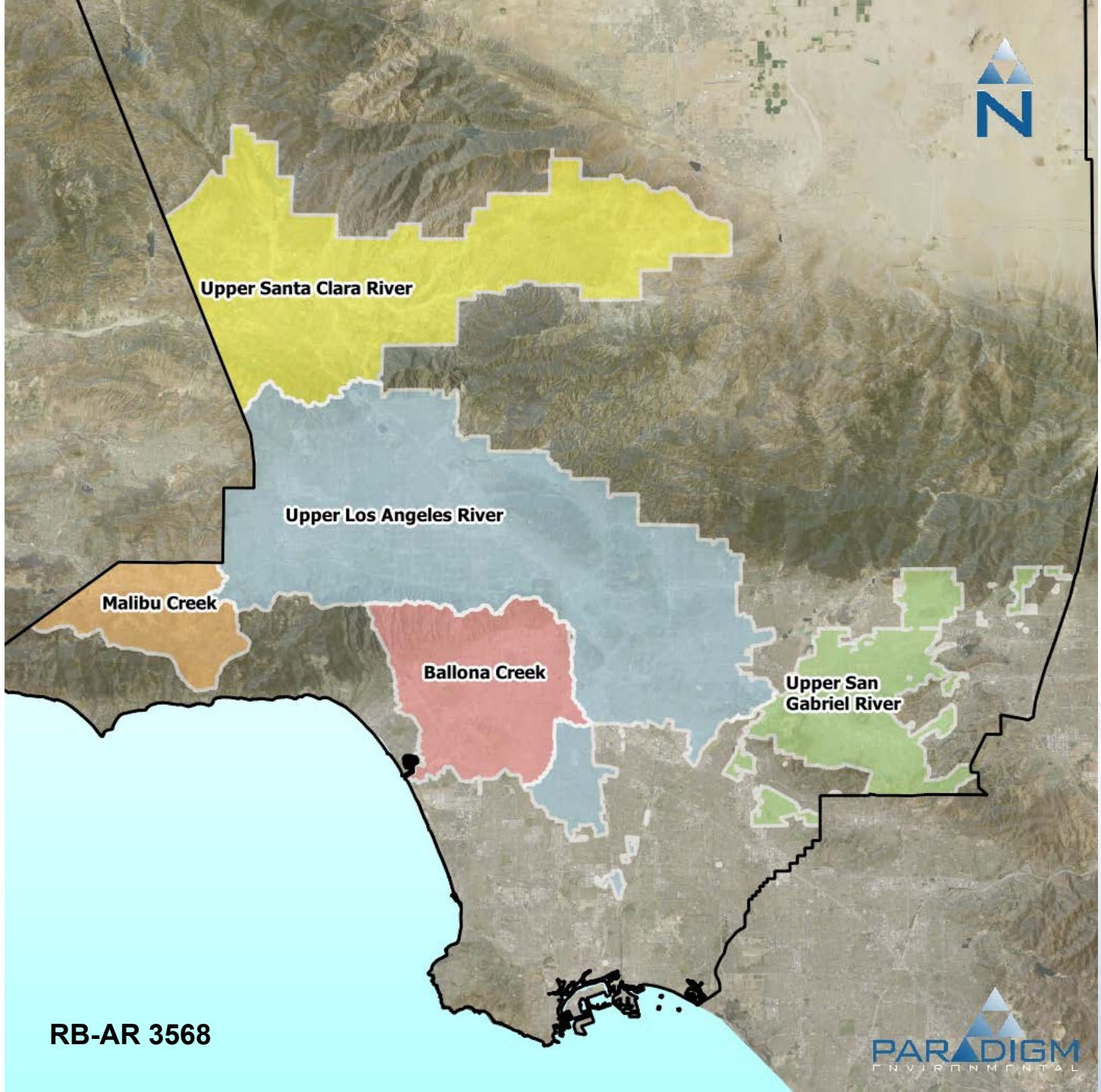
RB-AR 3566

Overview

- EWMPs Covered
- Overview of RAA process
- Key topics:
  - **Critical conditions**
  - **Limiting pollutants**
  - **Post-EWMP effectiveness**

EWMPs Covered

- Upper Los Angeles River
- Upper San Gabriel River
- Upper Santa Clara River
- Ballona Creek
- Malibu Creek



Overview of RAA Process

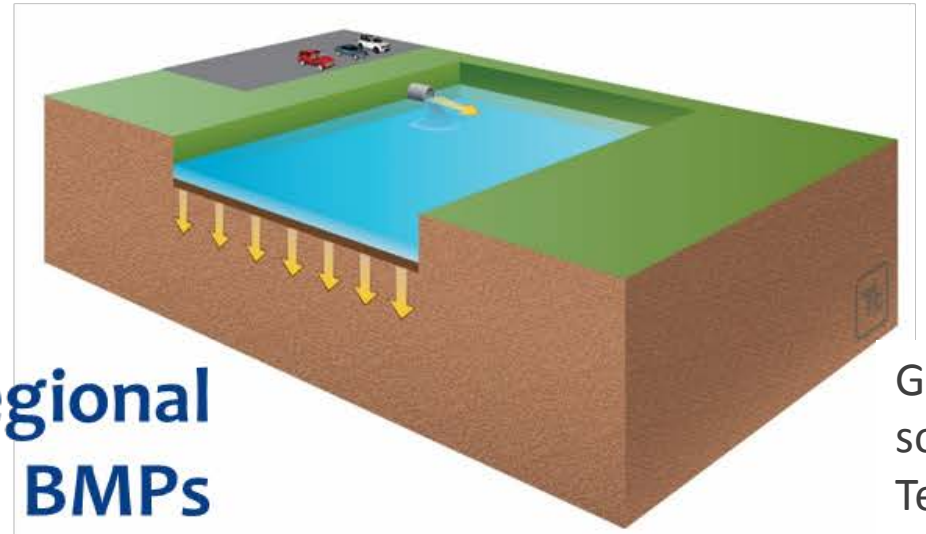
PARADIGM ENVIRONMENTAL

Stormwater Control Measures

(1) **Institutional BMPs**
e.g., Enhanced sweeping

(2) **Green Streets**

(3) **Low Impact Development**



(4) **Regional BMPs**

RB-AR-3570

Graphics source: Tetra Tech

Watershed Management Modeling System (WMMS)

LSPC

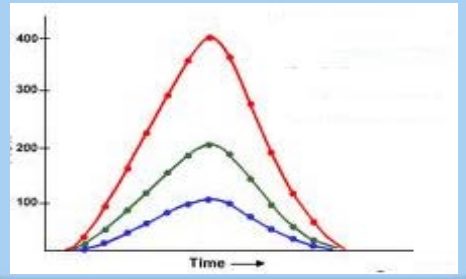
Data

- Real Rainfall
- Stream Gages
- Monitoring
- Land Use
- Elevation
- Slopes
- Evaporation
- Infiltration
- Reservoirs
- Spreading Grounds

Watershed Model

Baseline and % Reductions

Runoff
Metals
TSS
Bacteria

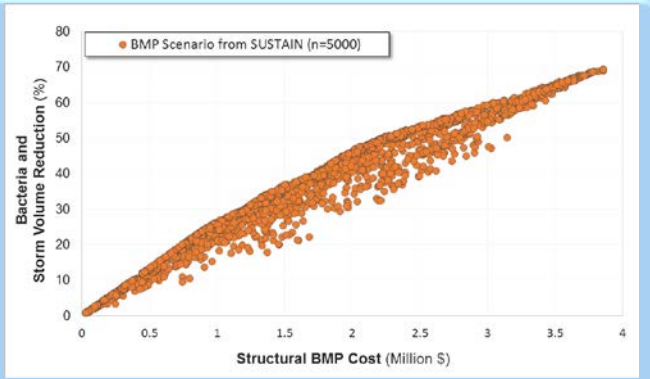


SUSTAIN

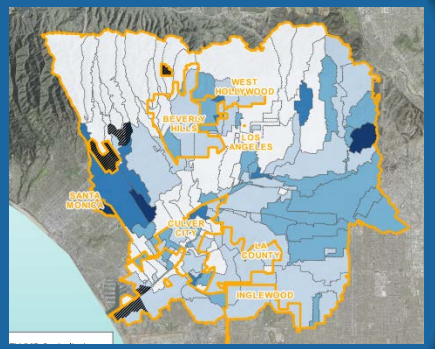
"BMP Selection Tool"

OPTIMIZATION ACROSS MILLIONS OF POTENTIAL STRATEGIES

RB-AR 3571

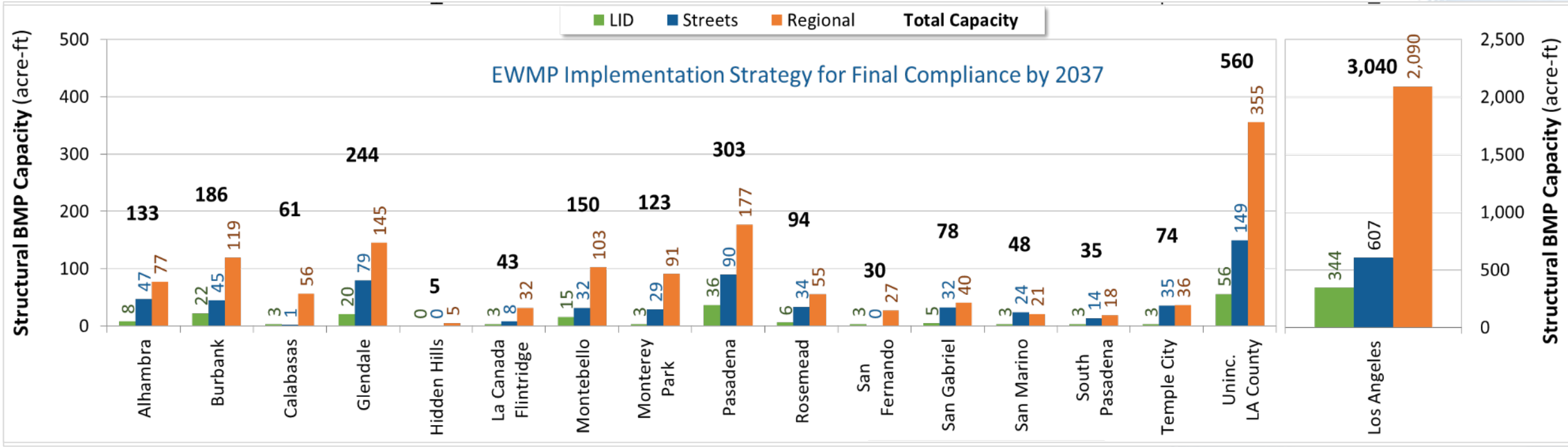


EWMP IMPLEMENTATION STRATEGY



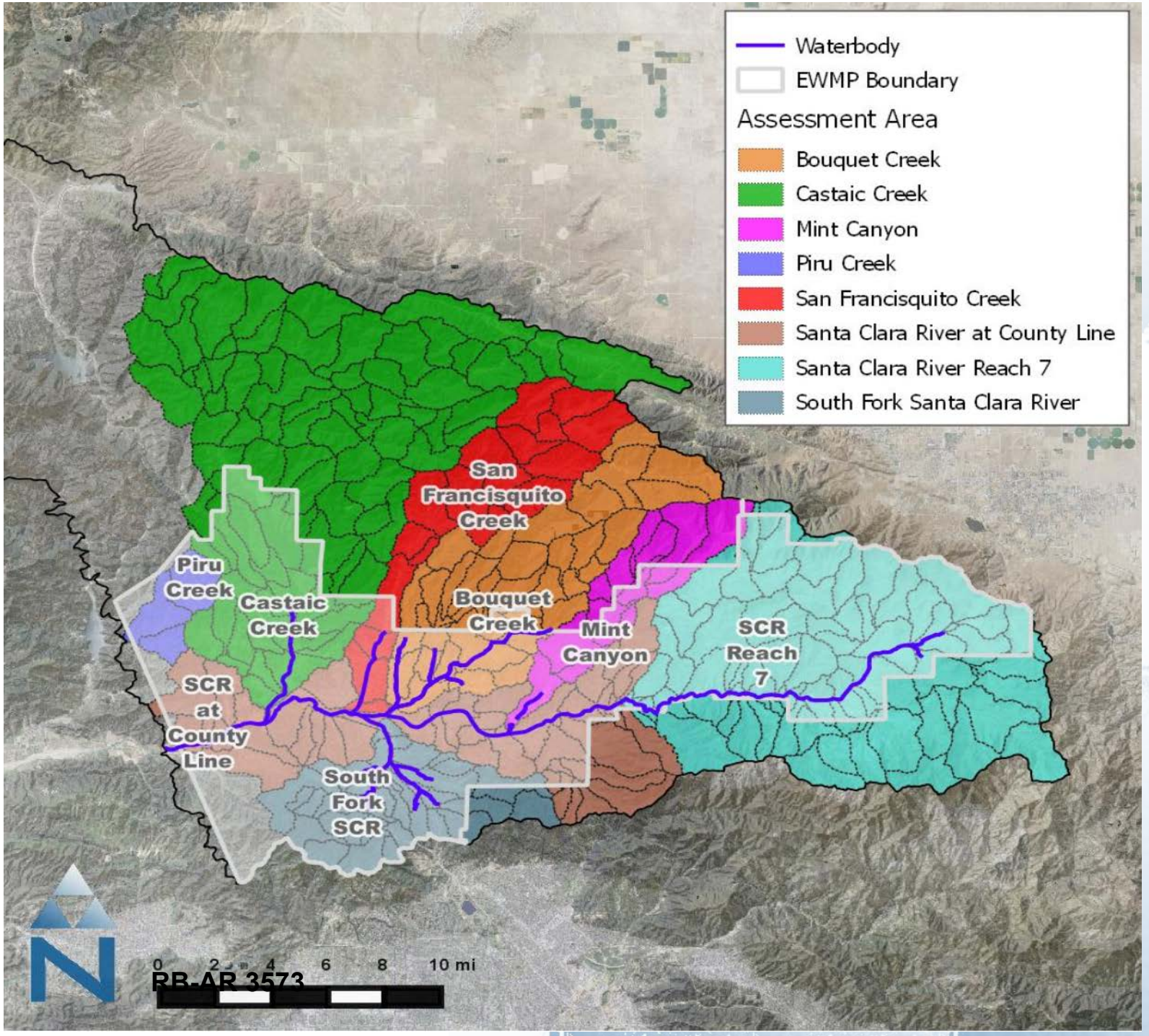
EWMP Implementation Strategy

Upper Los Angeles River EWMP



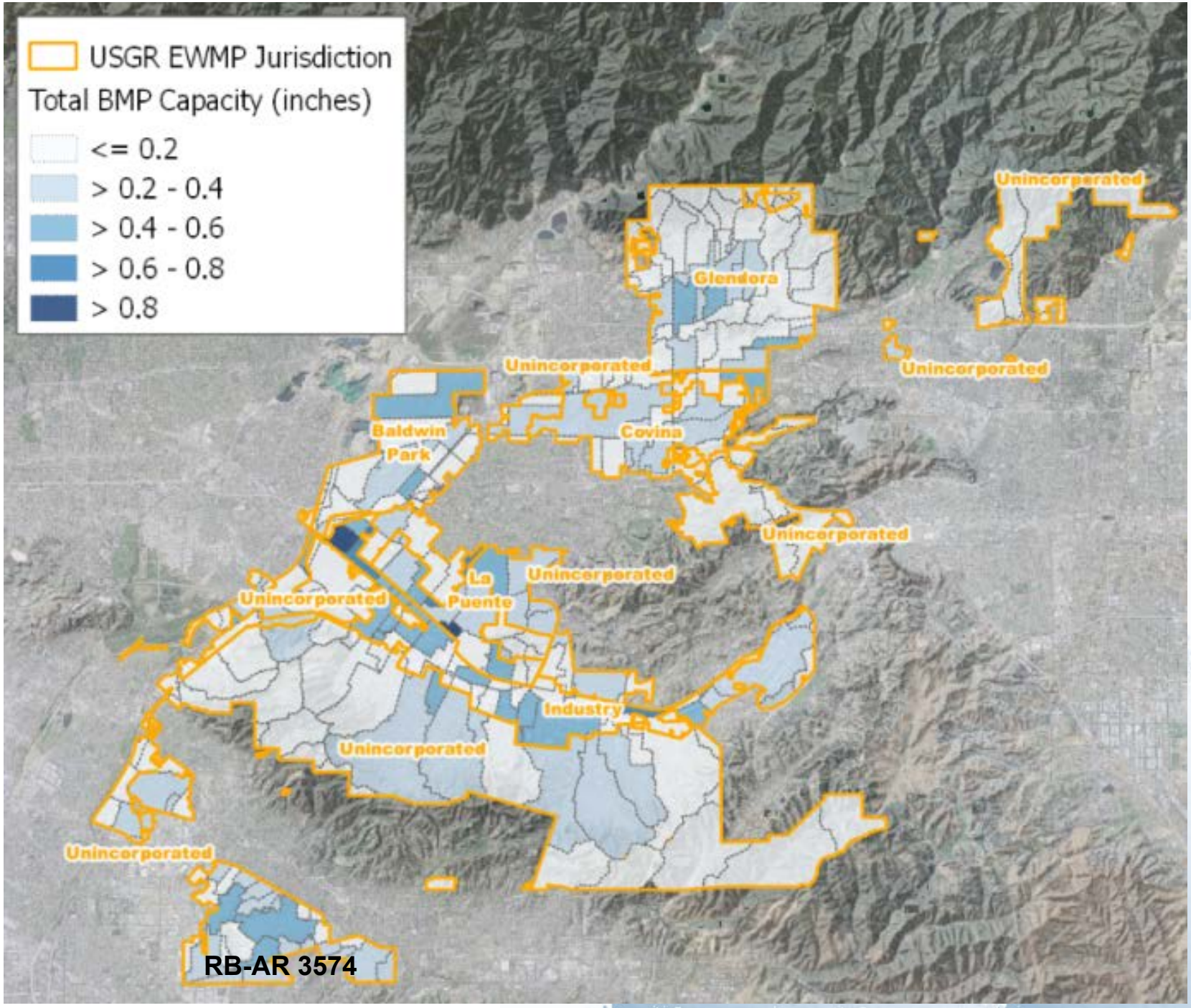
RB-AR 3572

Implementation Strategy for each Major Waterbody



Upper Santa Clara River EWMP

Detailed Strategy for each Subwatershed

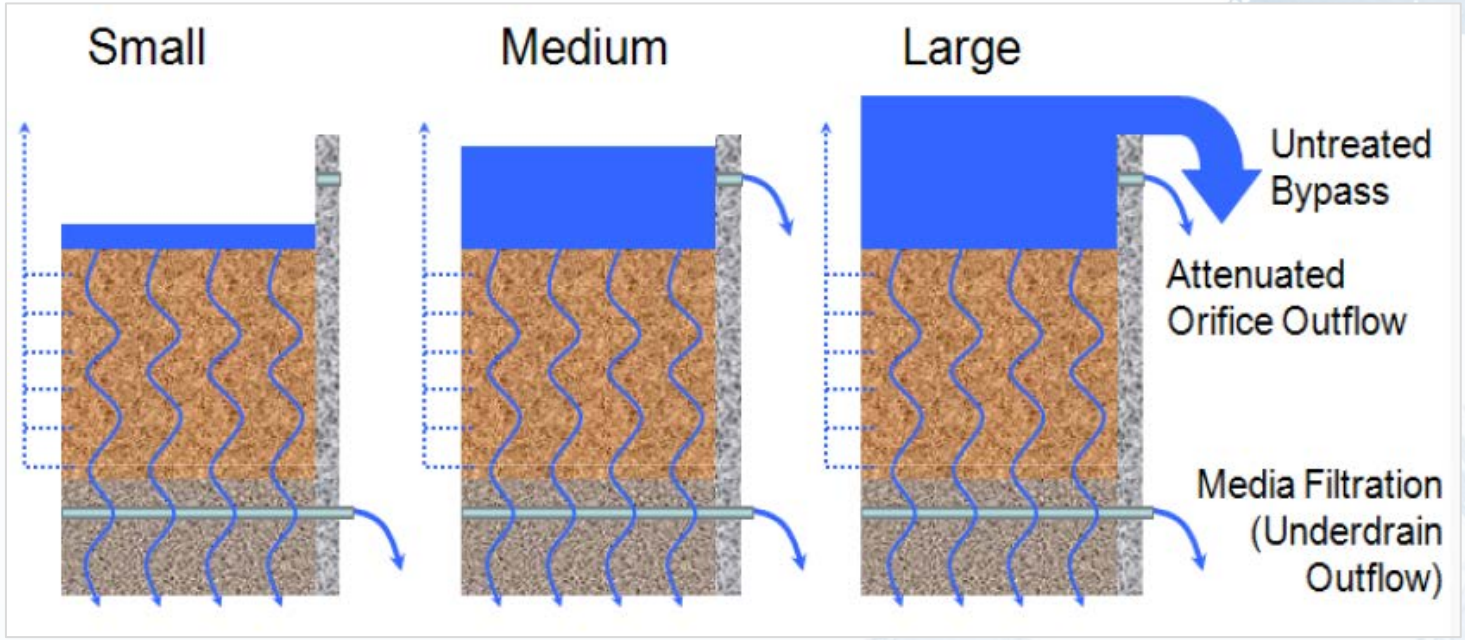


Upper San Gabriel River EWMP

Adaptive Management

- Critical metric for implementation is "volume managed"
- Quantified during BMP design process
- Metric for adaptive management

Effect of Storm Size and/or Drainage Area



RB-AR 3575

Key Topics:
Critical Conditions and Limiting Pollutants

PARADIGM ENVIRONMENTAL

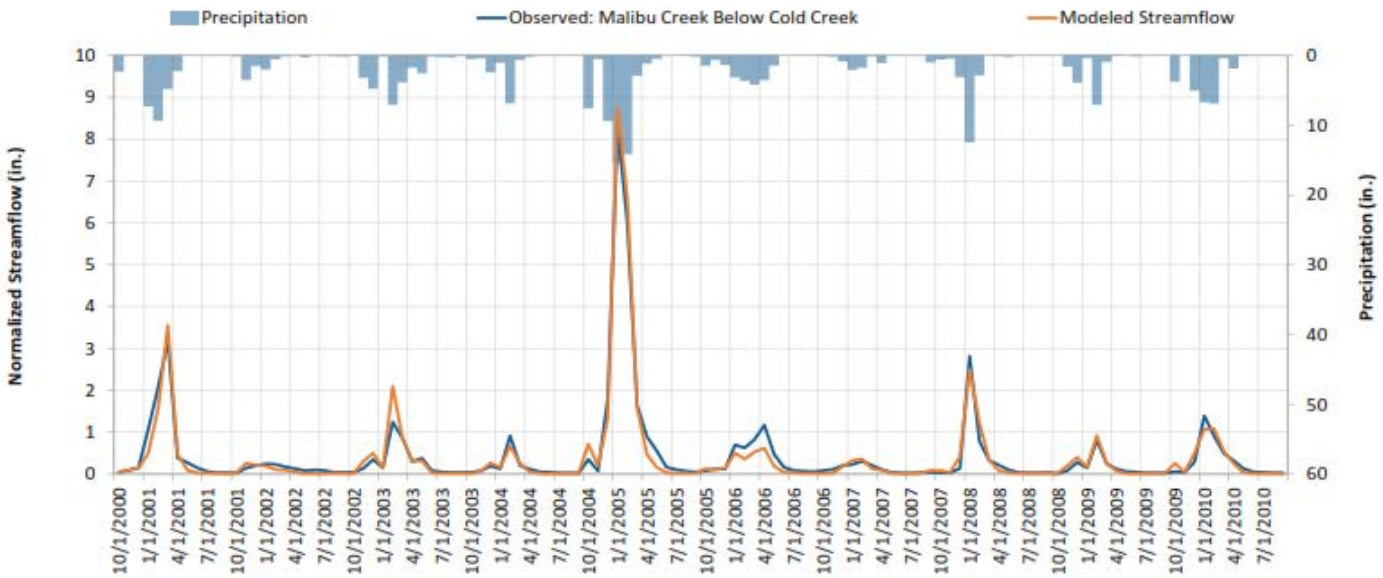
RB-AR 3576

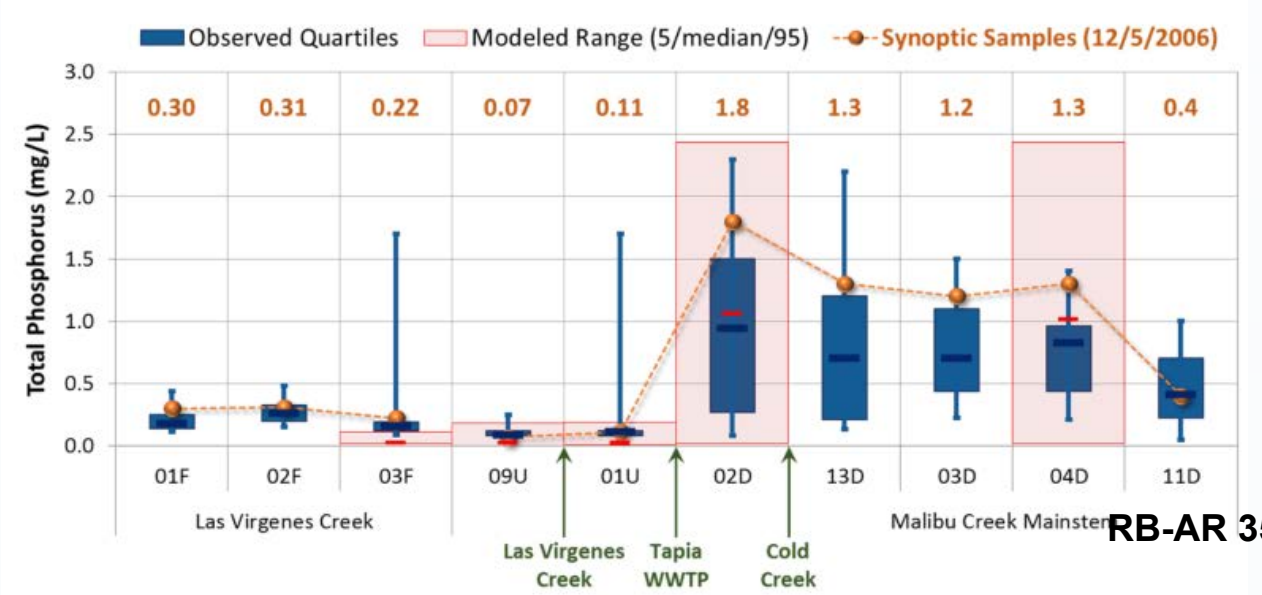
Providing Reasonable Assurance

- **Establish critical condition** – assures limits will be attained 90% of assessment periods

- **Identify limiting pollutants** – assures most challenging pollutants will be addressed

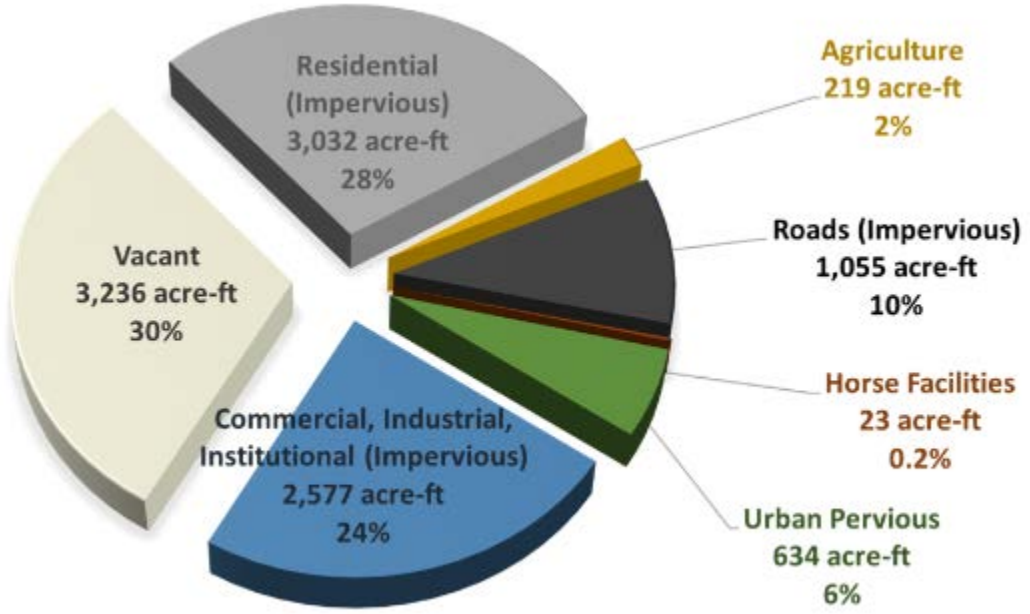
Detailed Calibration Efforts





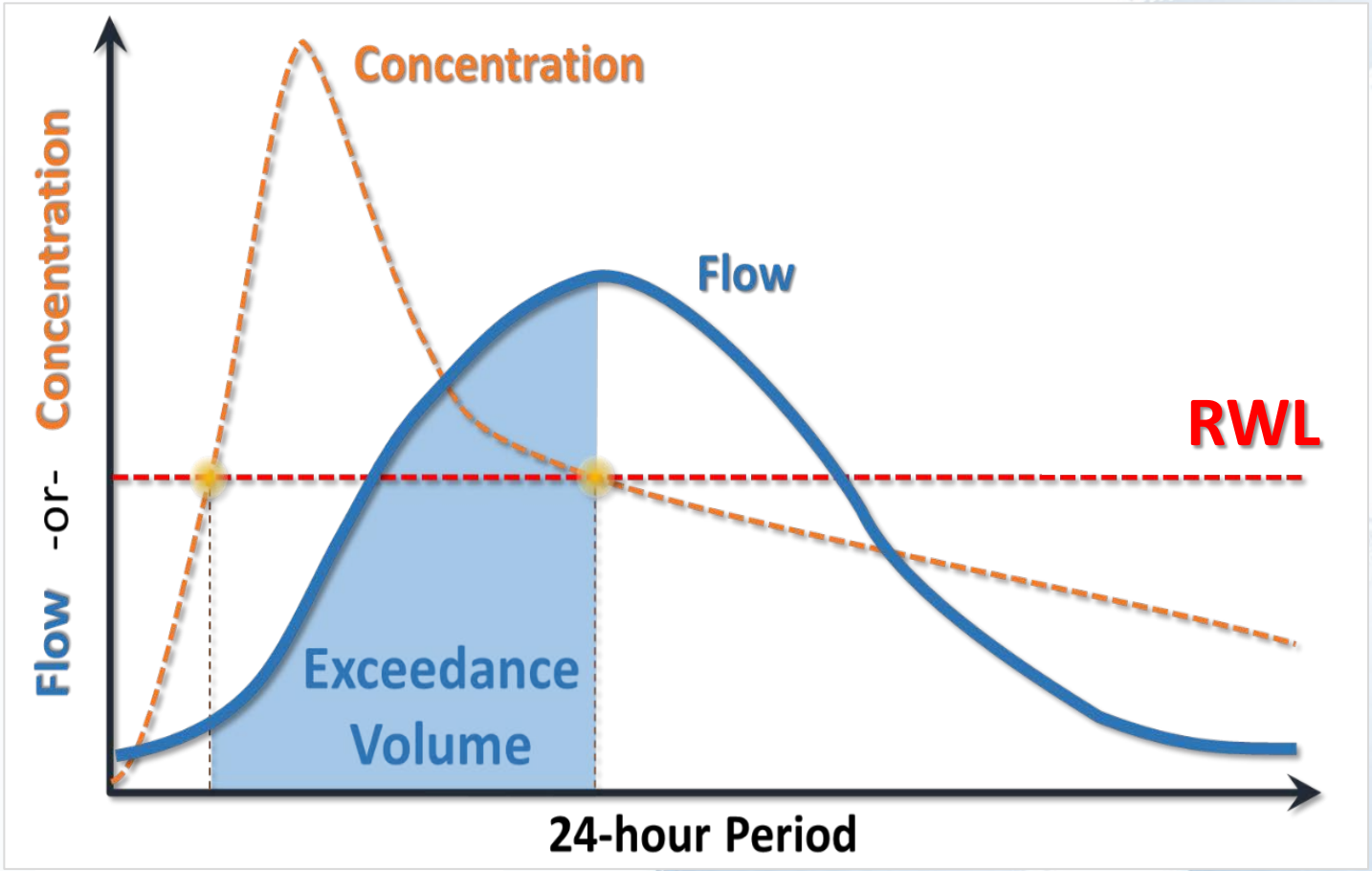
RB-AR 3578

Malibu Creek EWMP



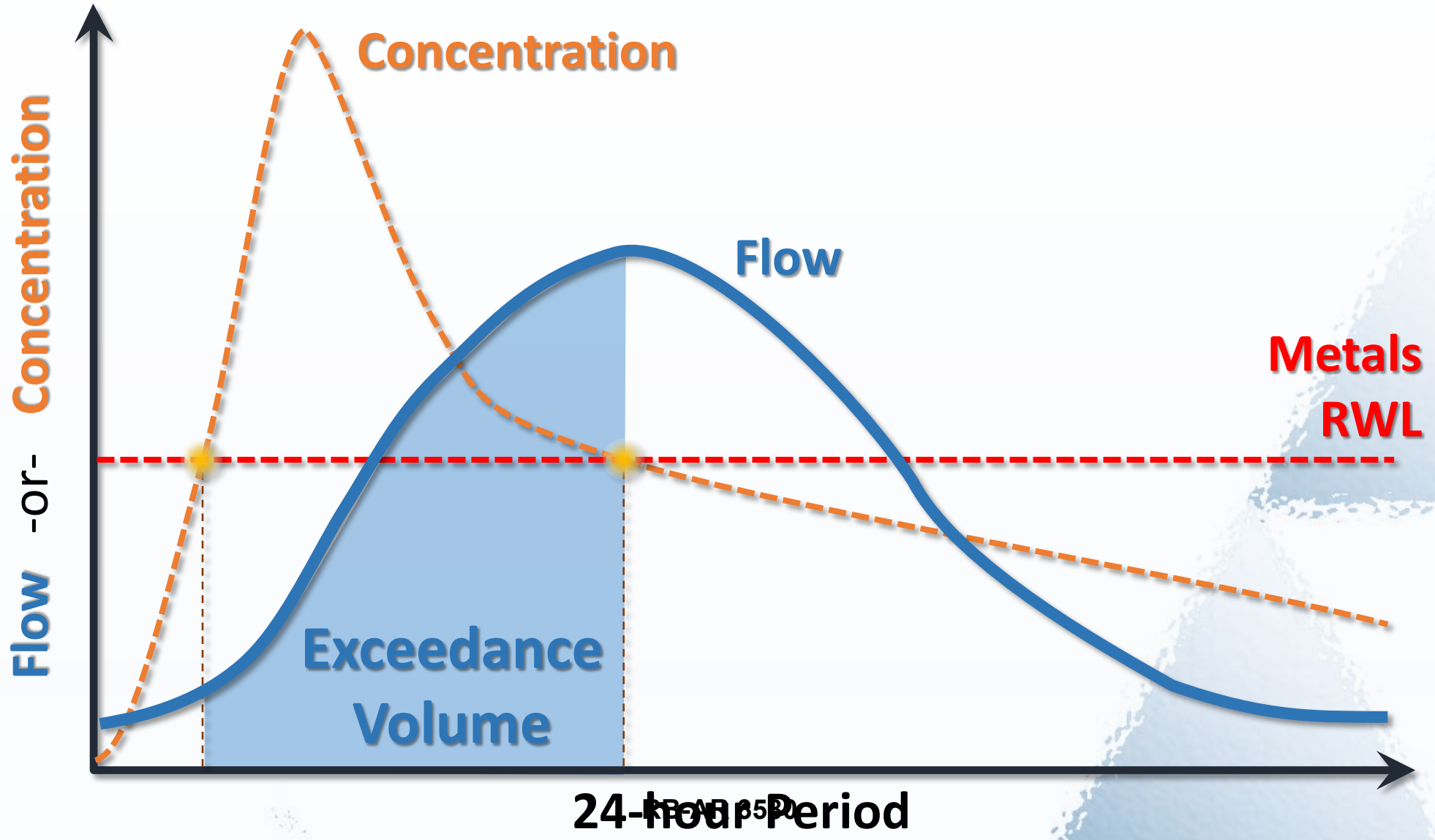
Exceedance Volume: Establishing Critical Conditions and Limiting Pollutants

- Must provide assurance that control measures have sufficient capacity to manage critical storm events
- Different pollutants subject to varying limits and magnitude of exceedance

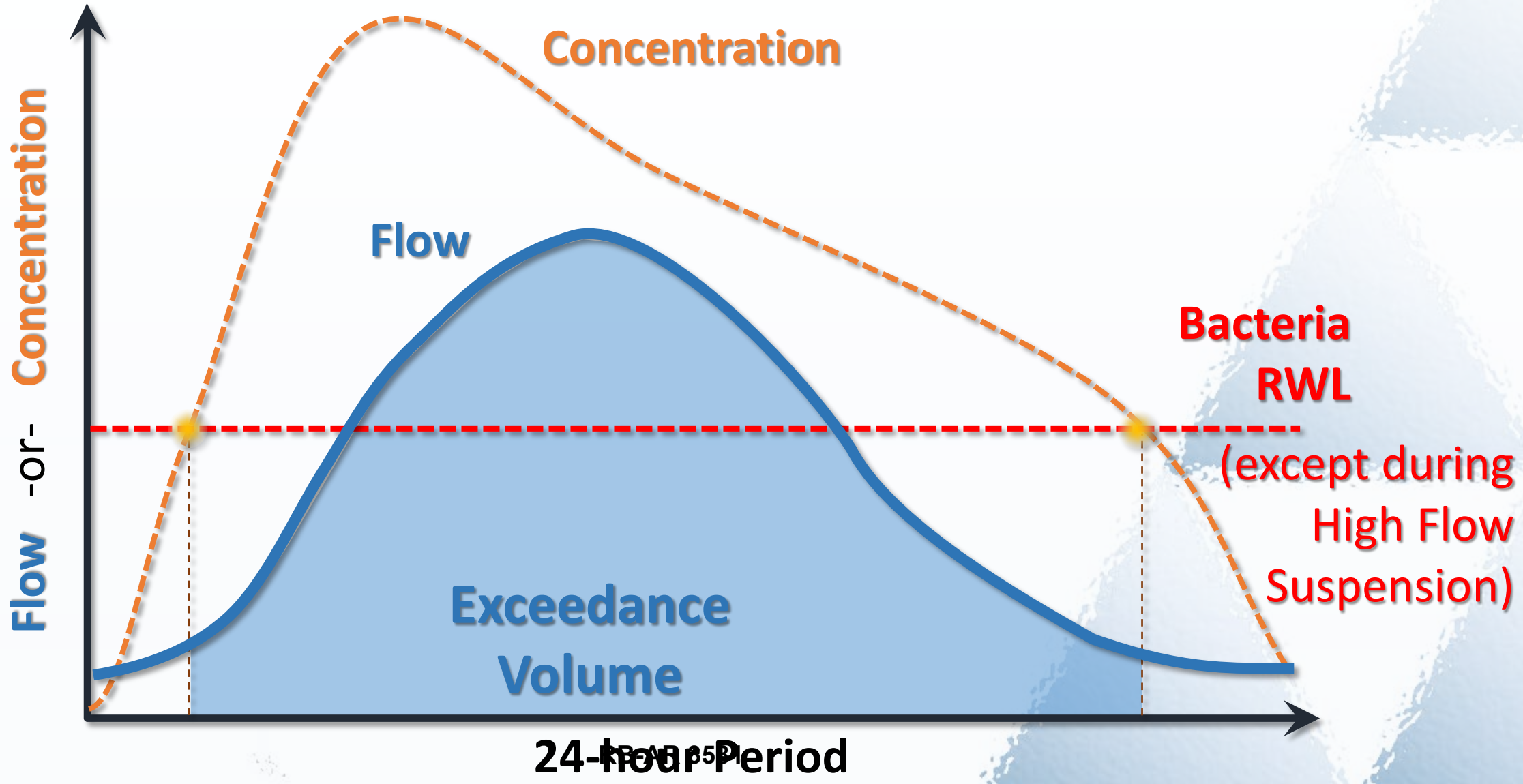


RB-AR 3579

Ensuring Control Measures are Sufficiently Sized: *Metals*

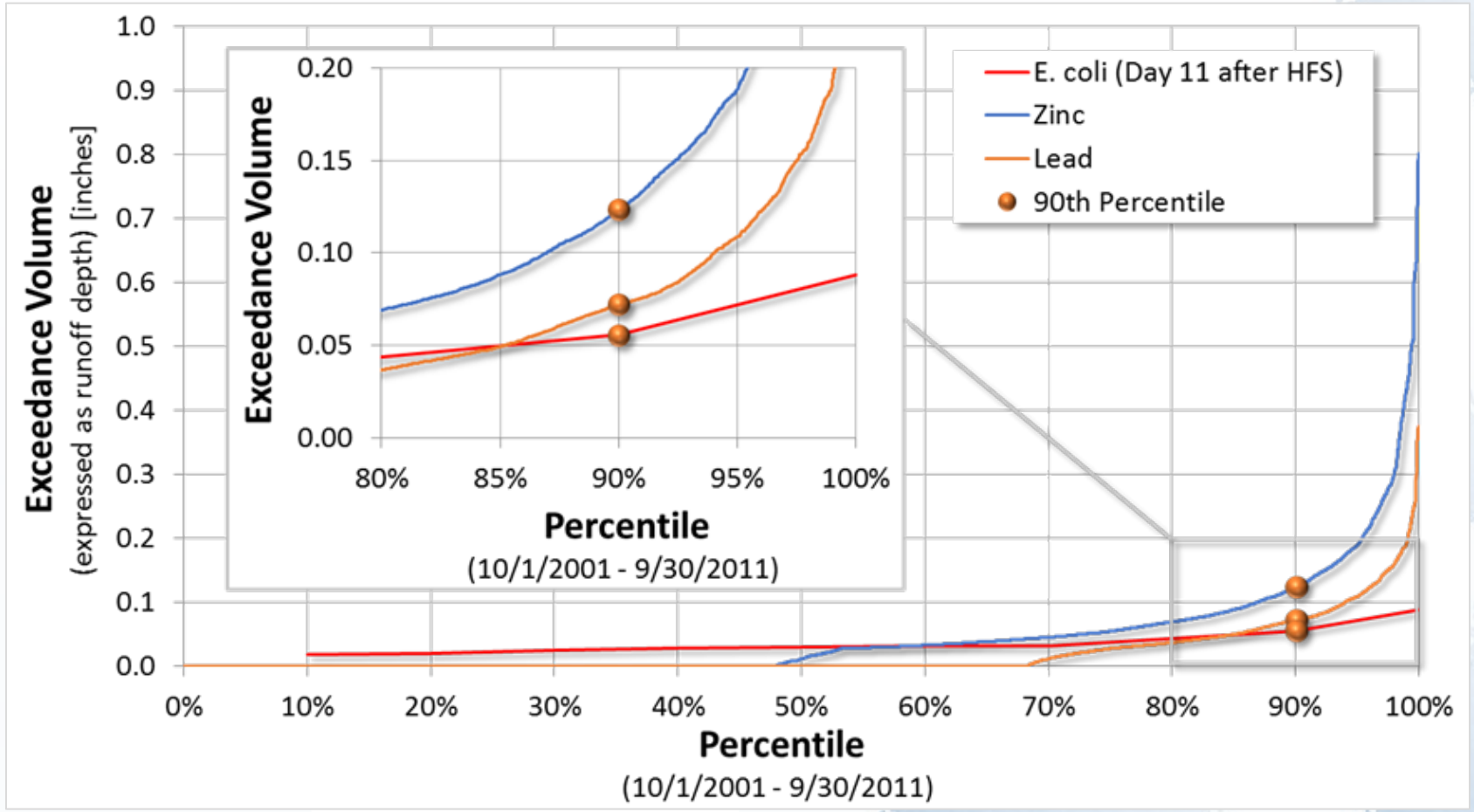


Ensuring Control Measures are Sufficiently Sized: *Bacteria*



Exceedance Volume: Identify Critical Condition and Limiting Pollutants

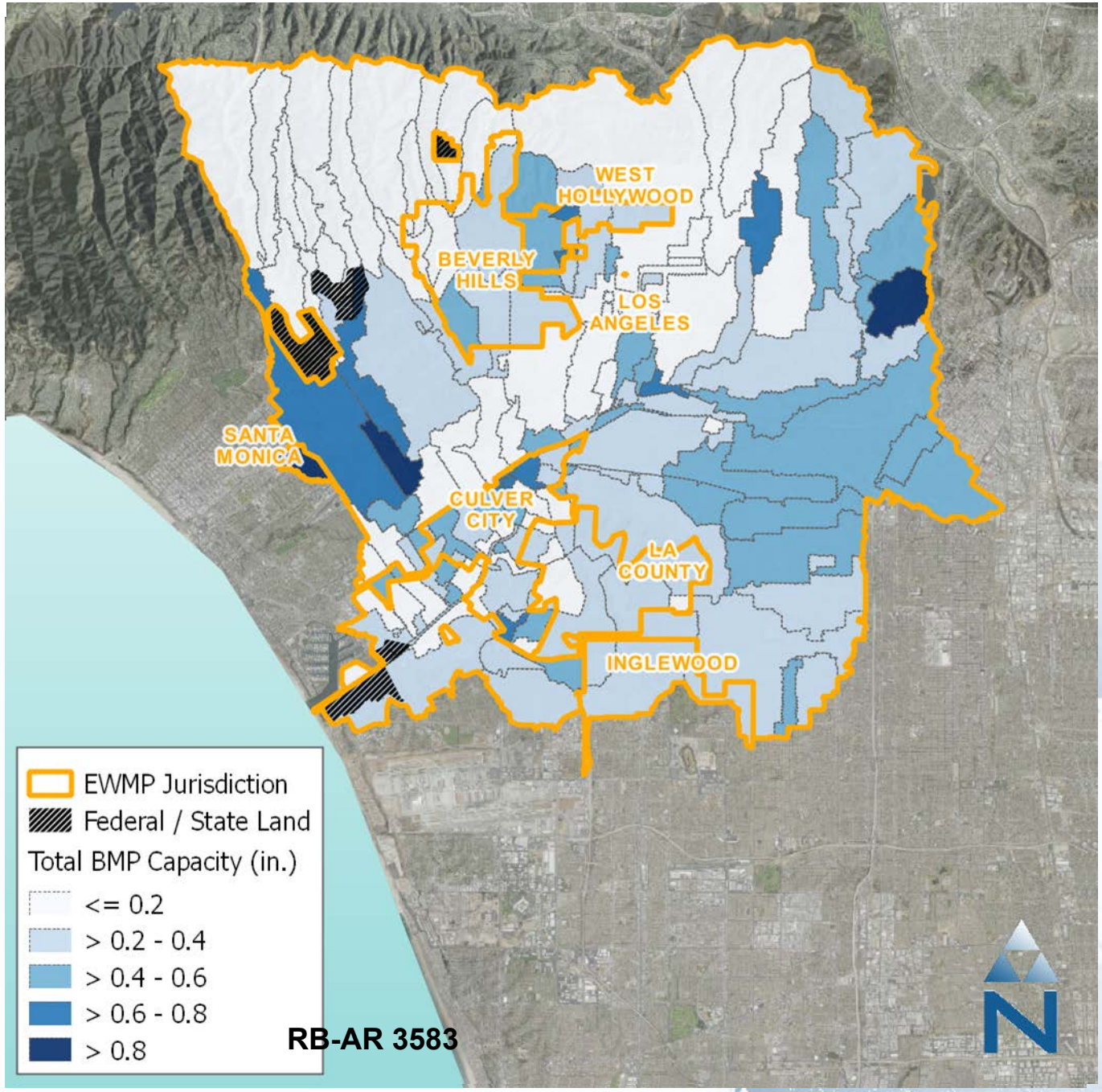
- Storm that produces 90th percentile Exceedance Volume is critical condition
- Also allows for identification of limiting pollutant



RB-AR 3582

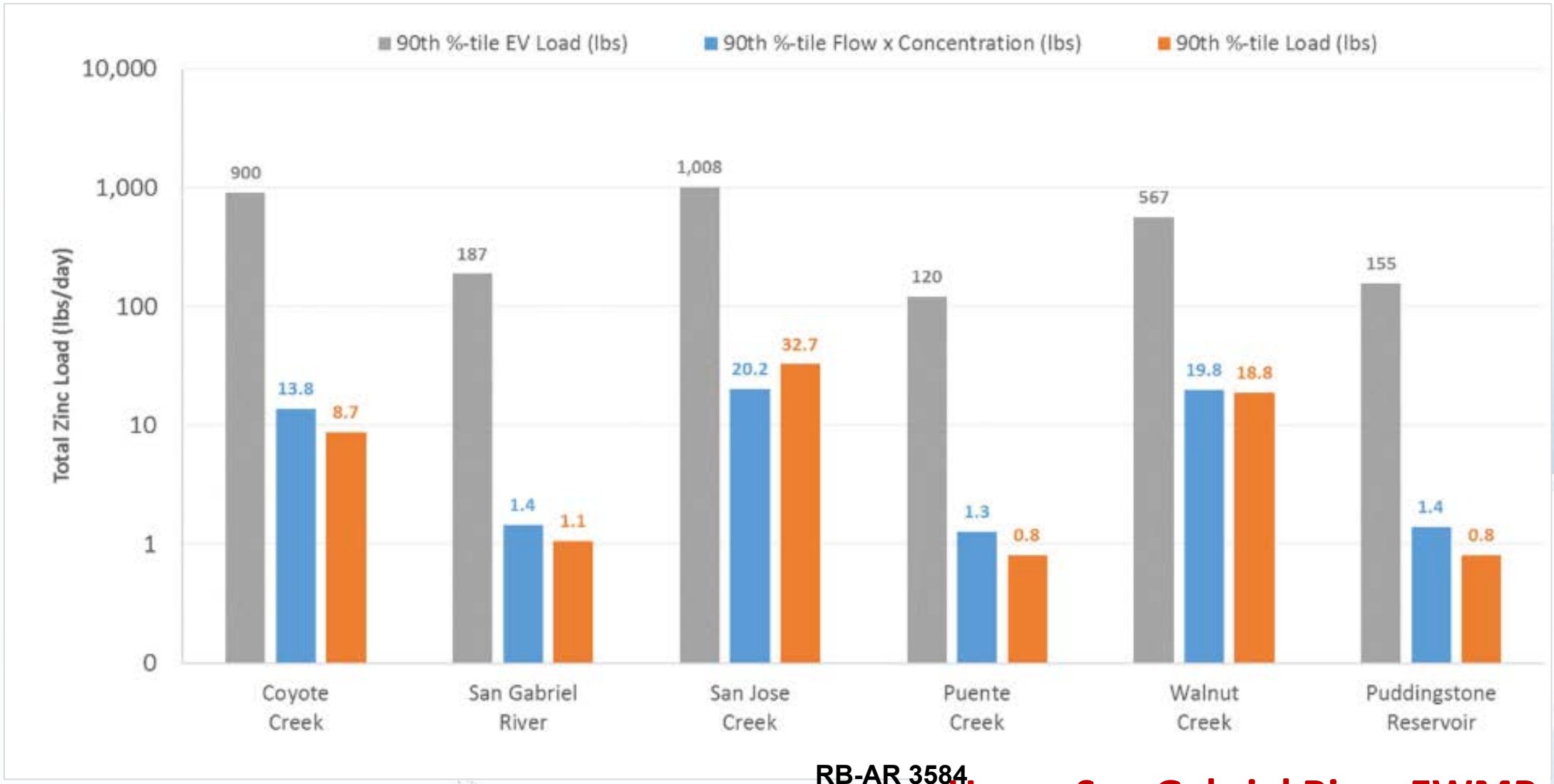
Assurance that Limiting Pollutants are Addressed

ZINC



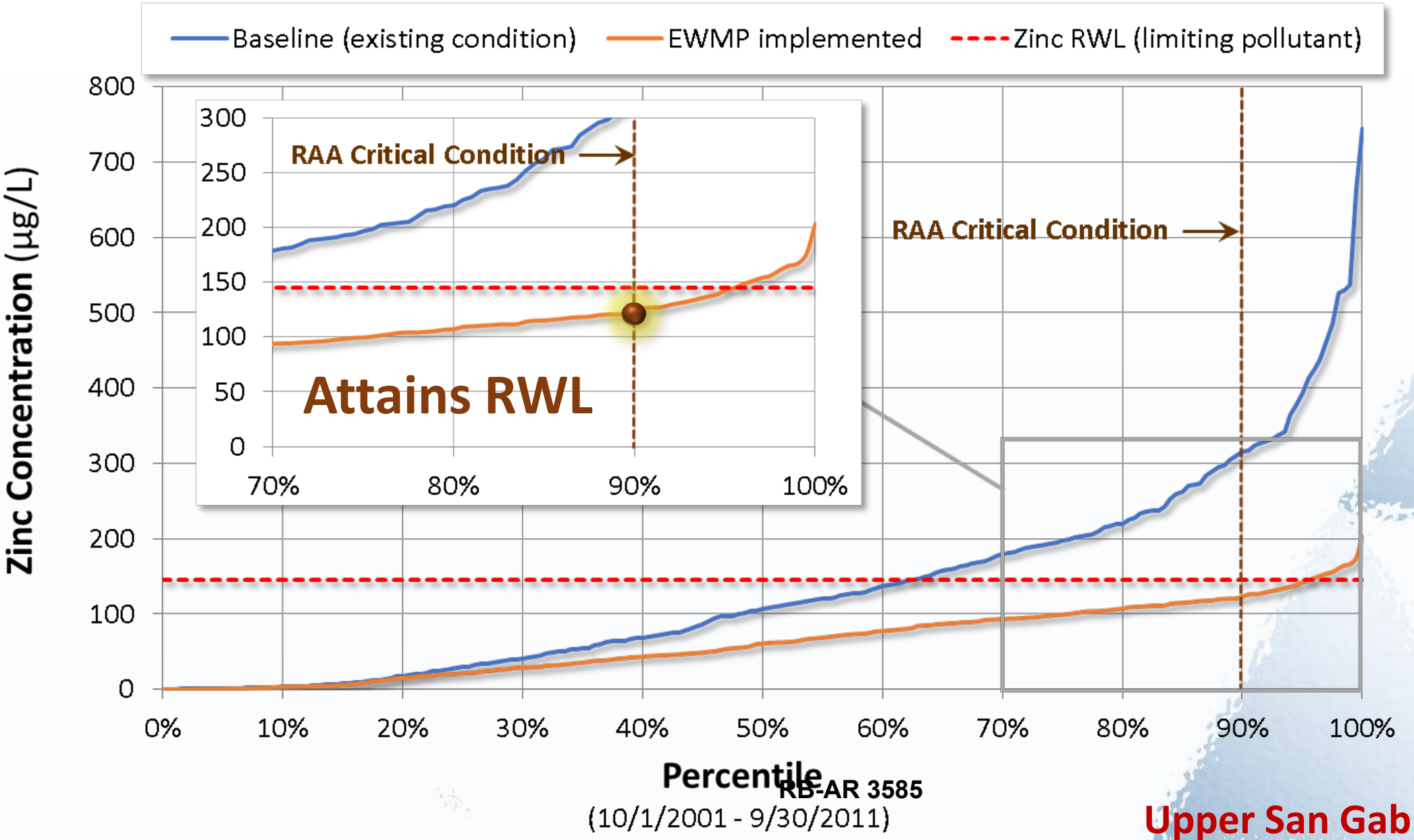
RB-AR 3583

Exceedance Volume: Comparison to RAA Guideline Metrics



RB-AR 3584

Example Validation: EWMP Effectiveness



RB-AR 3585

San Jose Creek:
Upper San Gabriel River EWMP

Conclusions

Conclusions

- EWMP RAAs are most advanced stormwater quality modeling efforts conducted to date, anywhere
- Critical conditions are highly protective of receiving waters
- Working with Regional Board staff to address comments received
- Modeling tools will continue to support EWMP implementation, moving forward

REGIONAL BOARD WORKSHOP
NOVEMBER 5, 2015
PALOS VERDES PENINSULA WMG

STATUS

- Comments received **October 26, 2015**
- Anticipate being able to address all comments by due date of **January 26, 2016**
- CIMP MOU language settled & CIMP contractor selected
- Successes already achieved with regional BMPs & 30-month projects
- The group did not wait for the 2012 MS4 Permit to be adopted to begin looking for projects - Actively implementing TMDLs since adoption

PENINSULA PROJECTS

- Early action projects, San Ramon Canyon and Equestrian Center, were completed and financed with **grant funding**
- South Coast Botanic Garden Wetland and Lake Revitalization Project has received **grant funding** and is pursuing additional grants
- Two regional projects, the Chandler Quarry and Casaba Estates, financed with **private funding** on private land
    - Through use of the **CEQA** process to condition these redevelopment projects to address the effective TMDLs not only for runoff from the projects but also for all offsite drainage that goes through the project.
- Rancho Palos Verdes is working to renew their **storm drain user fee** for another 10-years to help with funding (subject to Prop 218 process)
- The Peninsula WMG is active with and committed to innovative funding

SOUTH COAST BOTANIC GARDEN WETLAND AND LAKE REVITALIZATION PROJECT

- ***Revitalize Existing Lake***
- ***Construct Treatment Wetlands***

RB-AR 3591

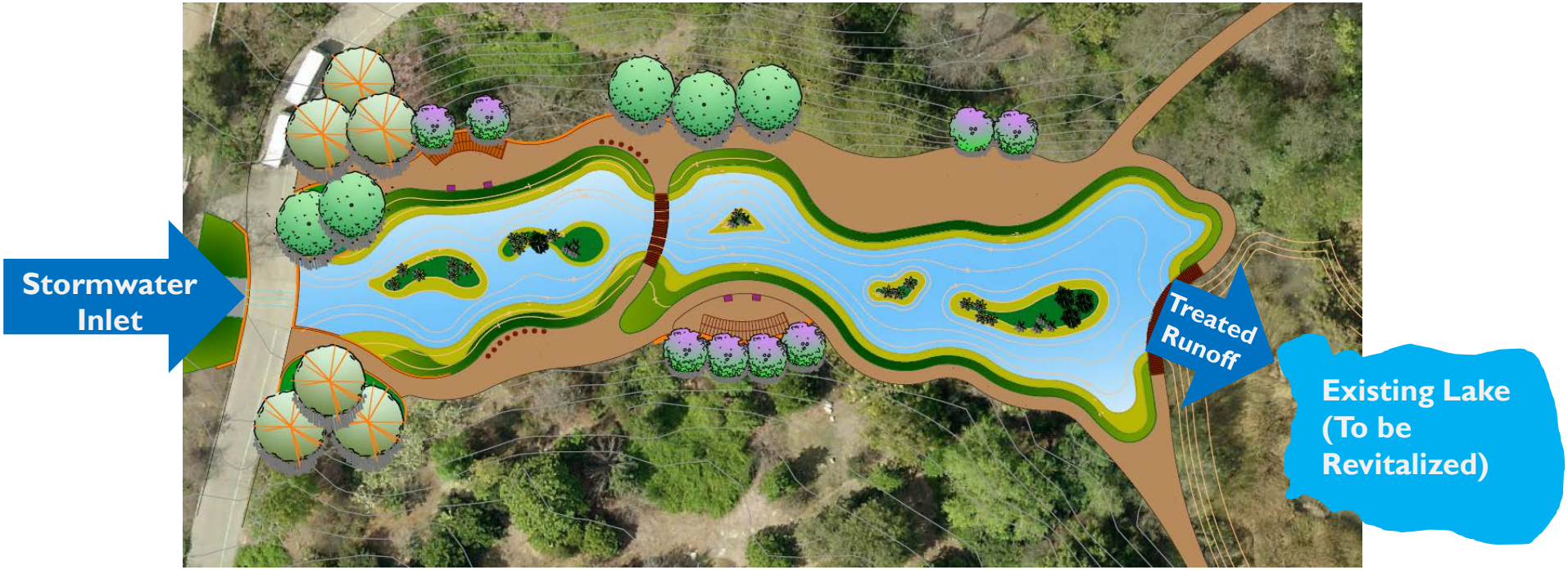
- Sediment and Invasive Removal
- Awarded $1.4 Million in grant funding

1/23/2013

Revitalize Existing Lake

RB-AR 3592

WETLAND CONCEPTUAL PLAN



September 2015: Applied for $800,000 Prop 1 Grant for Design

PALOS VERDES LANDFILL – LACSD COMMENT

SITE SELECTION

- Location selected due to:
  - Two large storm drain main lines which converge to collect runoff from approximately 1,415 acres of land
  - Best available opportunity on public land
- Infiltration is infeasible due to land use; however, the majority of the Peninsula areas are infeasible for infiltration due to land subsidence hazards
- Because of the great potential for this site, we feel it is necessary to investigate further

- Significant challenges common to all of our projects
- DTSC hurdle – RHE successfully worked through similar issues for Model Equestrian Center project (located on a corner of the PV Landfill)
- We intend to work very closely with the Sanitation District in determining feasibility
- Passage of SB485 provides nexus for cooperation
- LACFCD has a great relationship with the LA County Department of Parks and Recs
- South Coast Botanic Garden is an example of successful land reclamation above a landfill

ALTERNATIVE OPTIONS

- Alternative options will be pursued in conjunction with all preferred projects
- Various potential opportunities, including the following:
  - Low Flow Diversion BMP within the Machado Lake Watershed
  - Fern Creek Stream Restoration
  - Palos Verdes Golf Course Regional BMP Project
  - CalWater Project
  - May be appropriate to pursue alternative approaches in cooperation with agencies outside the Peninsula

MACHADO LAKE NUTRIENT TMDL COMPLIANCE - STATUS

- Peninsula WMG meeting final targets for nitrogen during the critical summer dry weather period and during dry months year round with a comfortable margin of safety.
- Very close to phosphorus final target during the critical summer dry weather and year-round dry weather months
- Not there yet for wet weather months but this is not the critical period for the lake under the TMDL.
- "Best use of public funds" may lead to alternative approaches in cooperation with other agencies to close remaining gap

THANK YOU

QUESTIONS?

CASABA ESTATES – REGIONAL BMP

- Completed
- Located in Rolling Hills Estates
- Captures approximately 28.62 acres
- Riparian area designed to retain 50-year storm event (5.1 acre-feet)

CHANDLER QUARRY PROJECT – REGIONAL BMP

Western Drainage Area

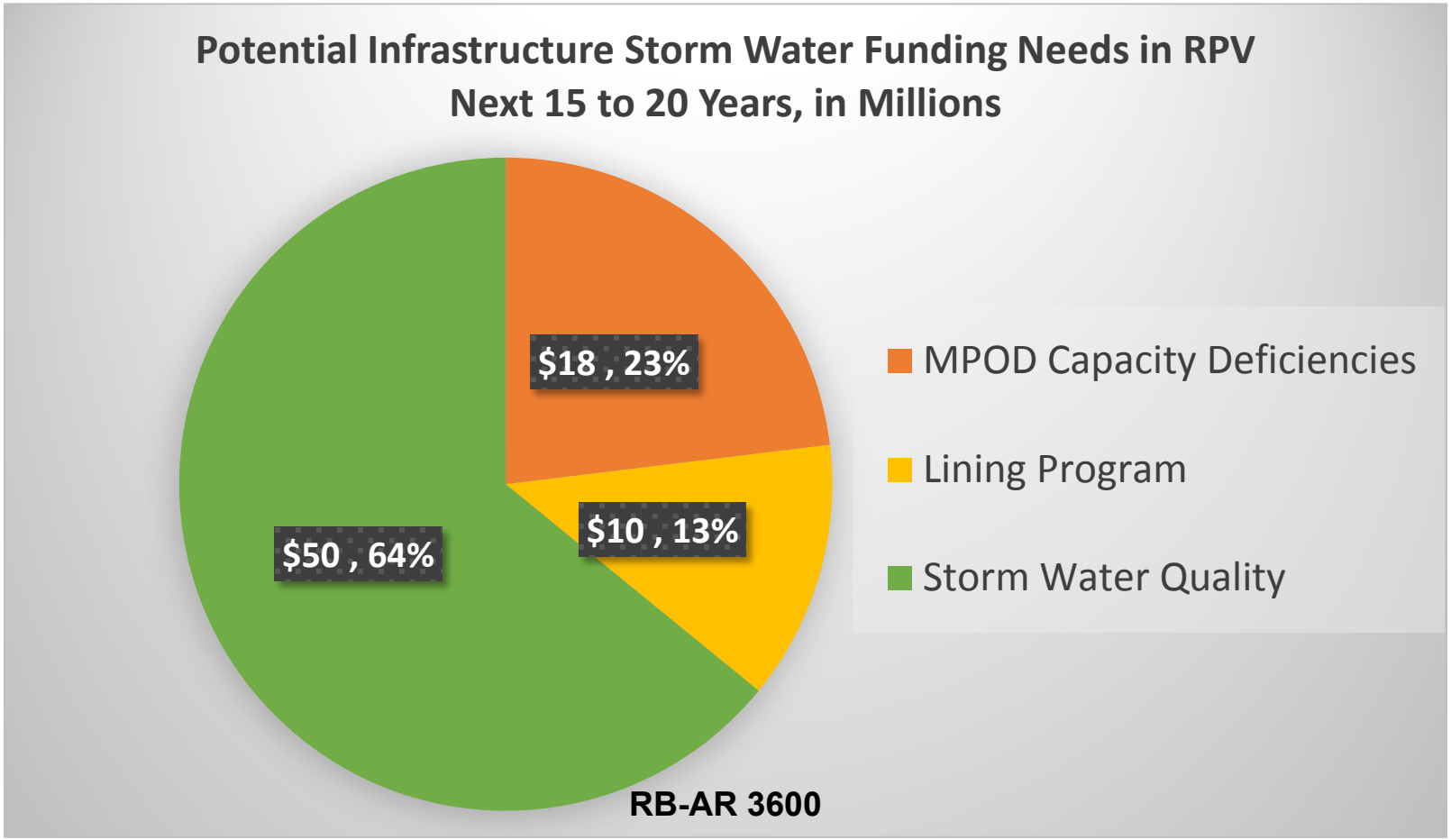
- 707 acres, including approximately 467 acres offsite
- Infiltration system sized for 50-year storm event (approximately 12.7 acre feet)

Eastern Drainage Area

- Two manufactured wetlands systems to treat approximately 45.3 acres

COST PLANNING

The tide is turning…SWQ infrastructure needs will soon overshadow flood control needs



BACTERIA

Comment: "*Specify a strategy to implement pollutant controls necessary to achieve bacteria WQBELs that have already passed (2012) and limitations have not been achieved*"

- The Peninsula Beaches have the highest water quality in Santa Monica Bay 100% compliance with wet weather exceedance days
- Occasional dry weather exceedances are not evidence that MS4s are causing or contributing to the exceedances
- Estimated 10-12% reduction in wet weather loads:
  - Non-structural BMPs
  - Low Impact Development (LID)
  - Downspout disconnection programs for SFR (also addresses dry weather conditions)
- Actions to reduce dry weather loads will include:
  - Non-stormwater screening and monitoring program (already underway)
  - Implementation of active illicit discharge identification program (MCM)

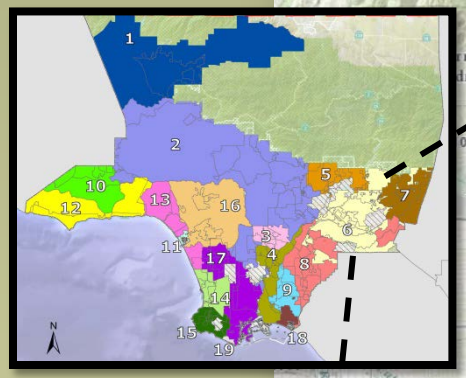
Percentage of Years in Compliance with Allowable Exceedance Days

	Winter Dry Weather	Summer Dry Weather	Wet Weather
SMB 7-1	100%	92%	100%
SMB 7-2	100%	100%	100%
SMB 7-3	83%	75%	100%
SMB 7-4	100%	100%	100%

Data analyzed from 1/1/2003 - 2/25/2014
Exceedance days occurring before final compliance deadlines were considered in compliance.

Upper San Gabriel River EWMP Group

November 5, 2015



USGR EWMP AREA

Glendora

Upper San Gabriel River Watershed

Baldwin Park

Covina

West Covina

La Puente

Industry

County

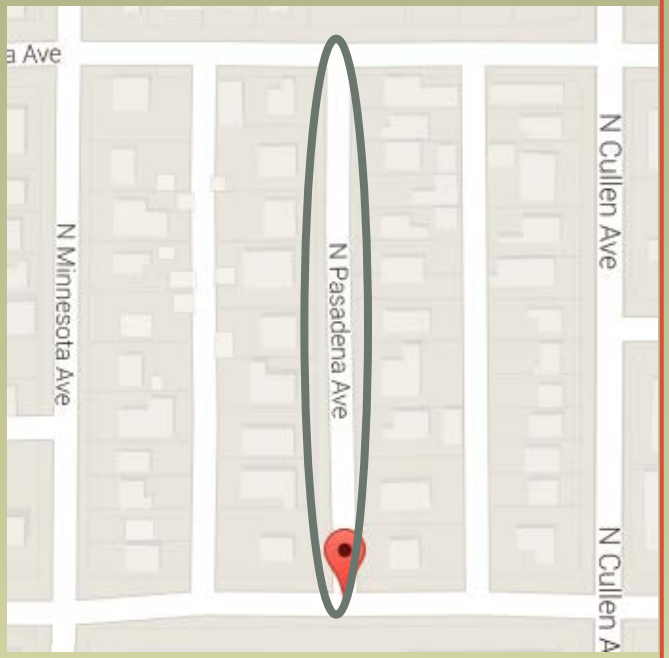
RB-AR 3603

OUTLINE

- Green Streets
- LID on Public Land
- Institutional Controls
- Regional Projects

GREEN STREETS

- Pasadena Avenue, Glendora
- Removed Portland cement concrete curb and gutter
- Constructed pervious concrete
- Rapid infiltration observed
- Completed in June 2014



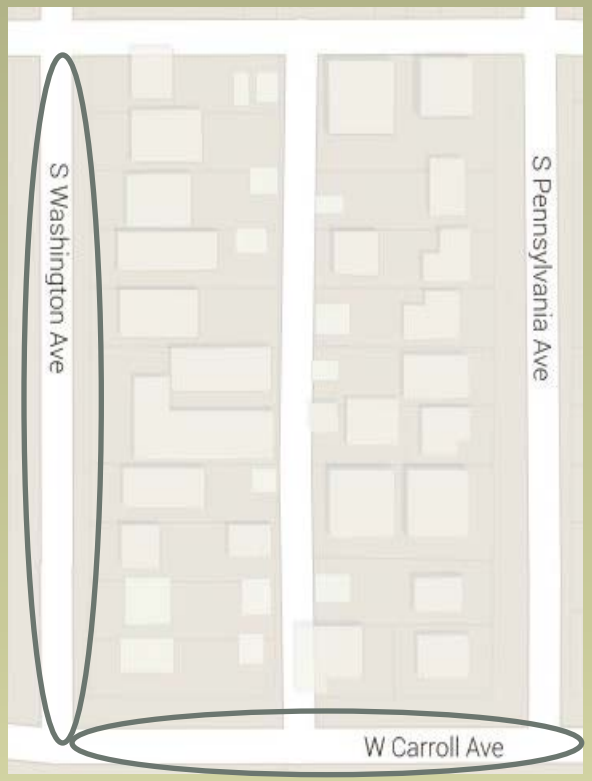

Construction

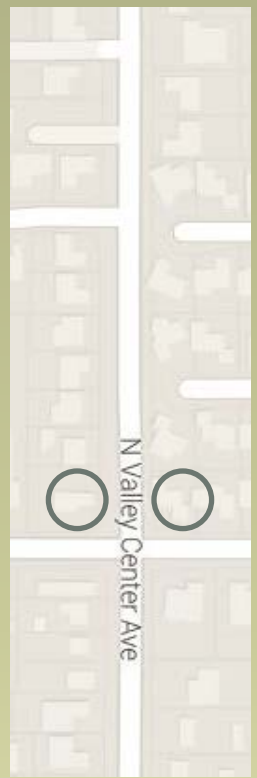

Pervious Concrete Gutter


Infiltration During a Storm Event

GREEN STREETS

- Valley Center Ave and Carroll Ave Improvements, Glendora
- Construction of new dry well catch basins u/s of catch basins
- Rapid infiltration observed and flows did not reach downstream catch basins
- Construction completed in April and October 2014





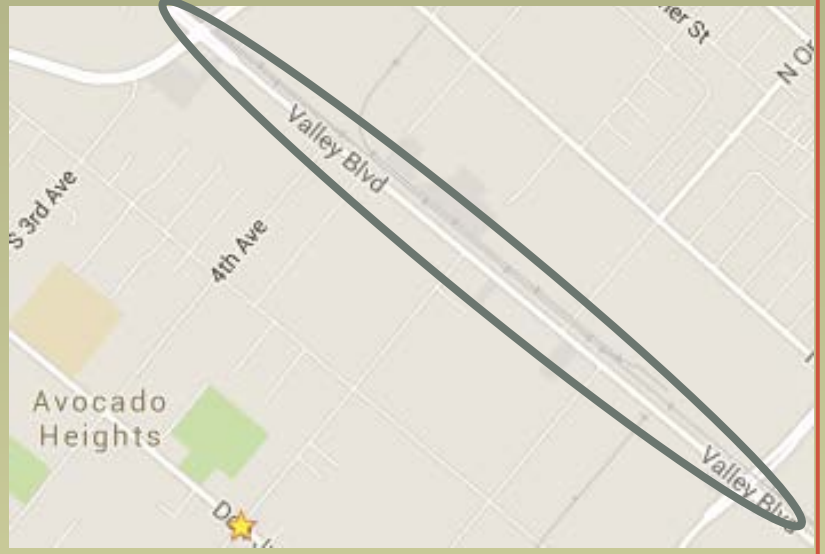

Construction


Pre-Filter Installation

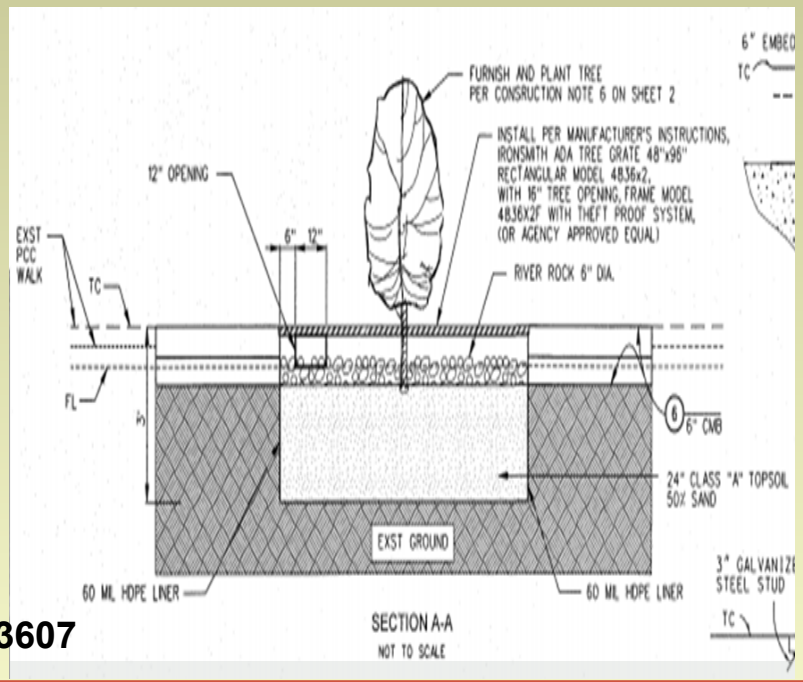

Infiltration During a Storm Event

GREEN STREETS

- Valley Boulevard, Unincorporated Avocado Heights
- Constructed 12 stormwater retention basins
- Flows diverted before reaching downstream catch basins
- Completed in August 2014




Stormwater Retention Basin



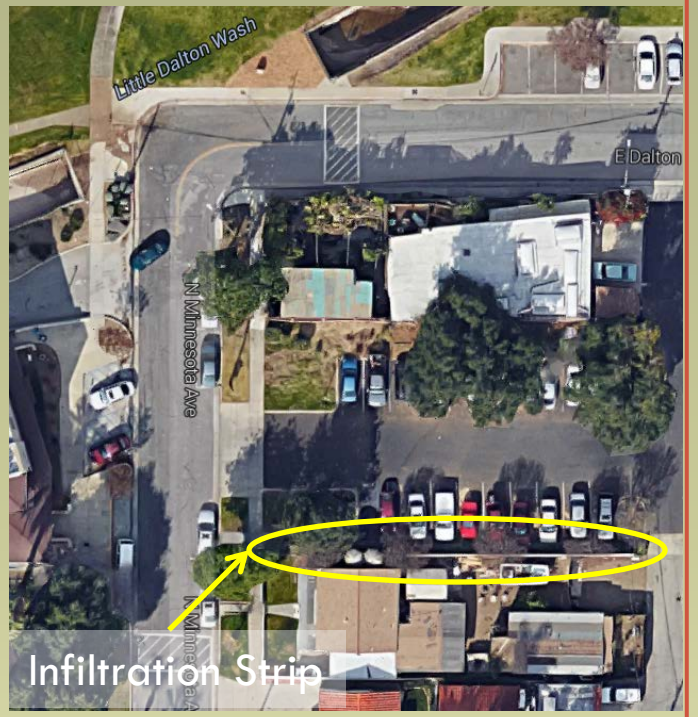
RB-AR 3607

GREEN STREETS

- Maine Avenue Complete Streets Project, Baldwin Park
- Complete Streets principles: For people of all ages and physical abilities and accommodate all travel modes
- Stormwater BMPs: Rain gardens, bio-filtration systems, drought tolerant landscaped medians, and catch basin modifications
- Construction to start in May 2016

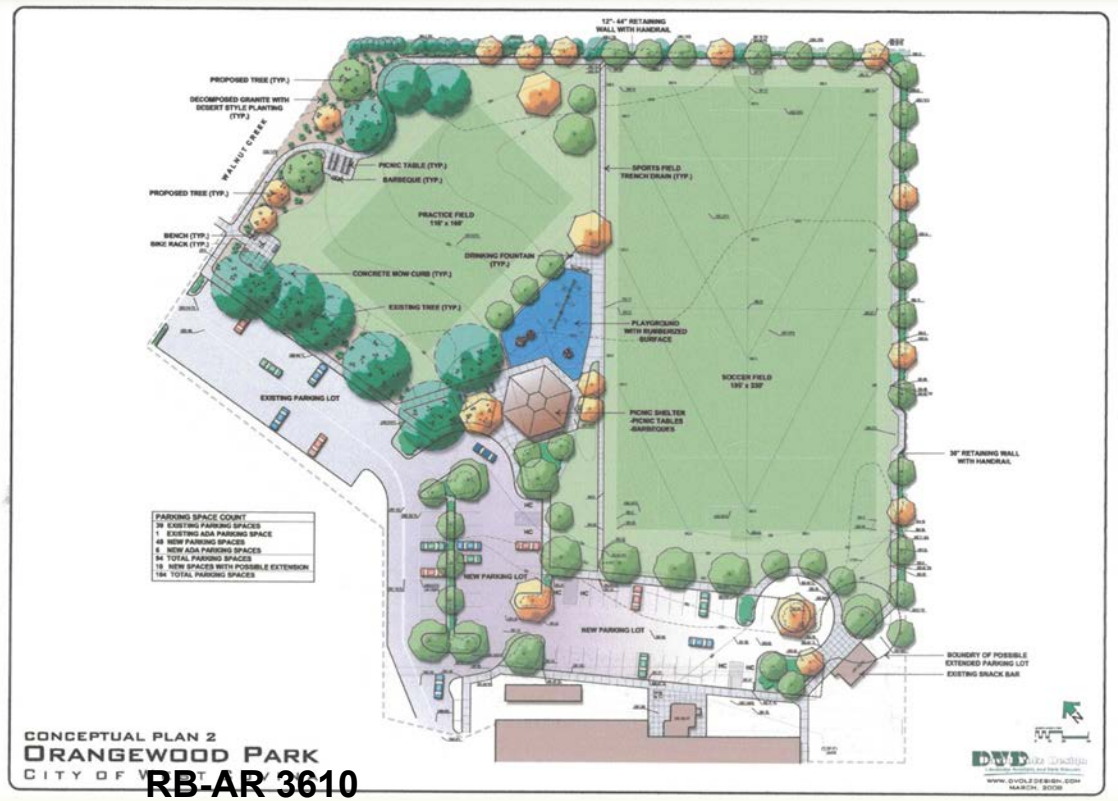
LID ON PUBLIC LAND

- La Fetra Senior Center Parking Lot Repavement, Glendora
- Converted existing concrete storm drain in the parking lot to an infiltration strip
- Completed in June 2013



LID ON PUBLIC LAND

- Orangewood Park Renovation Project, West Covina
- Construct infiltration trench and 6 dry wells to treat onsite runoff
- Install approx. 4,300 square feet of permeable Eco-Stone
- Completion in July 2016



LID ON PUBLIC LAND

- Walnut Creek Nature Park Renovation Project Phase II, Baldwin Park
- Diverts runoff from 21 acres of tributary area to bioswale basins in the Park through Frazier Ave

LID ON PUBLIC LAND

- Industry Business Center at Grand Ave & Baker Pkwy, Industry
- Construct biofiltration basins of approximate design capacity of 80 AF to capture flows from a 600-acre development area
- Completion at the end of 2017

Planned Biofiltration Basins

Example of After Construction

INSTITUTIONAL CONTROLS

- Minimum Control Measures (ongoing since 2013, all)
- Incorporate regenerative sweepers in the street cleaning program (2016, 2017, County, Covina, Glendora, Industry)
- Install full capture systems in catch basins in high trash generation areas (2018, County, Covina, Industry)
- Develop a Nutrients Reduction Outreach Program for Puddingstone Reservoir Drainage Area (2018, County)
- Develop a Rain Barrel Rebate Program (2017, all)

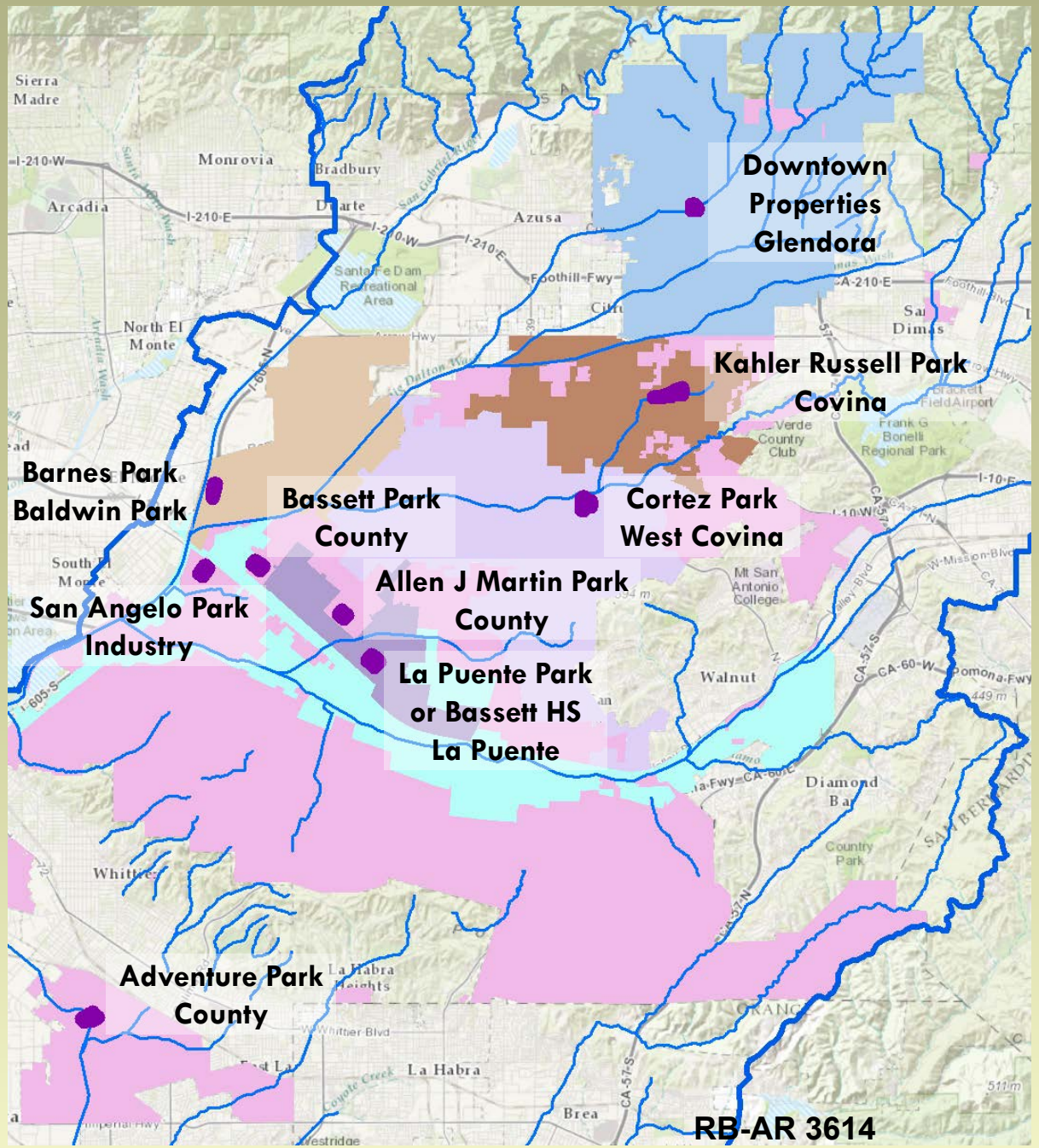

Regenerative Sweeper


Full Capture System


Rain Barrel

RB-AR 3613

REGIONAL PROJECTS



- Minimum one project per jurisdiction
- Implementation by 2020 or 2023
- Preliminary soil testing completed in March 2015
- Planning and designing underway

THANK YOU

Four EWMPs led by City of Los Angeles:
Upper Los Angeles River, Ballona Creek Santa Monica Bay, and Dominguez Channel

HUBERTUS COX, Ph.D, PE
Assistant Division Manager
Watershed Protection Division, Bureau of Sanitation, City of Los Angeles

environment LA SANITATION
CITY OF LOS ANGELES

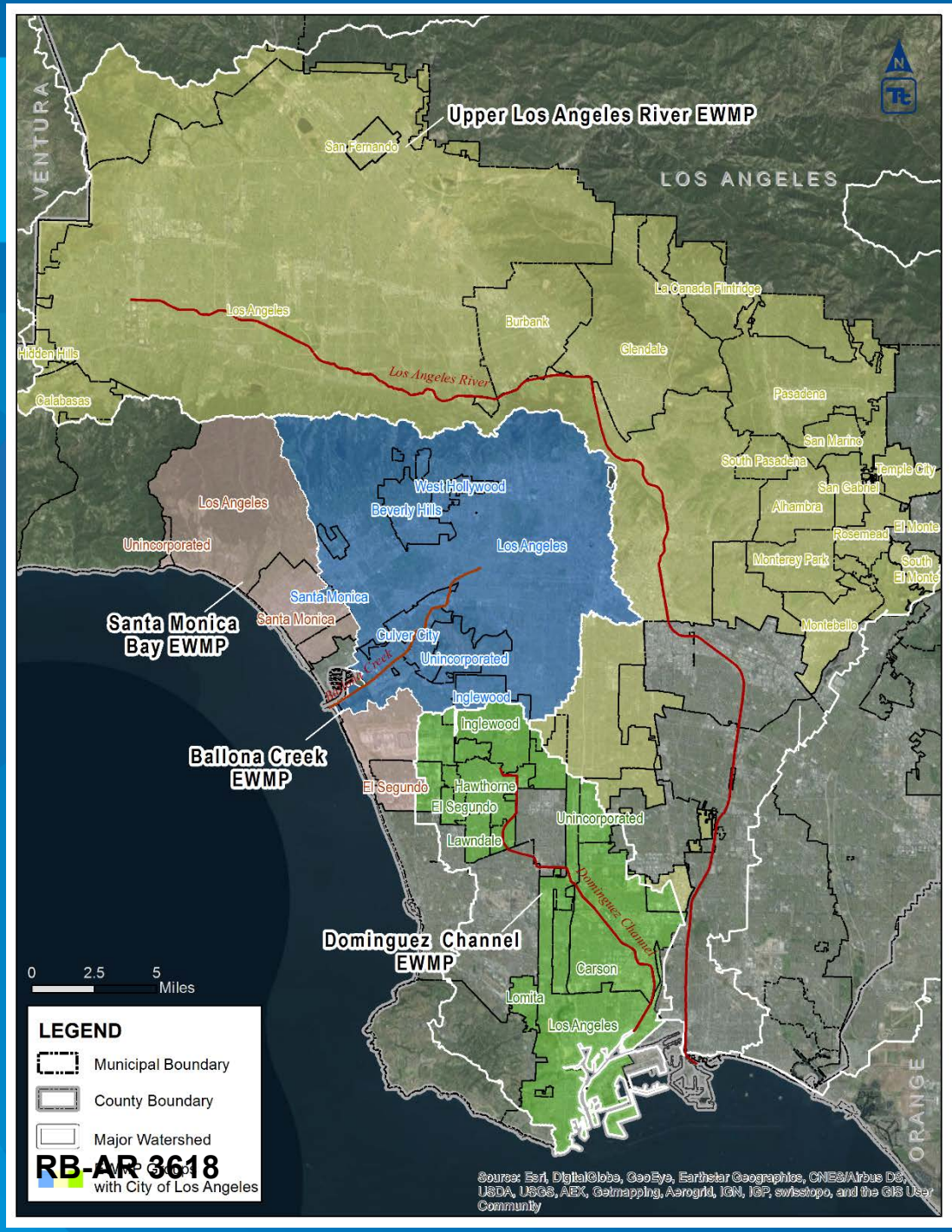
RB-AR 3616

Presentation Overview

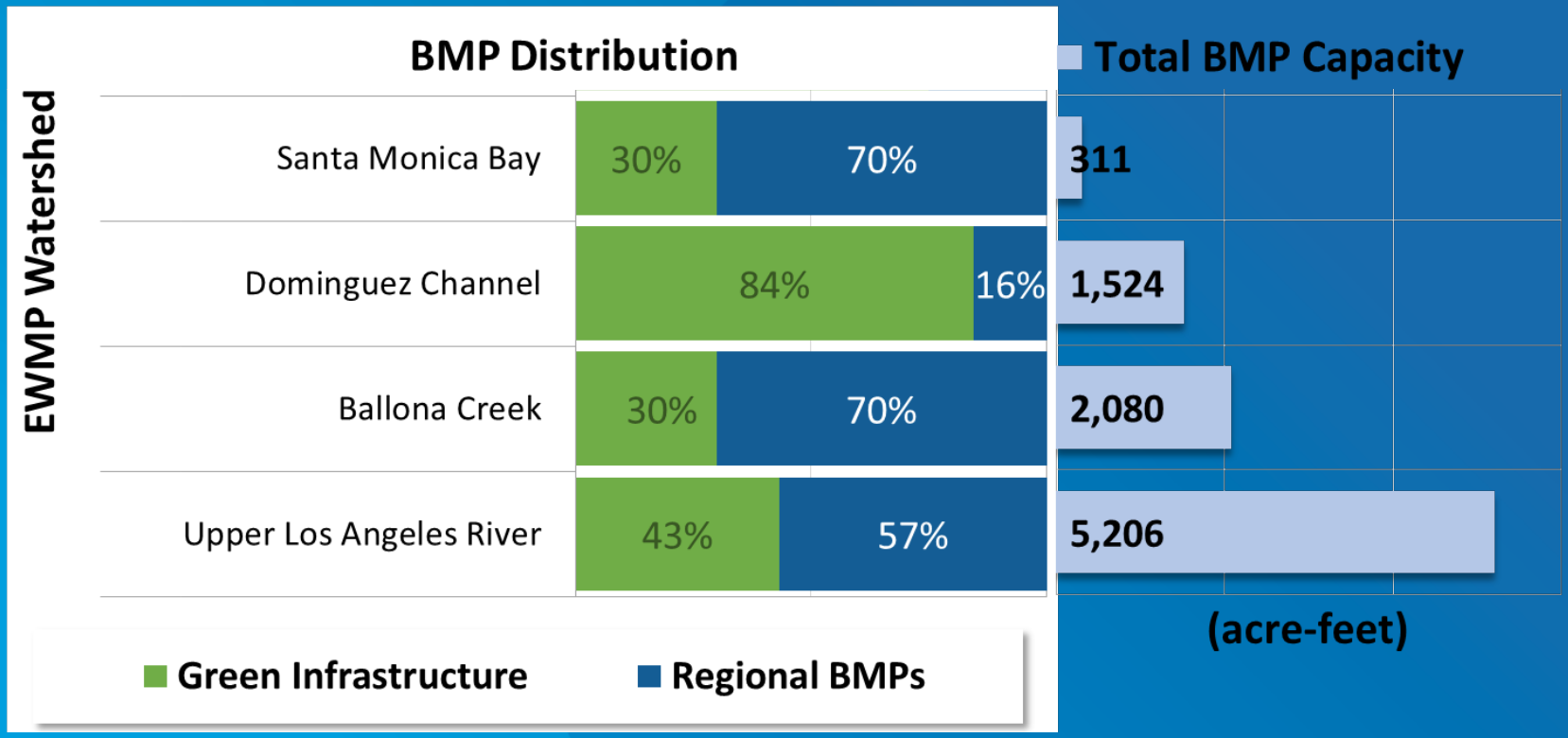
- Overview of City-led EWMPs
- Key Topics from EWMPs:
  - Green streets
  - Regional Projects
  - Adaptive Management
- Project Highlights from each EWMP

City-led EWMPs

- **Upper LA River:**
  18 agencies
- **Ballona Creek:**
  8 agencies
- **Santa Monica Bay:**
  5 agencies
- **Dominguez Channel:**
  9 agencies



EWMP Implementation Strategies



RB-AR 3619

environment LA SANITATION
CITY OF LOS ANGELES

Next Steps: Capital Improvement Plan

Comprehensive List of Projects

City of Los Angeles Stormwater and Green Infrastructure 5-Year Capital Improvement Plan - Project Summary

No.	Project Name	Watershed	Cost Sharing Opportunity	Total Project Cost	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 20/21
LRS-1	LA River Segment B Urban Runoff Project No. 1	LAR	No	$ 7,809,000	$ 798,000	$ 2,086,770	$ 4,924,230	$ -	$ -
LRS-2	LA River Segment B Urban Runoff Project No. 2	LAR	No	$ 7,398,000	$ 756,000	$ 1,976,940	$ 4,665,060	$ -	$ -
LRS-3	LA River Segment B Urban Runoff Project No. 3	LAR	No	$ 5,343,000	$ 546,000	$ 1,427,790	$ 3,369,210	$ -	$ -
LRS-4	Arroyo Seco Urban Runoff Project No. 1	LAR	No	$ 280,850	$ 28,700	$ 75,051	$ 177,100	$ -	$ -
LRS-5	Arroyo Seco Urban Runoff Project No. 2	LAR	No	$ 2,457,506	$ 251,132	$ 656,710	$ 1,549,664	$ -	$ -
LRS-6	Arroyo Seco Urban Runoff Project No. 3	LAR	No	$ 1,737,112	$ 177,515	$ 464,202	$ 1,095,395	$ -	$ -
LRS-7	Arroyo Seco Urban Runoff Project No. 4	LAR	No	$ 4,795,000	$ 490,000	$ 1,281,350	$ 3,023,650	$ -	$ -
LRS-8	Arroyo Seco Urban Runoff Project No. 5	LAR	No	$ 342,500	$ 35,000	$ 91,525	$ 215,975	$ -	$ -
LRS-9	4th St & Santa Fe Priority Greenway + Sustainable Little Tokyo	LAR	No	$ 17,125,000	$ 1,750,000	$ 4,576,250	$ 10,798,750	$ -	$ -
TSO-1	NOTF/LFTF-1 Phase I	BC	No	$ 16,968,820	$ 1,734,040	$ 4,534,515	$ 10,700,265	$ -	$ -
TSO-2	Sepulveda Channel Diversion BMP Project	BC	No	$ 6,067,730	$ 620,060	$ 1,621,457	$ 3,826,213	$ -	$ -
BC-1	Lafayette Park	BC	No	$ 27,256,150	$ 1,997,458	$ 1,599,558	$ 8,215,640	$ 15,020,725	$ 422,769
BC-2	Queen Anne Recreation Center	BC	No	$ 37,059,870	$ 2,715,920	$ 2,174,900	$ 11,170,710	$ 20,423,505	$ 574,834
BC-3	Rancho Park Golf Course	BC	No	$ 18,119,620	$ 1,327,890	$ 1,063,370	$ 5,461,677	$ 9,985,630	$ 281,053
BC-4	Poinsettia Park	BC	No	$ 15,094,660	$ 1,106,207	$ 885,847	$ 4,549,883	$ 8,318,590	$ 234,133
BC-5	Westwood Neighborhood Greenway Project	BC	No	$ 3,104,420	$ 317,240	$ 829,583	$ 1,957,597	$ -	$ -
BC-6	Del Rey Lagoon Water Quality Improvement Project	BC	No	$ 1,441,832					
BC-7	Vermont Square Park Stormwater Treatment and Infiltration Project	BC	No	$ 2,113,088					
BC-8	National Boulevard Runoff Treatment Project	BC	No	$ 14,111,000					
BC-9	Westlake EWMP Regional Project 1	BC	No	$ 4,914,204					
BC-10	Palms EWMP Regional Project 1	BC	No	$ 12,026,075					
BC-11	South Los Angeles EWMP Regional Project 1	BC	No	$ 3,229,412					
BC-12	Wilshire EWMP Regional Project 1	BC	No	$ 2,722,501					
BC-13	West Adams EWMP Regional Project 1	BC	No	$ 7,730,833					
BC-14	West Los Angeles EWMP Regional Project 1	BC	No	$ 6,150,441					
BC-15	Wilshire EWMP Regional Project 2	BC	No	$ 2,628,495					
BC-16	South Los Angeles EWMP Regional Project 2	BC	No	$ 4,184,084					
BC-17	West Adams EWMP Regional Project 2	BC	No	$ 2,053,915					
BC-18	West Adams EWMP Regional Project 3	BC	No	$ 5,420,202					
BC-19	Wilshire EWMP Regional Project 3	BC	No	$ 3,813,562					
BC-20	West Adams EWMP Regional Project 4	BC	No	$ 4,569,195					
BC-21	West Los Angeles EWMP Regional Project 2	BC	No	$ 4,112,530					
BC-22	Southeast Los Angeles EWMP Regional Project 1	BC	No	$ 3,353,197					
BC-23	Palms EWMP Regional Project 2	BC	No	$ 1,429,801					
BC-24	West Los Angeles EWMP Regional Project 3	BC	No	$ 1,553,317					
BC-25	Westlake EWMP Regional Project 2	BC	No	$ 3,353,196					
BC-26	South Los Angeles EWMP Regional Project 3	BC	No	$ 3,195,652					
BC-27	West Los Angeles EWMP Regional Project 4	BC	No	$ 3,243,304					
BC-28	West Adams EWMP Regional Project 5	BC	No	$ 1,272,923					
BC-29	West Adams EWMP Regional Project 6	BC	No	$ 1,141,797					
BC-30	West Los Angeles EWMP Regional Project 5	BC	No	$ 3,558,279					
BC-31	Wilshire EWMP Regional Project 4	BC	No	$ 1,858,547					
BC-32	South Los Angeles EWMP Regional Project 4	BC	No	$ 1,175,007					
BC-33	South Los Angeles EWMP Regional Project 5	BC	No	$ 1,048,186					
BC-34	South Los Angeles EWMP Regional Project 6	BC	No	$ 2,808,987					
BC-35	West Los Angeles EWMP Regional Project 6	BC	No	$ 3,044,104					
BC-36	South Los Angeles EWMP Regional Project 7	BC	No	$ 2,624,499					
BC-37	Wilshire EWMP Regional Project 5	BC	No	$ 2,634,427					
BC-38	Hollywood EWMP Regional Project 1	BC	No	$ 3,069,712					
BC-39	Hollywood EWMP Regional Project 2	BC	No	$ 3,069,712					
BC-40	South Los Angeles EWMP Regional Project 8	BC	No	$ 2,514,321					
BC-41	Westlake EWMP Regional Project 3	BC	No	$ 2,297,473					
BC-42	West Los Angeles EWMP Regional Project 7	BC	No	$ 2,502,661					
BC-43	Silver Lake EWMP Regional Project 1	BC	No	$ 3,011,731					
BC-44	South Los Angeles EWMP Regional Project 9	BC	No	$ 2,240,406					
BC-45	South Los Angeles EWMP Regional Project 10	BC	No	$ 2,243,042					
BC-46	South Los Angeles EWMP Regional Project 11	BC	No	$ 2,049,722					
BC-47	West Adams EWMP Regional Project 11	BC	No	$ 2,233,457					
BC-48	Hollywood EWMP Regional Project 3	BC	No	$ 2,225,580					
BC-49	West Adams EWMP Regional Project 12	BC	No	$ 1,965,317					
BC-50	South Los Angeles EWMP Regional Project 14	BC	No	$ 1,934,319					

Detailed Project Information Forms

PROJECT INFORMATION FORM

Title: Wilshire Green Streets Project 1
Location: Melrose Avenue - Normandie Avenue
Council District: 13

Description: Project is composed of a system of green infrastructure components arranged in a linear fashion within the street right-of-way. The green street is designed to reduce runoff and improve water quality of runoff from the roadway and adjacent properties. These modifications to the street will provide capture, storage, and/or treatment of stormwater runoff prior to discharge to the storm drain system. This can include a variety of design features including, but not limited to: bioswales, biofiltration, bioretention, and porous pavement. Assessment of physical characteristics of the area will be performed in addition to site investigations to identify an ideal street in the community for conversion to a 200 foot green street (one city block). The specific features of the green street will be determined based on physical characteristic of the candidate street, with ultimate focus on optimal performance for water quality improvement while balancing the physical constraints for retrofit of green infrastructure components. The green street project will be combined with a currently planned storm drain project designed to improve or remedy drainage designs in the community. This storm drain project is the Melrose Avenue - Normandie Avenue .

Justification: Achieve compliance with the Ballona Creek metals and bacteria TMDLs

Proposed Schedule	FY 15/16				FY 16/17				FY 17/18				FY 18/19				FY 19/20			
	2015		2016		2016		2017		2017		2018		2018		2019		2019		2020	
	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ
Pre-Design	X																			
Design		X	X																	
Right of Way				X																
Bid & Award				X																
Construction					X	X														
Post-Construction							X													

	Total	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20
FAP	$ 81,567.28	$ 81,567.28	$ -	$ -	$ -	$ -
CTP	$ 122,350.92	$ 122,350.92	$ -	$ -	$ -	$ -
R/W	$ -	$ -	$ -	$ -	$ -	$ -
CONS	$ 1,019,591.00	$ -	$ 1,019,591.00	$ -	$ -	$ -
FACM	$ 43,332.61	$ 10,833.15	$ 32,499.46	$ -	$ -	$ -
CTCM	$ 129,997.85	$ 32,499.46	$ 97,498.39	$ -	$ -	$ -
TOTAL	$ 1,396,839.66	$ 247,250.81	$ 1,149,588.85	$ -	$ -	$ -

Notes:
FAP = City Planning/Design; CTP = Consultant Planning/Design (FAP + CTP = 20% CONS | FAP = 40%, CTP = 60%)
R/W = Right of Way
CONS = Construction
FACM = City Construction Management; CTCM = Consultant Construction Management (FACM + CTCM = 17% CONS | FACM = 25%, CTCM = 75%)

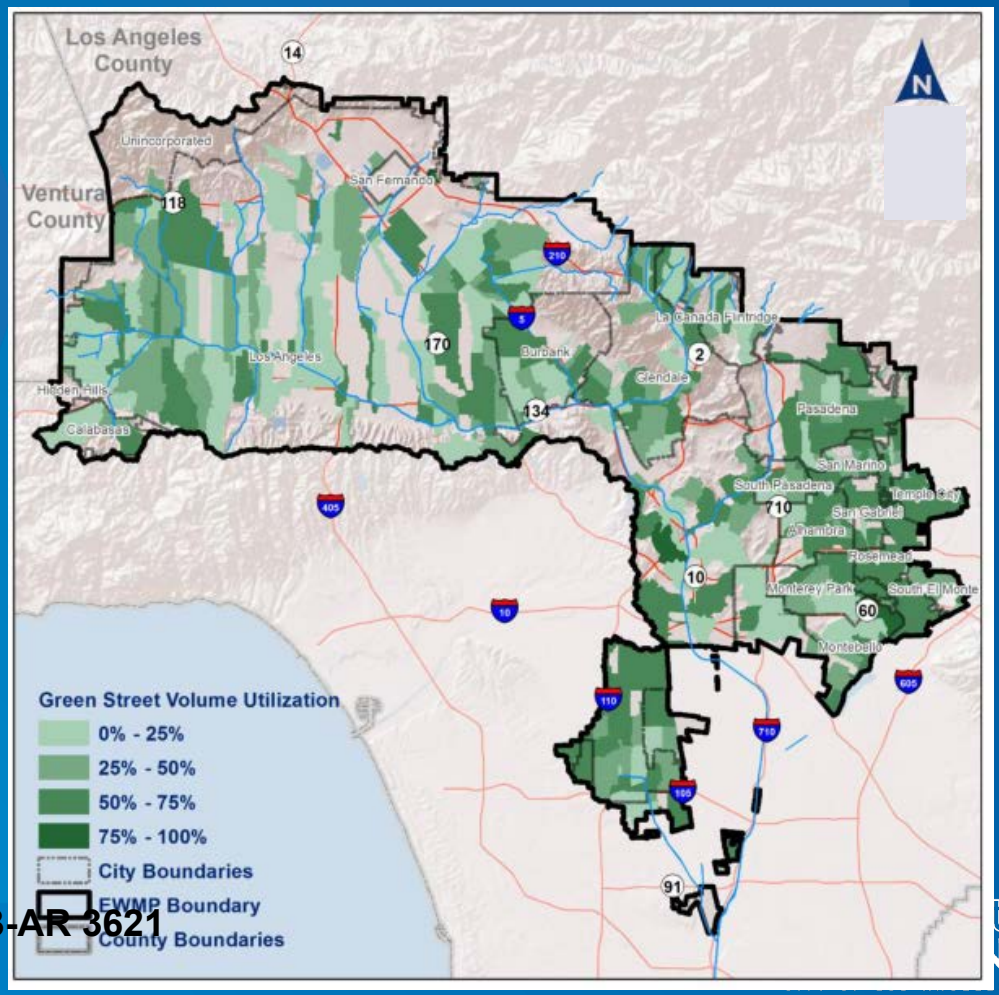
environment LASANITATION CITY OF LOS ANGELES

RB-AR-3620

Green Street Implementation

- Green street implementation will transform communities in watersheds
- Detailed evaluation of suitable streets / opportunities

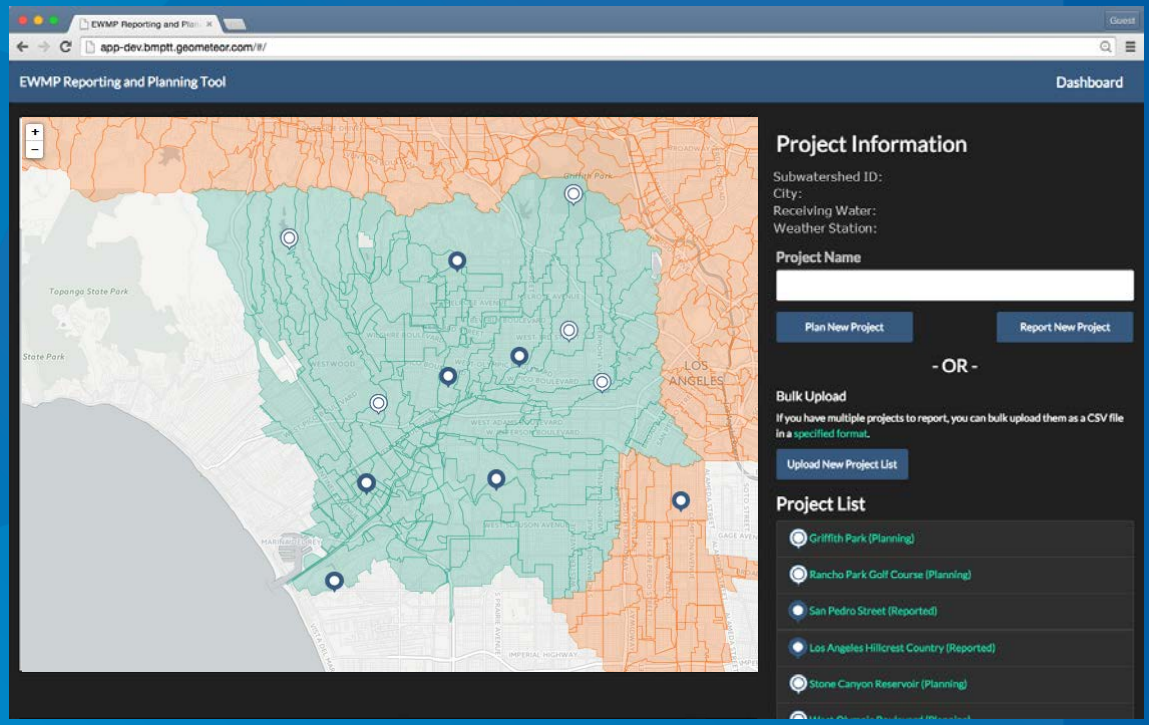
Upper LA River EWMP



RB-AR 3621

Adaptive Management

- EWMP Groups are considering cloud-based tool to support reporting and adaptive management
- Quantitative, transparent approach to show "equivalency" as project designs are updated, based on RAA models



RB-AR 3622

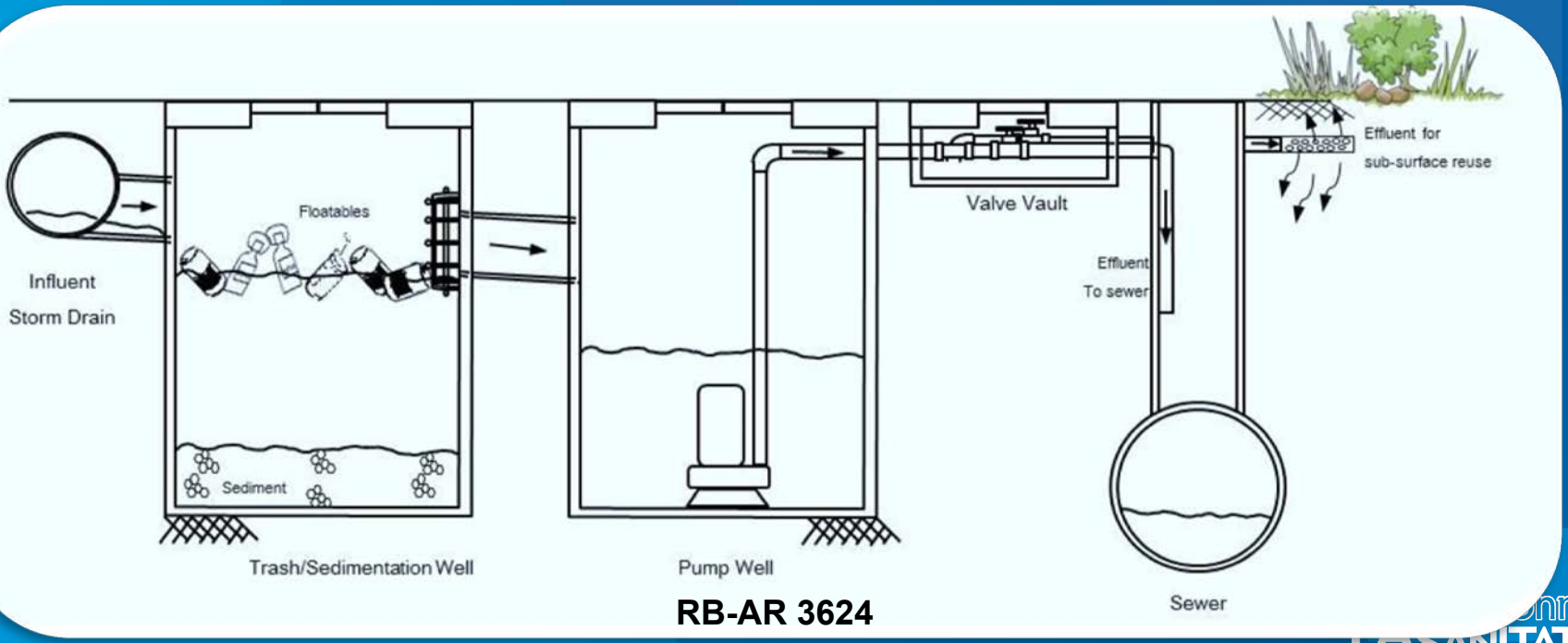
environment LA SANITATION
CITY OF LOS ANGELES

Project Highlights: Upper LA River

environment LA SANITATION
CITY OF LOS ANGELES

Removal and Reuse Urban Flow System (R^2UFS) – Los Angeles

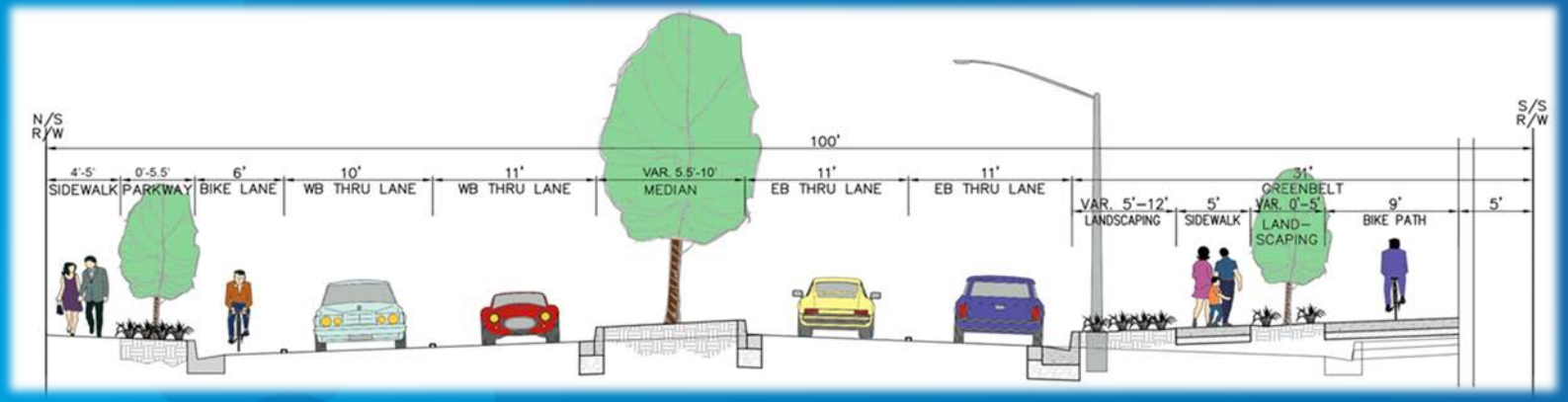
- Integrated water conservation approach
- Dry weather runoff used for landscape irrigation including green infrastructure



RB-AR 3624

Foothill Blvd Link Bikeway and Pedestrian Greenbelt Project – La Canada Flintridge

- ½ mile pedestrian-oriented passageway with green infrastructure
- Grant from MTA and City match, scheduled completion in 2019

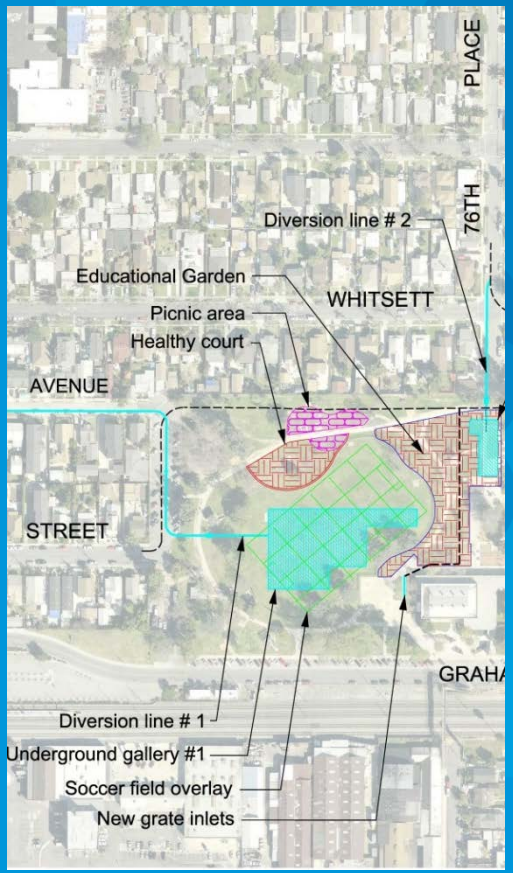


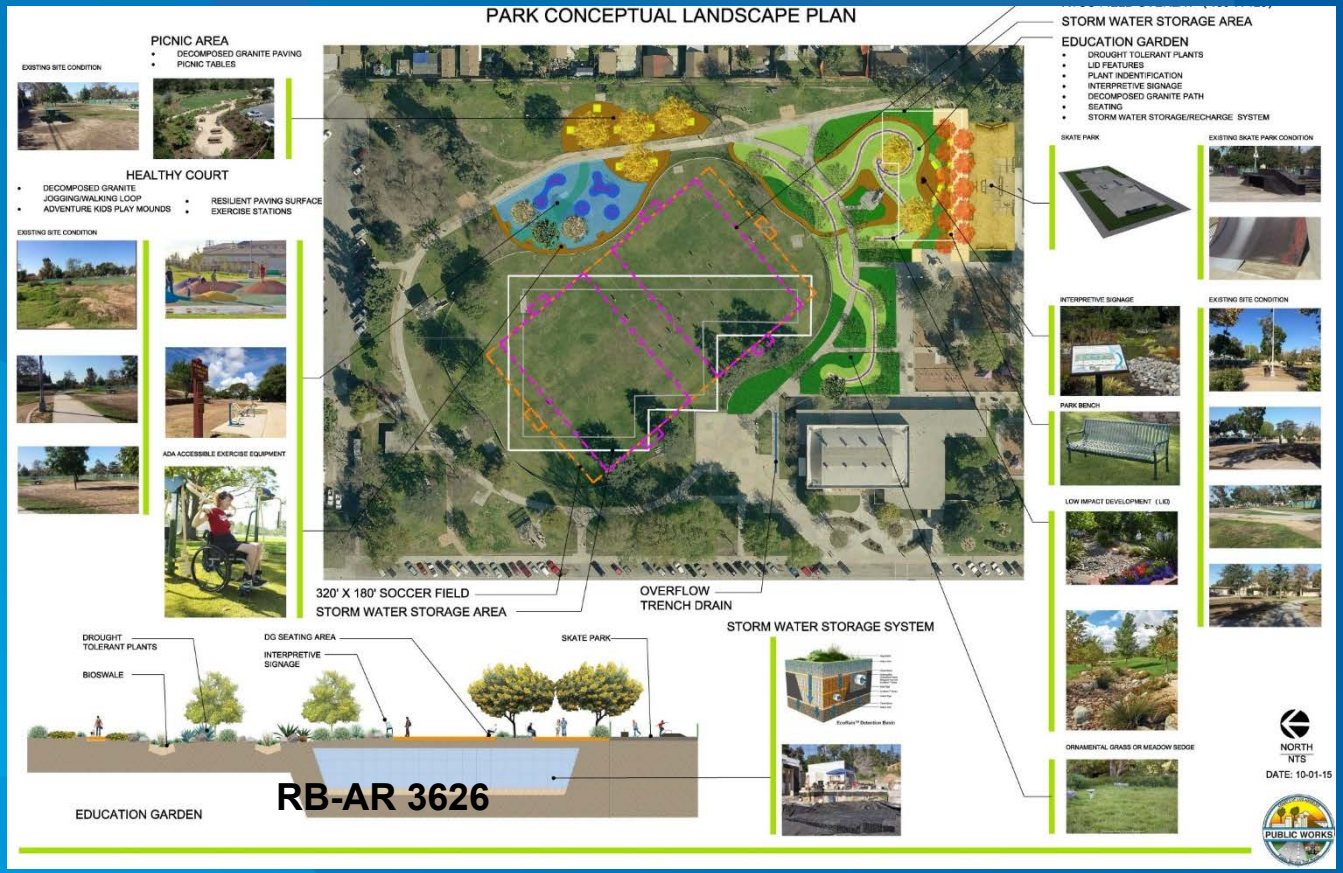
RB-AR 3625

CITY OF LOS ANGELES

Frank Roosevelt Park Regional Stormwater Capture Project– LA County

- Three underground infiltration galleries integrated into Park
- Capture design storm from 203 acres, construction starts 2017





Project Highlights: Dominguez Channel

environment LASANITATION
CITY OF LOS ANGELES

Hawthorne Blvd Infiltration Chambers– Hawthorne

- Major street improvement
- $1.5M stormwater treatment facilities
  - 45 acres
  - 40,000 ft3 storage
- Recently completed

Century Blvd Green Street - Inglewood

- Complete street retrofit (Multi-benefit Green Street Project)
- Flood Control, Water Quality, Walkability and Connectivity

Before

After

RB-AR 3629

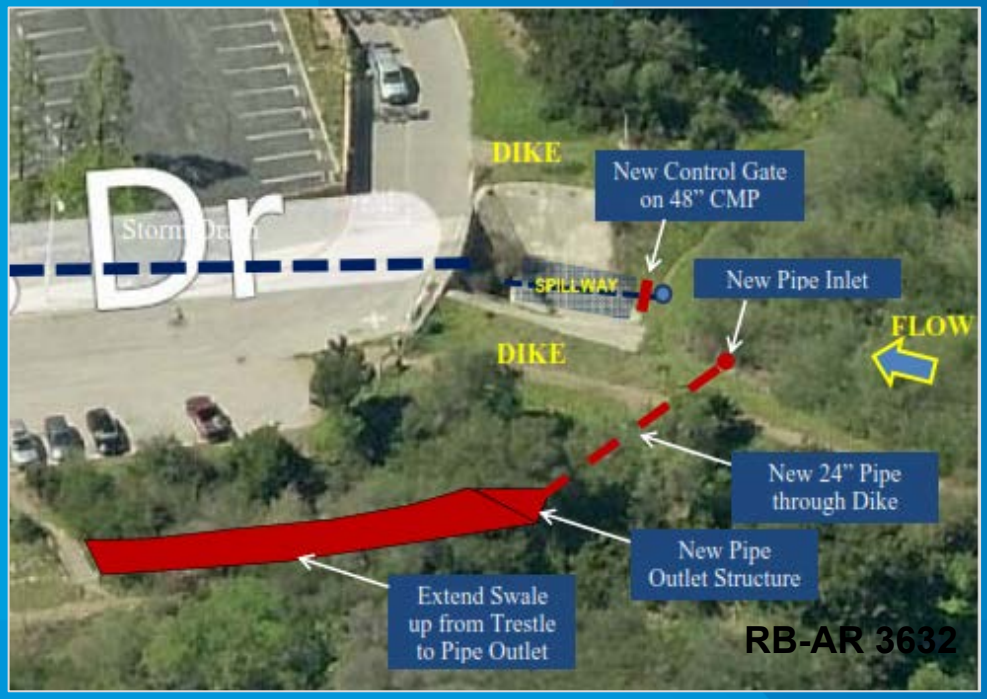
Project Highlights: Santa Monica Bay J2/3

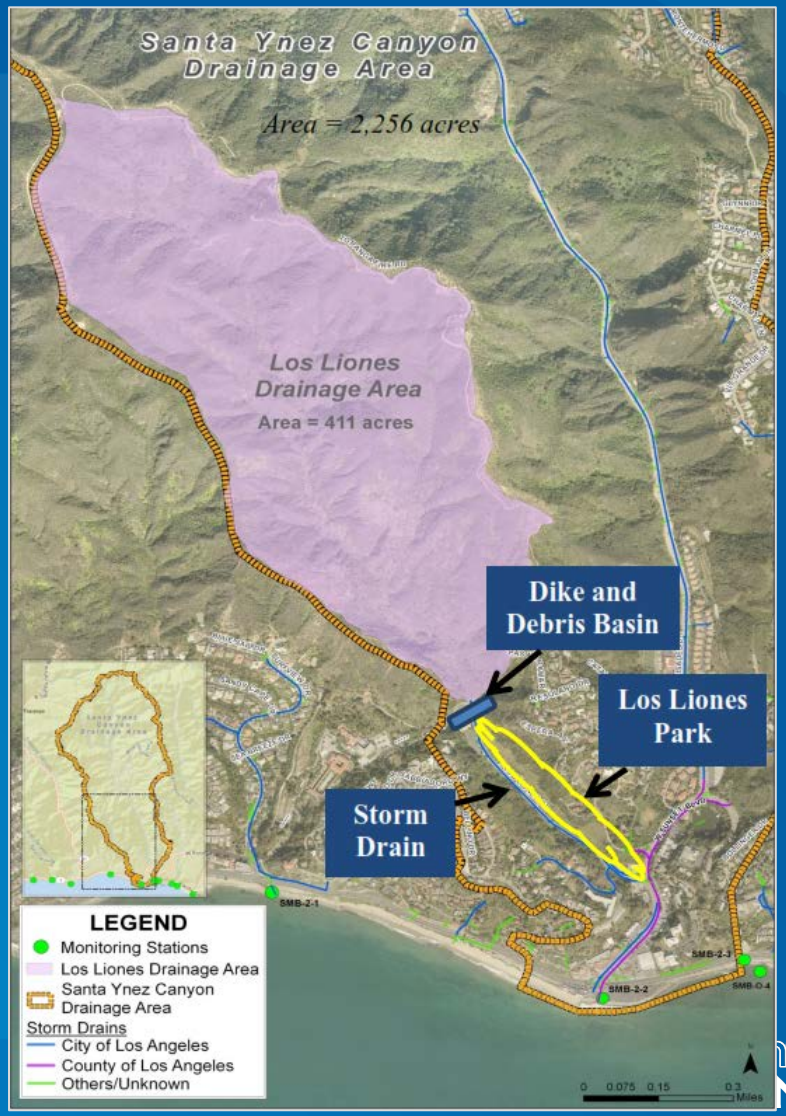
Riviera Country Club – Los Angeles (P3)

- Public private partnership with Riviera Golf Course
- Use existing water features plus built storage

Santa Ynez Canyon BMP – Los Angeles

- Debris basin retrofit
- Capture design storm
- 411 acres captured

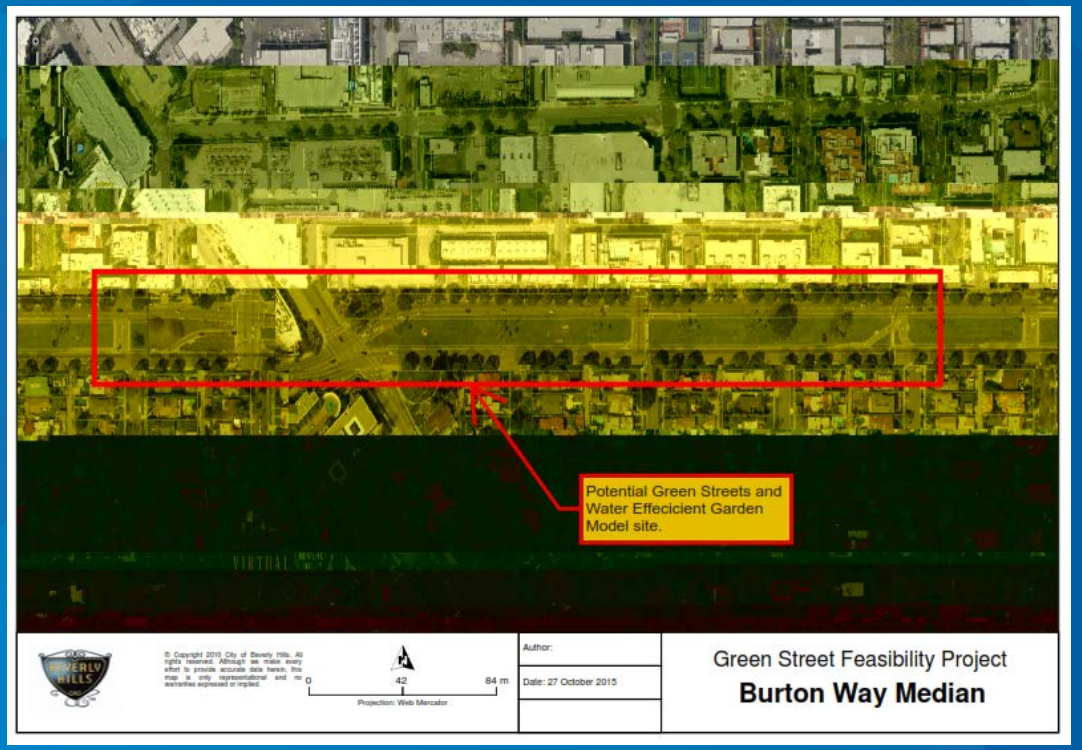




Project Highlights: Ballona Creek

Burton Way Median - Beverly Hills

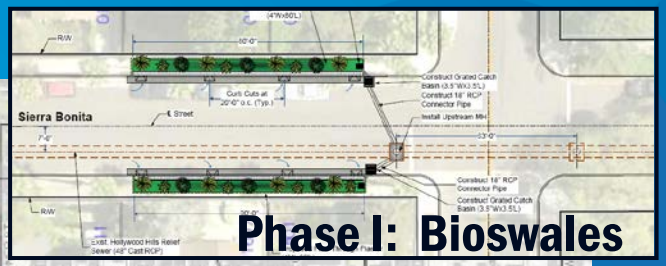
- Green street along major road
- Water Efficient Landscape Demonstration
- Reduce Runoff Volume
- Improve Flood Management
- Increase Walkability and Public Access

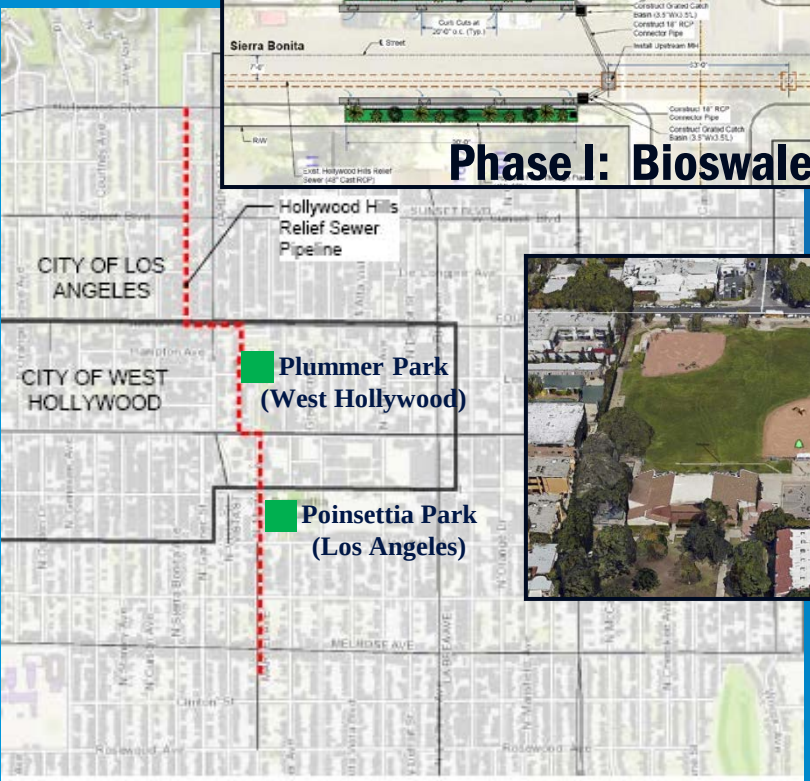


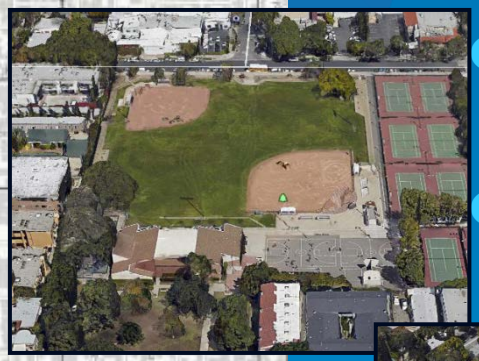
RB-AR 3634

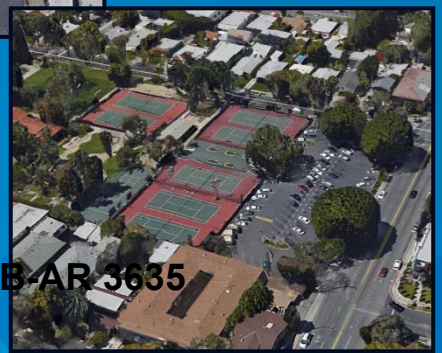
environment LA SANITATION
CITY OF LOS ANGELES

Hollywood Hills Sewer and Stormwater Use Project – Los Angeles









RB-AR 3635

- Retrofit abandoned sewer line
- Regional + Distributed Approach
- Phase I: Connect Bioswales to Sewer and Stormdrain
- Phase II: Connect Phase I to Plummer and Poinsettia Parks
- Multi-agency/Multi-benefit

environment LA SANITATION
CITY OF LOS ANGELES

Closing Remarks

- EWMPs represent a major leap in stormwater planning
- Projects in EWMPs will require large stormwater capital improvement plans, and communities will be transformed as widespread green infrastructure is implemented
- Many projects underway, including innovative approaches:
  - Public private partnerships
  - Water conservation linked with green streets
  - Integration with major streets projects
  - Retrofit of existing stormwater and wastewater infrastructure

Questions?

HUBERTUS COX, Ph.D, PE
Assistant Division Manager
Bureau of Sanitation, City of Los Angeles

environment LASANITATION CITY OF LOS ANGELES

Culver City
EWMP Implementation

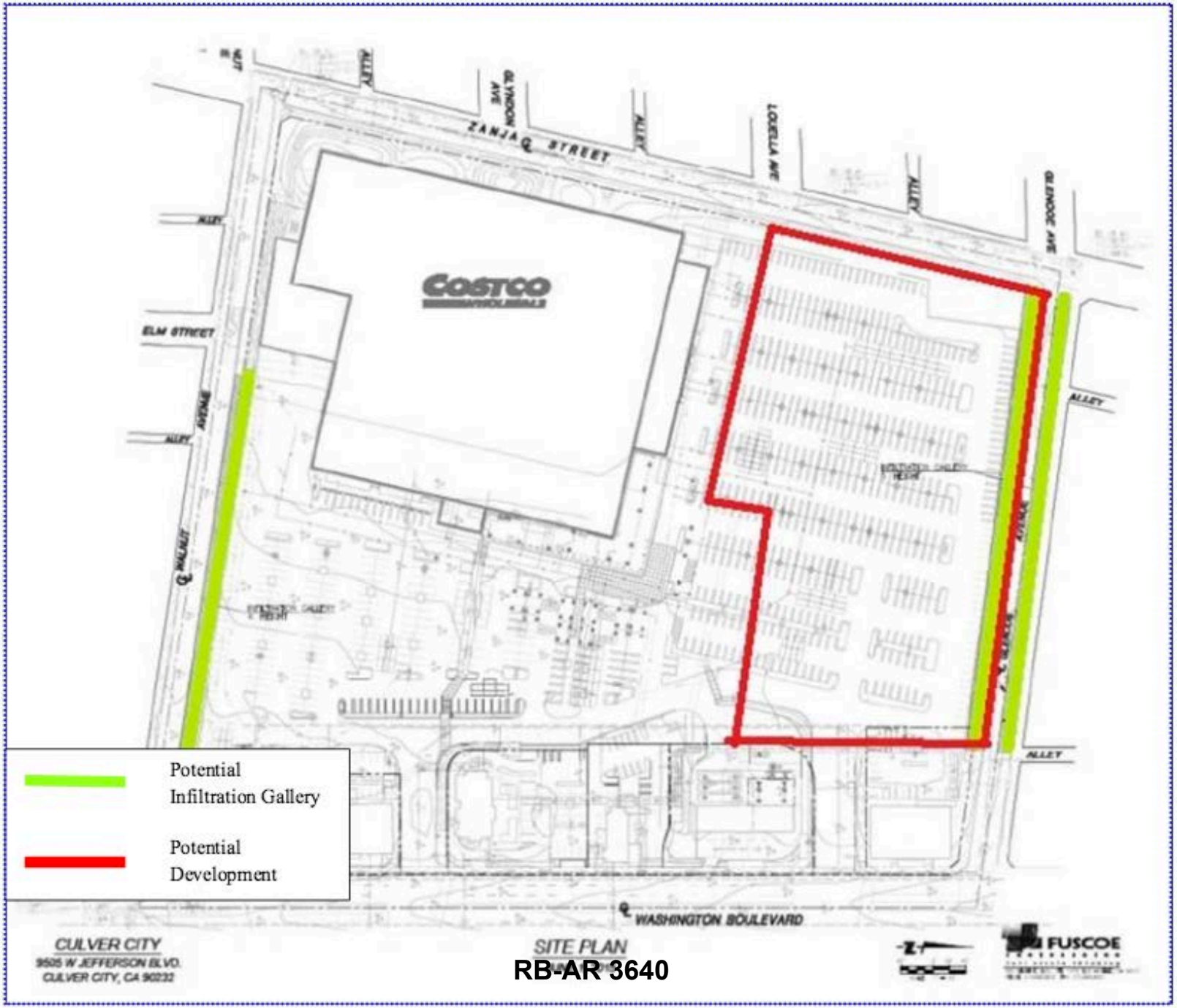
Kaden Young, Associate Engineer

Public Works Department

kaden.young@culvercity.org; (310) 253-6445

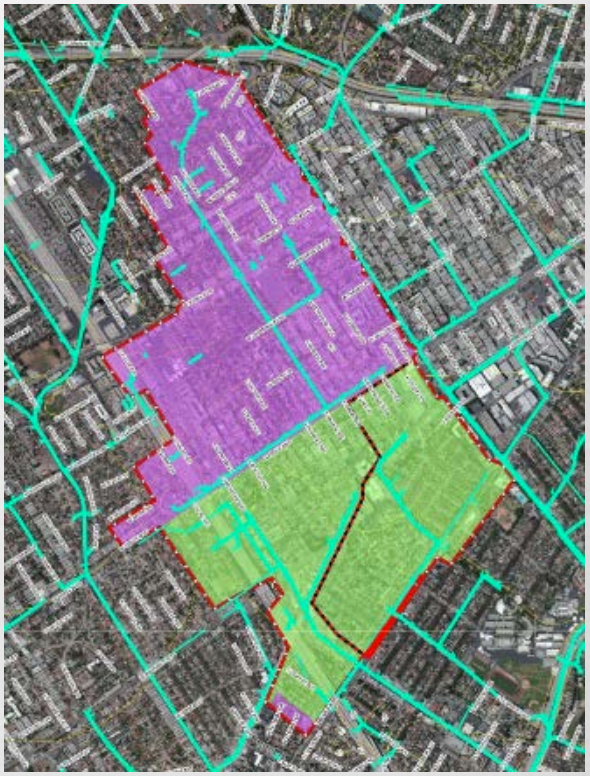
Marina del Rey Watershed

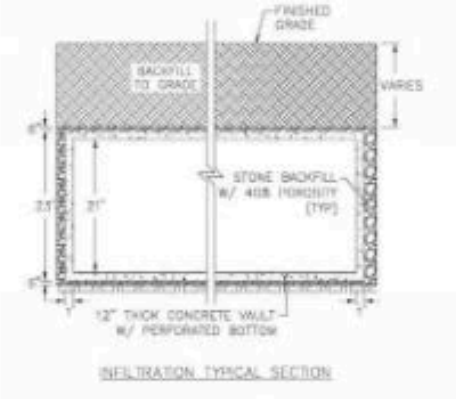
- Costco Regional Infiltration System Project
- Drainage area: 42 acres (City's portion in MdR WMA)
- Cost: ~$4 million
  - $767,136 grant from LA County Regional Park and Open Space Grant for Santa Monica Bay category
  - Approved unanimously by County Council on 11/3
  - Cost share TBD with Costco during formal agreement negotiation

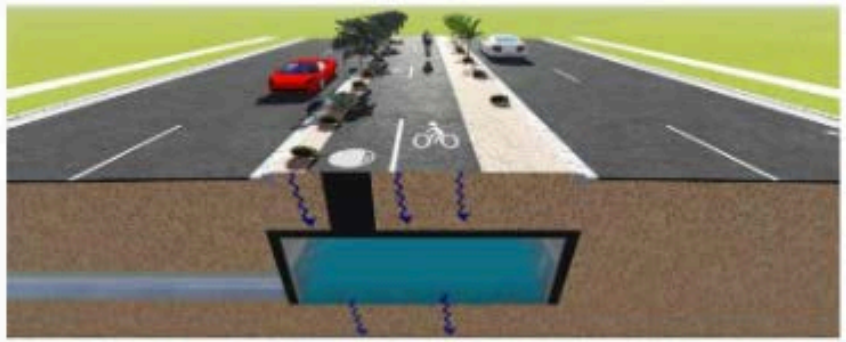

ZANJA STREET
GLENDON AVE
LOUELLA AVE
GLENDON AVE
ALLEY
COSTCO
ELM STREET
WALNUT AVENUE
WASHINGTON BOULEVARD
Potential Infiltration Gallery
Potential Development
CULVER CITY
9525 W JEFFERSON BLVD.
CULVER CITY, CA 90232
SITE PLAN
FUSCOE

Ballona Creek Watershed

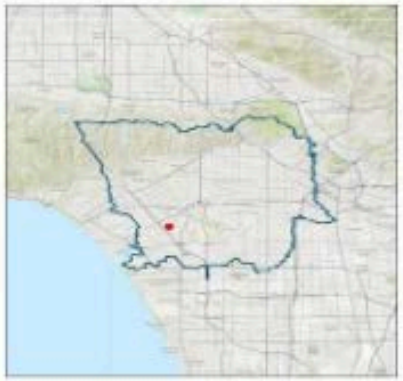
- Culver Boulevard/Median Realignment Infiltration System Project
- Realignment grant ~$6.5 million
  - 2005 Federal Transportation Bill (SAFETEA-LU)
  - 2009 Metro Transportation Improvement Program (TIP) Call for Projects
  - Local funds appropriated







Rendered Improvements



Watershed and Vicinity

RB-AR 3642

Citywide Efforts - Funding

- Develop stormwater fee in time for November 2016 ballot
- Develop Green Street Masterplan (funded)
  - Develop in-lieu fee/program for SUSMP/LID
  - Base on SD RWQCB's study of WQE
- Prop. 84 grant
- Prop. 1 grant

Citywide Efforts - Collaboration

- Working with CCUSD
- Parks and Recreation Department
- City of Los Angeles, County of LA, Flood Control District, Inglewood

THE LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

In the Matter of:)
)
Regular Board Meeting)
_____)

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

BOARD ROOM

700 NORTH ALAMEDA STREET

LOS ANGELES, CALIFORNIA

THURSDAY, NOVEMBER 5, 2015

9:00 A.M.

Reported by:

Martha L. Nelson

APPEARANCES

BOARD MEMBERS

Charles Stringer, Chair

Maria Camacho

Fran Diamond

Madelyn Glickfeld

Maria Mehranian

STAFF

Sam Unger, Executive Officer

Paula Rasmussen, Assistant Executive Officer

Frances McChesney, Staff Counsel

Jennifer Fordyce, Staff Counsel

Ronji Moffett, Executive Assistant

Deborah Smith, Chief Deputy Executive Officer

David Coupe, Staff Counsel

Hugh Marley, Enforcement Unit Section Chief

Celine Gallon, Senior Environmental Scientists, Basin Planning Program

Renee Purdy, Regional Program Section Chief

Ivar Ridgeway, Stormwater Permitting Program Unit Chief

PANELISTS

Ken Farfsing, City of Carson, Interim City Manager

Richard A. Watson, Rich Watson & Associates

APPEARANCES

PANELISTS

Shahram Kharaghani, Los Angeles Sanitation, Watershed Protection Program

Rita Kampalath, Heal the Bay

Michael Lauffer, State Water Board, Chief Counsel

TJ Moon, Los Angeles County Flood Control District

Ken Susilo, Geosyntec

Dustin Bambic, Paradigm Environmental

Becky Hayat, Natural Resources Defense Council

Arthur Pugsley, Los Angeles Waterkeeper

John Dettle, Beach Cities Enhanced Watershed Management Program Group

Andy Winjui, City of Rancho Palos Verdes Senior Engineer, representing Peninsula Watershed Management Group

William Johnson, Los Angeles County Department of Public Works

Paul Alva, Los Angeles County Flood Control District

Linda Lee Miller, Los Angeles County Department of Public Works

Hubertus Cox, City of Los Angeles Watershed Protection Program

Jolene Guerrero, Los Angeles County Department of Public Works

Doug Krauss, City of Hawthorne

Ray Tahir, TECS Environmental Compliance Services

Kaden Young, City of Culver City

APPEARANCES

PUBLIC COMMENT

Grace Hyde, Sanitation Districts of Los Angeles County

Bruce Reznik, Los Angeles Waterkeeper

Arne Anselm, Ventura County Watershed Protection District

Margaret Clark, City of Rosemead Mayor

Dan Medina, Gardena City Councilmember

Judy Nelson, Glendora City Councilmember

John Capoccia, City of Sierra Madre Mayor

Joyce Dillard

Rex Frankel

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Public Forum:

and is not expected to be imminently scheduled for the Board's consideration. Remarks will be limited to three (3) minutes, unless otherwise directed by the Chair. If a person intends to use a PowerPoint presentation or other **visual aids, you must contact Ronji Moffett, (213) 576-6612, at the Regional Board at least 48 hours prior** to the meeting to arrange for equipment use and be prepared to load any PowerPoint presentation on the computer prior to the meeting to assure the orderly conduct of the meeting.

CONTESTED ACTION ITEMS

Waste Discharge Requirements that Serve as Individual NPDES Permits

Renewal-

9. Consideration of tentative Waste Discharge Requirements for Los Angeles Department of Water and Power, Scattergood Generating Station, Playa del Rey; NPDES No. CA0000370. (Comment submittal deadline was October 5, 2015) [Jau Ren Chen, (213) 576-6656]. --

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12.19 Consultation with counsel about:

(a) A judicial or administrative adjudicatory proceeding that has been formally initiated to which the Regional Board is a party;

(b) A matter that, based on existing facts and circumstances, presents significant exposure to litigation against the Regional Board; or

(c) A matter which, based on existing facts and circumstances, the Regional Board is deciding whether to initiate litigation. (JF/FM/NK)

12.20 Consideration of the appointment, employment, or evaluation of performance about a public employee. (JF/FM/NK)

13. **Adjournment of current meeting**. The next regular meeting of the Board will be held on October 8, 2015, at the Metropolitan Water District of Southern California (Board Room), located at 700 North Alameda Street Los Angeles, CA 90071, 314

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P R O C E E D I N G S

9:08 a.m.

PROCEEDINGS BEGIN AT 9:08 A.M.

LOS ANGELES, CALIFORNIA, THURSDAY, NOVEMBER 5, 2015

CHAIR STRINGER: Good morning. Welcome to the Regional Water Quality Control Board's monthly meeting. We're going to get started. Maria Camacho will be joining us shortly. She's just stuck in traffic. Surprise, traffic in L.A.

So let's get started with the Pledge.

Fran, can you get us going?

(Whereupon, the Pledge is Allegiance is made.)

CHAIR STRINGER: Ronji, roll call please.

MS. MOFFETT: Ms. Camacho?

Mr. Diamond?

BOARD MEMBER DIAMOND: Here.

MS. MOFFETT: Ms. Glickfeld?

BOARD MEMBER GLICKFELD: Here.

MS. MOFFETT: Ms. Mehranian?

BOARD MEMBER MEHRANIAN: Here.

MS. MOFFETT: Ms. Munoz?

Mr. Stringer?

CHAIR STRINGER: Here.

MS. MOFFETT: And Mr. Lee?

CHAIR STRINGER: Thank you.

MS. MOFFETT: You're welcome.

CHAIR STRINGER: Sam, order of agenda?

EXECUTIVE OFFICER UNGER: Yes, Chair Stringer. The order of agenda is fairly straight forward this meeting. Basically, we will not be hearing Item 7, an update from the State Board since we just heard all that at PCC (phonetic). And then Item 9, which is consideration of the Scattergood NPDES Permit, it has been removed from the agenda today. Regional Board Staff received new information from LADWP, Department of Water and Power, yesterday concerning changes to the processing of one of the in-plant waste streams that is not reflected in the permit.

This information may result in a number of substantial changes to the draft NPDES Permit that Staff needs to review. Therefore, because such changes would not be a logical outgrowth of comments received during the public comment period but would be made entirely on new information just received yesterday from LADWP, a new 30-day public comment period will be provided in consideration. And the Scattergood NPDES Permit will be scheduled for a future Board meeting.

CHAIR STRINGER: Great. Thank you. So we've moving Items 7 answer Item 9?

EXECUTIVE OFFICER UNGER: Yes.

CHAIR STRINGER: Great.

Next up is meeting minutes.

Oh, here's Maria. Good morning.

BOARD MEMBER CAMACHO: Good morning.

CHAIR STRINGER: I was just going to ask a quorum issue because I'm going to be abstaining, but I don't need to ask that question anymore.

So Board Member Camacho just joined us. Thank you.

We're just on the meeting minutes, Maria.

So do I have a motion on the minutes?

BOARD MEMBER DIAMOND: I'll move acceptance of the minutes.

BOARD MEMBER MEHRANIAN: Second.

CHAIR STRINGER: I will be abstaining because I was not at the meeting.

Roll call vote, Ronji, please.

MS. MOFFETT: Ms. Camacho?

BOARD MEMBER CAMACHO: Yes.

MS. MOFFETT: Ms. Diamond?

BOARD MEMBER DIAMOND: Yes.

MS. MOFFETT: Ms. Glickfeld?

BOARD MEMBER GLICKFELD: Yes.

MS. MOFFETT: Ms. Mehranian?

BOARD MEMBER MEHRANIAN: Yes.

MS. MOFFETT: And -- okay. The vote passes.

CHAIR STRINGER: Great. Thanks.

So this is the time of year when we appoint a Nominating Committee for the selection of next year's Chair and Vice Chair.

Do I have volunteers?

BOARD MEMBER MEHRANIAN: I'll volunteer.

CHAIR STRINGER: Great. Anybody else?

BOARD MEMBER DIAMOND: I will.

CHAIR STRINGER: Okay. Perfect. Great. We're in good hands with Fran and Maria Mehranian as the Nominating Committing.

Board Member communications.

Madelyn, you want to get started?

BOARD MEMBER GLICKFELD: None.

BOARD MEMBER MEHRANIAN: None for me.

BOARD MEMBER DIAMOND: None.

BOARD MEMBER CAMACHO: I didn't know if we were going -- I have none to report, other than we participated in our subcommittee meeting.

BOARD MEMBER DIAMOND: Oh, I didn't know.

BOARD MEMBER CAMACHO: So I was going to report that.

CHAIR STRINGER: Sure. Go for it.

BOARD MEMBER CAMACHO: So Fran and I participated in our MS4 Permit Subcommittee meeting. And we were able to

work with the staff and talk to the staff to prepare for today's workshop. So I thought it was really informative and robust dialogue in terms of today's workshop. And I felt that the subcommittee seems to be working well in terms of being able to share our comments and thoughts and really respond to questions being asked of us, to help prepare for such things like today's workshop.

So I just wanted to report.

CHAIR STRINGER: Great.

BOARD MEMBER CAMACHO: We had a good meeting.

CHAIR STRINGER: Perfect. Thank you.

BOARD MEMBER GLICKFELD: Mr. Chair?

CHAIR STRINGER: Yes?

BOARD MEMBER GLICKFELD: Are we -- can we take a minute -- could we take a minute to discuss our retreat in January or --

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: -- maybe we could do it next month? But I was hoping -- you haven't started preparing that agenda yet, obviously.

CHAIR STRINGER: We haven't talked about it really. We've -- you know, there's been a couple of things through -- through the year that we've sort of thrown out for the retreat.

And I assume, Sam, you've been keeping a list of

those things and --

EXECUTIVE OFFICER UNGER: Oh, yes, absolutely. And, you know, at this point we -- we'd love to have that conversation because we've been following sort of the same format where the different sections and programs are presenting their accomplishments and goals. And if there's other things we wish to talk about --

BOARD MEMBER GLICKFELD: So we have gotten --

EXECUTIVE OFFICER UNGER: -- we're certainly open.

BOARD MEMBER GLICKFELD: -- from Staff a lot of information. We get a ton of information. But a lot of it, in fact, for our -- let's say for our Enforcement Unit or for our Underground Tank Unit or for others, we get a lot of information about how much improvement there is on the workload. We've been getting a lot of information about progress in getting -- keeping the MMP load down.

One of the things that we haven't been getting is looking at receiving waters and understanding whether or not we're getting improvements in receiving waters. And I assume that we're just -- we have -- now we have all of the TMDLs adopted. We have the MS4 passed in L.A. County, the MS4 passed in Ventura County. We are operating -- we've moving ahead with our Underground Tank Program.

So I would like the staff to think about not delivering us with performance standards this year, but how

you would go about presenting sort of an annual report on whether or not there have been improvements over the year in our surface waters and receiving waters so that we can gage our own actual performance. Because we look at whether people have done plans, we look at what they're going to accomplish, but I think we haven't -- we all know that we have serious problems in receiving waters. And I'd like to see us start to at least have it in front of us once a year.

If we could discuss how you might do that or if it's feasible for you to do that.

EXECUTIVE OFFICER UNGER: Certainly. We can bring that as a topic.

I just wanted to be clear that I'm understanding. We would still go forward with reports from the different programs that we have?

BOARD MEMBER GLICKFELD: Sure.

EXECUTIVE OFFICER UNGER: Yes.

CHAIR STRINGER: Yes.

EXECUTIVE OFFICER UNGER: Okay.

CHAIR STRINGER: Yeah.

EXECUTIVE OFFICER UNGER: And then we would include an item on receiving waters quality.

CHAIR STRINGER: Uh-huh.

BOARD MEMBER GLICKFELD: If I could --

EXECUTIVE OFFICER UNGER: Sure.

BOARD MEMBER GLICKFELD: -- it would be something that requires -- all of the different units would be having to think about how they would be combining their data in order to look at the overall water surface, at least what the surface water quality was. Thank you.

CHAIR STRINGER: Great idea.

BOARD MEMBER DIAMOND: And just as long as we're on the subject of what we might be discussing or learning at our retreat, for example, I just got this thing that came in the mail that occurred, I guess earlier this week, Tuesday, which was the Advance Water Treatment Facility for the -- at the San Gabriel River Parkway. There was an event with Anthony Rendon and others. It was a very big deal. It was the Water Replenishment District of Southern California.

So these are reminders that some very innovative things are happening with water replenishment and with recycling, and also legislation that -- that has recently passed that gives us opportunities or will give permittees opportunities to use water in different ways, replenishment our water, use wastewater and treat it so that it becomes a source of drinking water.

So I'd like to get an update on what, you know, what's the legislation that's passed? What are the opportunities that are out there? And what are some of the -- some of our water people doing with it, just what

could they do with it, not necessarily what's happened already, but what are the possibilities? Because I think there's a lot of exciting things that could be happening in the future that will give us ways of thinking about water and using and reusing water that's different than what we've done in the past.

EXECUTIVE OFFICER UNGER: Thank you. And I would say you may hear one of these reports during public comments today.

BOARD MEMBER DIAMOND: Okay. Thanks.

CHAIR STRINGER: And, Sam, let's talk about the retreat before the next Board meeting so in our December meeting we'll have -- we can have a more informed conversation about how that looks to the extent it's different from what you just said.

EXECUTIVE OFFICER UNGER: The venue has been secured. And Board Member Mehranian is very helpful in helping us secure a venue at the -- at the Science Center at USC.

CHAIR STRINGER: Oh, great. Thank you.

BOARD MEMBER MEHRANIAN: Sure.

CHAIR STRINGER: So I think, unless there's nothing -- anything else? Are we okay?

BOARD MEMBER MEHRANIAN: Yeah.

CHAIR STRINGER: Okay. We don't have any

uncontested items; is that right, Sam?

EXECUTIVE OFFICER UNGER: Yes, that's correct.

CHAIR STRINGER: Okay. So we're on to you, Sam, and your report.

EXECUTIVE OFFICER UNGER: Okay. This morning I wish to you report to you on progress with the Carousel Tract cleanup, the status of the Hyperion maintenance and discharge investigation that is ongoing. I want to discuss briefly our participation in environmental justice and a meeting that's going to be held later this evening in Pacoima and our role in that meeting. And I also want to talk a bit about progress with the Los Angeles River and Channel Maintenance Permit which I reported on last month, but you'll be hearing about in the next several months as well.

So Carousel first. And Shell submitted a site-wide Remediation Design and Implementation Plan. We call it an RDIP. The RDIP presents a logistical approach and schedule for remediation of the entire Carousel Tract. Cleanup will begin in early 2016 and will be completed in groups of four to ten homes at a time. We refer to these as clusters, and there are 27 clusters in total. The work is expected to take approximately five years.

And what you have on your screen is essentially an overview, a plan view of the entire Carousel Tract. And

it's hard to see on the screen but we can provide you maps. But what you have is this shows the clusters and how Shell proposes to move forward in addressing the cleanup of the homes.

Among other details in the RDIP are mitigation measures to reduce impacts such as noise, vapor, traffic plans. And that will be implemented in accordance with the EIR. The RDIP also identifies permits that are required for remediation, primarily grading permits for each and very homes, and permits to construct and operate the soil vapor extraction system. We'll also be developing, of course, a Stormwater Pollution Prevention Plan for the construction activities that will be ongoing at the site. Board Staff have already reached out to other regulatory agencies to ensure that permits for the remediation work are obtained timely.

In addition to the RDIP, property-specific remediation plans will be prepared for each property where remedial work will occur. And each homeowner will be involved in the development of the -- what we call the PRSP, the Property-Specific Remediation Plans. Property owners will be consulted regarding restoration, including any necessary removal and replacement of hardscape and landscaping features to equivalent or better conditions.

As the cleanup progresses meetings will be held

with homeowners to provide information about location options for their relocation and financial assistance to facilitate the relocation, including boarding of pets and assistance with transportation, if needed.

Shell has conducted a meeting with the residents from the very first cluster of properties. And Regional Board Staff attended that meeting. Staff is also establishing a Carousel Tract Cleanup Outreach Committee to be in place for the full duration of the cleanup. The committee is to be made up of three Regional Board Staff, Paula, Thizar, who you met, and Susana, who you all know, one representative from the City of Carson, three representatives from Shell Oil, and five community resident volunteers, with plans for three more community positions still to be filled.

The purpose of the committee is to provide continuity and to exchange information, identify issues arising from the cleanup activities, and discuss upcoming activities related to the implementation of the cleanup. The first meeting of the Outreach Committee was just held last week on October 28th.

And looking forward to other public participation activities, Regional Board Staff will host an open house to share information about the proposed Remedial Design and Implementation Plan, the RDIP, on November 21st, it’s a

Saturday, and we plan to be there for the full day and meet with groups of people. Community members and residents will have a chance to meet informally with Regional Board Staff to discuss the details outlines in Shell's proposed overall and individual property cleanup plans.

The first committee meeting for the Outreach Committee was held and it went successfully. And like I said, Staff is also planning an all-day open house.

And finally, just to let you know, Staff is very mindful of the fact that there are two Board subcommittees on Carousel, one on the Regulatory Matters which was Fran Diamond and Maria Mehranian, and the other is on public outreach and participation with Maria Camacho and Irma Munoz. And now that we are in the detail planning stages of the -- of the remediation we will -- we will reach out to the subcommittees as we feel is needed. And certainly the subcommittees are welcome to reach out to us. But it think we're going to be talking to both subcommittees, hopefully in the near future, towards the end of the year, maybe early next year.

So that's where we are with -- with Carousel.

BOARD MEMBER DIAMOND: Sam, I just -- it sounds like you've had some great progress that's continuing. And I'm just wondering, you mentioned the meeting of this subcommittee which included the staff members, people from

the community, people from Shell. Would you describe that as a good working group? How would characterize it?

EXECUTIVE OFFICER UNGER: Well, actually, you know, I had some notes to -- you know, that described it as an excellent working group and an excellent first meeting. But every time I've done that I've been disappointed.

I mean, yeah, I think it was a very productive group. The discussions were civil and rational and not conflicted. But still, you know, the residents are still -- still feel that they've been injured by this -- by this situation and there still is some negativity associated, you know, on the residents side and, you know, their -- their efforts to be made whole by this whole situation.

BOARD MEMBER DIAMOND: And in that regard, is Shell committed to providing housing that's acceptable to them for as long as they need to be out of their home?

EXECUTIVE OFFICER UNGER: Yes.

BOARD MEMBER DIAMOND: And are they also covering the costs of re-landscaping after the cleanup? And I think you said that the residents have an opportunity to talk about what they want, what, you know, what would make them feel whole in terms of re-landscaping after all of that is dug up and cleaned out?

EXECUTIVE OFFICER UNGER: Yes, absolutely. And that's -- that's the purpose of the property specific

remediation plans where essentially -- and Board Staff will be at each and every meeting with -- with the homeowners and Shell to be sure that the requirements that a homeowner has for restoration to -- to at least present or better conditions will be fulfilled during the -- during the cleanup.

BOARD MEMBER DIAMOND: Thank you. I'll look forward to hearing how that's going.

EXECUTIVE OFFICER UNGER: Okay. Hyperion; I want to report, I think it may be well known, that the maintenance of the effluent pump stations at the Hyperion Plant is complete. And the return of the discharge to the five-mile outfall commenced earlier this week.

However, the cause of the materials of sewage origin, MOSO, discharged in September is still under investigation. As you know, we issued a 13267 Order requiring the city to provide detailed information and a complete report regarding the MOSO discharge. And we expect to have that report in place by the end of January.

Today you don't see Cris Morris here because she and her staff are attending a workshop with the city and stakeholders being held today. Cris has also reached out to State Board and the USEPA staff who have strong expertise in wastewater treatment plants' operations and maintenance. And based on our response to the 13267 Order and Cris's

work, Staff will be bringing a report back to you. And depending on the results of the investigation, Board Staff may be recommending actions for the Board so that these types of discharges will not be repeated in the future.

BOARD MEMBER GLICKFELD: Mr. Chairman?

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: I just wanted to report to you what I -- what I told Sam, which is that I have a friend who lives in the Playa del Rey area who says that it smelled for weeks. I think I talked to him maybe two weeks ago, and he said he could smell the stench of bacteria and other stuff on the beach, even in the last couple of weeks. And we had -- you reported to us last month that everything was cleaned up.

So I'm hoping that you will check the bacterial report, the weekly bacterial reporting in that area, and ask the -- ask the city to go out and do some surveying of that neighborhood to see whether there -- people did actually report and had concerns about stuff washing up on the beach continuously or smells from that -- from that spill.

EXECUTIVE OFFICER UNGER: And we will clarify that through our 13267 Order, but thank you.

I want to report today, too, about -- unless there's -- there are other comments on Hyperion, about an effort that is ongoing in environmental justice. I think

it's an outgrowth of a lot of the public participation work and the Regional Board Staff, along with Cal/EPA, DTSC, the Air Quality Management District, and local agencies have been participating in a Cal/EPA Working Group designed to reduce pollution and its impact on EJ communities in the Los Angeles Region. The areas in our regions that have been identified are Boyle Heights and Pacoima.

As part of this effort Regional Board Staff from the Industrial Stormwater Compliance Unit led by Ejigu Solomon, with assistance from Susana Lagudis, are leading a presentation on best management practices for metal recyclers and industry operators tonight in Pacoima. The nonprofit group Pacoima Beautiful is providing the auditorium, and they took the lead in notifying the community. Other Cal/EPA agencies such as Cal Recycle and DTSC also will be at the meeting tonight and planning to participate.

I think what's going to be interesting, and I'll show you a couple slides, that Staff has really structured for what for us is a unique workshop in that the intended audience is the employees of the metal recycling facilities, not other agencies, not the owners, who work in these facilities directly and deal with machinery, equipment, loading and unloading of materials. And these people can make a real difference.

Jerry, can you advance, if we have it, some of the slides that are going to be shown tonight? The other one please, following the Carousel. Oh, is that right?

Sorry, I guess I'm not going to be showing you slides. But -

CHAIR STRINGER: We can -- we can imagine them if you want to use --

EXECUTIVE OFFICER UNGER: What's that?

CHAIR STRINGER: -- descriptive language?

EXECUTIVE OFFICER UNGER: Well, the descriptive language, really, I'll try my best. And remember, a picture is worth a thousand words.

But the descriptive language is we show a lot of facilities in the Pacoima area for metal recycling that have and have not implemented best management practices. So we show properties that have metals, oils, other materials strewn about the property, they're not being contained properly under roofs, they're not being contained properly in vessels, if they do have a water treatment plant that's not in a burned area that would catch any spillage, and just words of general housekeeping.

And really why we're doing this is we actually in this presentation, and again I give Ejigu and Susana quite a bit of credit for this, is they're really made a tie between what happens in these facilities and the -- the effects that

it's going to have on the Carousel neighborhood -- excuse me, on the Pacoima neighborhoods. You'll see these -- we have some slides showing some of the runoff from these facilities. And basically you can see that it really makes a direct connection between what the workers in these facilities do to the environmental conditions in the community, and also public health issues as well.

So I think what I really -- what I'm excited about this, you know, the outreach that we'll be doing tonight is that really it makes the linkage, which I think it somewhat new. It's not just sort of an abstract water quality issue but really the impact that people's activities can have on a community and its wellbeing.

So I will bring it next time to show you the slides. But I think it's a big step forward for us in our -- in our public outreach and our messaging.

CHAIR STRINGER: Great. Thank you.

Yes?

BOARD MEMBER CAMACHO: That sounds great, the workshop, Sam.

EXECUTIVE OFFICER UNGER: I wish I could show you the pictures.

BOARD MEMBER CAMACHO: Pictures would have been great, Sam. Thanks a lot. No, I'm just kidding.

Just a question. Is -- it sounds like, Sam, you

were saying the workshop is taking place in Pacoima tonight.

EXECUTIVE OFFICER UNGER: Yes.

BOARD MEMBER CAMACHO: Did you mention something about Boyle Heights, or am I imagining?

EXECUTIVE OFFICER UNGER: Yeah, well, yes, I did.

BOARD MEMBER CAMACHO: Is that a separate workshop?

EXECUTIVE OFFICER UNGER: That -- we don't have a separate workshop planned for that. Essentially, what has happened is Cal/EPA has set forth an Environmental Justice Initiative throughout the state and basically, you know, focusing on different areas, some in the rural areas. And for our region they identified two areas, Boyle Heights and Pacoima.

And what has happened in Boyle Heights, I think there have been some meetings that have already gone on. We have had more of a water quality issue there. We don't have quite the same industry, the same type as Pacoima. So this is -- this one is set specifically for Pacoima. But we are working through Cal/EPA and we'll support them as they move forward in Boyle Heights as well.

BOARD MEMBER CAMACHO: And our city --

EXECUTIVE OFFICER UNGER: No, that's not.

BOARD MEMBER CAMACHO: Are these the pictures? No?

EXECUTIVE OFFICER UNGER: No, they're not. Okay.

BOARD MEMBER CAMACHO: Are city -- city staff and/or county staff attending these meetings as well? Just -- I think it's important if we're educating the communities, which is -- which is great. But I would also be interested in knowing if the city and county are involved so that they, too, maybe can be informed as to the best way of sharing the information or -- or, you know --

EXECUTIVE OFFICER UNGER: Yeah.

BOARD MEMBER CAMACHO: -- to broadening it to their constituents --

EXECUTIVE OFFICER UNGER: Yeah. Yeah.

BOARD MEMBER CAMACHO: -- within those regions and/or beyond.

EXECUTIVE OFFICER UNGER: Okay. Yeah. And I don't know the answer to --

BOARD MEMBER CAMACHO: Okay.

EXECUTIVE OFFICER UNGER: -- the invitation list.

But here are some of the slides that will be shown tonight.

Next one please, if there are. Is there a next one? I think there should be three or four.

So here's -- here's -- best management practices have been implemented at this facility. Some slides and requirements of the permit that people can use. And it's

going to be simulcast in both English, Spanish, and Armenian as well. So if you want to put up the last slide, there we go.

So these are just a few of the slides from the -- the more detailed presentation that Ejigu will provide this evening. And I'll --

BOARD MEMBER CAMACHO: So city and county are not -- you don't know --

EXECUTIVE OFFICER UNGER: I do not know --

BOARD MEMBER CAMACHO: -- if the city is --

EXECUTIVE OFFICER UNGER: -- the invitation list.

And I don't know, Hugh, do you --

BOARD MEMBER CAMACHO: Because I think it's important to kind of spread the word beyond so that additional, you know --

MR. MARLEY: Hugh Marley --

BOARD MEMBER CAMACHO: -- folks can --

MR. MARLEY: -- with the Enforcement Section.

The Cal/EPA Workgroup includes the LEAs, the cities, the county, a number of BDOs. So it is very inclusive.

CHAIR STRINGER: Great.

EXECUTIVE OFFICER UNGER: And my last item today is the flood control maintenance in the Los Angeles River. And I wish to follow up with our work in flood control

maintenance practices that I reported to you on last month.

As you know, this Board issues permits to the County Flood Control Protection Division to perform annual maintenance in the rivers and channels by removing vegetation from the water bodies. This maintenance is focused on the earthen bottoms of the river channels and the levies so that flow during a wet weather event is not obstructed and causes flooding.

As you recall, last February you issued a permit to the County Public Works for channel maintenance for a one-year term rather than the typical five-year terms. And at the hearing you expressed a desire for channel clearing that would leave more vegetation in place, and directed us to meet with stakeholders to determine the technical practicability of revised maintenance practices.

I reported to you last month about our progress and wish to report to you that we held another stakeholder meeting just a couple -- last week, I believe. And at this meeting, progress of the group over the past calendar year was reviewed. I think key progress included identifying which reaches of the Los Angeles River had sufficient capacity for leaving some degree of habitat, and other reaches that did not. In addition, the county undertook this last season a pilot project in which different mechanical equipment was used to remove vegetation.

You see this first slide which was shown to you, I think by Heal the Bay, or it was FOLAR, from the last meeting, the channel practices that were before that we thought could use major improvement. And you can see these were done by a bulldozer.

And next slide please.

And this we used -- the county used other mechanical equipment, other types of mechanical equipment, and this is the result of clearing the same reach this year.

Another picture, as well, please.

And so I think it was significant that the county stepped up and conducted this pilot project. There's -- we still don't have a full report on it yet, but they report that it did take a bit longer but not as long as everyone was fearing to -- to leave more in. And we're expecting to bring this item back you as a workshop next month where all the stakeholders will have -- who have been participating -- participating in the project to date will have an opportunity to address you. And we'll be making some -- we'll be seeking your advice for moving forward on the permit that will come before you next February.

So I think that's it for me.

CHAIR STRINGER: Great. Thank you.

Any questions for Sam? Okay. Great.

Thank you, Sam.

Public forum is next. I have one speaker card. Is there -- you have another one?

EXECUTIVE OFFICER UNGER: (Off mike.) (Inaudible.)

Pardon me? From Grace Hyde with L.A. County, Sam.

Good morning.

MS. HYDE: Good morning, Chair Stringer and Board Members. My name is Grace Hyde. I am the Chief Engineer and General Manager of the Los Angeles County Sanitation Districts. And I'm here today to tell you about an exciting development at our agency related to stormwater.

As you may know, we were created by state law in the '20s to manage wastewater. That law was amended in the '50s to -- to give us authority to manage solid waste. And then last fall our board members who are mayors of the jurisdictions that are subject to the requirements of the MS4 Permits directed me to seek legislation again to be able to manage stormwater.

And so Senator Ed Hernandez graciously offered to author a bill to give us that authority. It would -- it's Senate Bill 485. And it would be on a case-by-case as requested by our member jurisdictions. It doesn't really solve the substantial financial hurdles that they're facing, but it could provide a cost effective way for them to conduct their compliance activities.

I am happy to report that the governor signed the bill on October 9th and will go into effect January 1st.

Our next steps on the bill will be to apply to LAFCO for an administrative review. That's a pretty straight process that's required of any local agency that's exercising new powers. And in the meantime we'll be working with our staff to evaluate the resources that we need to support our cities, and also talking to our member jurisdictions about what their needs are relative to the MS4 Permit.

So I'm here to talk -- that's -- that's what I had to mention to you today. I'm sure we'll be working with your staff, as well.

Following on, on what Board Member Diamond mentioned about new recycling projects, I can also speak to a new project that we're working with the Metropolitan Water District on, if you'd like, or I can save that for another day. I've got 56 second. I can probably fit it in.

CHAIR STRINGER: Yeah, go for it.

BOARD MEMBER DIAMOND: Yeah.

MS. HYDE: Okay.

CHAIR STRINGER: We're all interested.

MS. HYDE: Okay.

BOARD MEMBER MEHRANIAN: So --

BOARD MEMBER MEHRANIAN: You're not going to tell

us what it is?

MS. HYDE: A cliffhanger. Our largest treatment plant is our Joint Water Pollution Control Plant in Carson. It discharges about 265 million gallons a day of water to the ocean. And it is our greatest potential for recycled water going forward. We've worked with Metropolitan in the past on research projects about recycling that water. And it's just -- in the past it's been technical feasible but has been too expensive relative to other water markets.

Well, the technology has improved. And we believe now is a good time to move forward on such a project. So both of our respective boards will be considering an agreement this month to do a 1 million gallon per day demonstration project --

CHAIR STRINGER: Go ahead and finish up.

MS. HYDE: -- at the Carson plant. And concurrent with that, a feasibility study that would look at a much larger regional recycling -- recycled water project up to 150 million gallons per day that would serve the entire Southern California region.

So we're very excited about that, and we'll keep you posted going forward.

CHAIR STRINGER: Great. Thank you very much.

BOARD MEMBER GLICKFELD: Mr. Chairman?

CHAIR STRINGER: Yeah. Sure.

BOARD MEMBER GLICKFELD: I just wanted to say that I think this is the most brilliant thing that Grace and her staff and the major -- and the cities that are on your board have done. The fact that they're going to apply their construction expertise to helping to build the projects that are being proposed in our EWMPs and WMPs is going to help cities that are so small and really not capable of doing this by themselves.

So I think it's -- you know, we have -- we have a reason to be very grateful to you. We care a lot about having these plans implemented. And I think that when -- while we -- while we may have some disagreements about water quality issues with you, we have no disagreements about the professionalism of your staff and your ability to both construct and operate projects.

I also wanted to mention to the Board that I followed this bill through the whole legislative process. And it was concerning to me that there was a lot of pushback from the -- from those that were concerned that these projects might infiltrate water to the groundwater basins, which I think what we want them to do. And I think that we have a lot of education to do, that our Board has a lot of education to do.

I'm concerned that the water agencies that are pumpers and have rights there really don't want water

infiltration projects. And I'm concerned that they don't understand that. Some of them that came to us when this was being done in 2012 saying we think this is great and we're going to partner, I think that that needs to happen.

And, you know, of course, I would hope that you would help us do that, and Sam, as well, because I was really concerned about this. It was -- they had strong objections. And it was only through the incredible patience of Senator Hernandez and your staff that this even got through, and it's a very important bill.

So I hope you all get a copy of it and -- and that we encourage the cities to -- to work closely with the Sanitation Districts. It will be the way that this is going to get implemented.

BOARD MEMBER MEHRANIAN: I have a question.

CHAIR STRINGER: Sure. Of course.

BOARD MEMBER MEHRANIAN: Supervisor Sheila Kuehl was on the news yesterday and today talking about the whole stormwater capture. And I was wondering if you could shed some light on that, if you have any knowledge of that, and how that ties into this or not or any of that.

MS. HYDE: Well, I can just say that, I mean, through the County Flood Control District and others, such as the Water Replenishment District that Board Member Diamond mentioned earlier, there's been stormwater capture,

you know, for many, many years in the region. Obviously, there's some opportunity to do additional capture.

But speaking to Board Member Glickfeld's concern that arose during the progression of the bill, it was concerning water rights, that once -- once water is put back in the basin, who has the rights to that? And even though we put language in the bill before it was introduced that the bill was not intended to affect anybody's water rights, there was a lot of discussion through the summer about how to address that in the bill. And we finally were able to -- to get some amendments in there that satisfied some of the water companies. But it's an issue that's going -- I think going to be --

BOARD MEMBER GLICKFELD: The bigger issue is --

MS. HYDE: -- continued discussion.

BOARD MEMBER GLICKFELD: -- is that the water companies do not want to give storage rights where -- where the -- where the agencies that are spending the money to capture and infiltrate the money -- infiltrate the water, they don't want them -- those agencies to be able to then pull that water back out again. So they think that anything that comes in belongs to them.

And I think that's a big issue. When we look this afternoon at the financing issues of this plan, we should not only be looking at grants, we should be looking at the

value of water.

CHAIR STRINGER: Great.

MS. HYDE: Thank you.

CHAIR STRINGER: Good point.

MS. HYDE: Thank you.

CHAIR STRINGER: Thank you. Thanks a lot.

Bruce Reznik, L.A. Waterkeeper.

MR. REZNIK: Good morning --

CHAIR STRINGER: Good morning.

MR. REZNIK: -- Chairman Stringer and Members of the Board. As was mentioned in the introduction, I'm mainly up here just to introduce myself. My name is Bruce Reznik. I am the new Los Angeles Waterkeeper, an agency I'm sure you're all very familiar with. I'm here with our, actually, new Senior Attorney Arthur Pugsley who you'll be hearing from during the EWMP presentations.

I am a native Angelino, but -- but new back to Los Angeles. I've spent most of my career bouncing around between mainly San Diego and -- and Northern California. I'm certainly not new to water. I spent 11 years running L.A. Waterkeeper's sister organization, San Diego Coastkeeper, where I worked very closely with the Regional Water Board under primarily EO John Robertus, but also worked very closely with Dave Gibson as well. And we had a very relationship generally, working hand in hand, and

sometimes a little push from behind when that was needed. And hopefully we'll have the -- the same kind of relationship here.

One thing I will note in light of some of the conversations was when I was at Coastkeeper, very, very instrument in changing the dynamic from the -- the dreaded toilet to tap to pushing San Diego to be a leader in their pure water. And it's -- it was our stated goal of San Diego Coastkeeper to have zero ocean discharge of sewage in a regional where we're contaminating our coastal waters with -- with sewage pollution. In a region where we're also in desperate need of local water supplies it makes absolutely no sense to be discharging -- discharging what could be a valuable resource into the ocean and contaminating that environment. And that's an ethic I hope to bring up here and work very closely. So I'll definitely be sharing cards and networking with -- with L.A. San.

I've also spent time up in Sacramento working at planning a Conservation League on Statewide Water Issues. I served as an alternate Coastal Commissioner. So I'm familiar with sitting on the other side of the dais as well.

I've had an opportunity already to meet with Mr. Unger and some members of the staff on -- on a variety of issues. Like I said, it's a relationship I hope to continue, working with -- with staff. And also I'd love,

even though Arthur and/or myself will, I'm sure, be a regular fixture at these meetings, I would love to have some opportunity to sit individually with each of the Board Members at your convenience to talk about the issues that are priorities to us and hear what are priorities for you.

So with that, thank you very much. I look forward to spending lots of time with all of you in the coming months and years. Thanks.

CHAIR STRINGER: Great. Thank you very much. Look forward to meeting you.

So that's it for public forum.

Next up is Item 10, the Triennial Review of our Basin Planning Projects.

Thanks, Deb.

MS. SMITH: Good morning, Chair Stringer and Members of the Board. For the record, my name is Deborah Smith and I'm the Chief Deputy Executive Officer here at the Board.

As you know, the Basin Plan, including ongoing updates, is the cornerstone of all that we do at the Regional Board. The Basin Plan documents the beneficial uses for our water bodies, the narrative or numeric water quality objectives set to protect these uses, as well as implementation provisions including Regional and State Board plans and policies.

I was hired some 26 years ago to assemble a team to write an updated basin plan for the region. At that time we had a temporary infusion of resources, a whole unit actually, for this major update in the late ‘80s and ‘90s. However, subsequent to this effort, resources have dwindled back down to the less than two PYs that we have now. We have a long list of projects that we and others would like us to undertake. And the item that you’re about to hear outlines the process to prioritize this very important work.

Both Porter-Cologne and the Federal Clean Water Act both mandate periodic review of our Water Quality Control Plans or our Basin Plans. The Water Code requires that our plans be periodically reviewed and revised. And section 303(c)(1) of the Federal Clean Water Act requires that,

> “The water pollution control agency of each state shall from time to time, but at least once every three years, hold public hearings for the purpose or reviewing water quality standards and, as appropriate, modifying them.”

So because this review is required once in three years, we call it our Triennial Review.

In a moment I’ll turn over the presentation to Dr. Celine Gallon who will present our proposed Triennial Review List for your consideration. Celine will be discussing the process and the many competing requirements and requests

that we need to consider when conducting this review.

Before I turn it over I wanted to mention one significant new set of requirements that has been added to our usual mix of must-do items.

On August 5th, 2015, USEPA Administrator McCarthy signed a final rule updating six key areas of the Federal Water Quality Standards Regulation which helps implement the Clean Water Act. The final rule was published in the Federal Register on August 21st of this year, going into effect just a few weeks ago on October 20th. And I had the opportunity to -- to work on these reg revisions.

In EPA's words,

> "The final revisions provide a better defined pathway for states and authorized tribes to improve water quality, protect high quality waters, increase transparency with the public, and enhance opportunities for meaningful public engagement at the state, tribal and local levels."

The previous regulation hadn't been updated since 1983.

Changes were made in several key program areas in the final rule. The administrators determination of when water quality standards or changes to those are necessary, designated uses for water bodies and things like what is the highest attainable use with guidance from states there,

triennial reviews of state and tribal water quality standards, antidegradation requirements, water quality standards variances, and provisions authorizing the use of schedules -- or compliance schedules for water quality based effluent limits in NPDES Permits.

Luckily, since we have a very proactive Basin Planning Program here at Region 4, a lot of these new federal requirements and clarifications are already being implemented here. However, as Celine will point out, we will have to consider some new criteria for a number of pollutants. And we'll need to work with State Board and other regions on some regions such as antidegradation where more work needs to occur.

I will now turn the presentation over to Celine.

MS. GALLON: Good morning, Chair Stringer and Board Members. As Deb said, my name is Celine Gallon. I'm a Senior Environmental Scientist in the Basin Planning Program. Today I will present for your consideration Item 10, the 2014-2016 Triennial Review of Water Quality Standards and selection of basin planning projects.

You have a copy of the presentation and our change sheets for the response to comments on this item.

For your consideration today is a recommended list of priority projects to update water quality standards in the Basin Plan during the 2014-2016 Triennial Review period.

The Triennial review of the water quality standards contained in our Basin Plan is a federal requirement of the Clean Water Act, as Deb mentioned earlier.

The objective of this hearing is for the Board to formally identify through Board resolution the Basin Plan projects to be developed by Staff and considered by the Board in subsequent actions of the Triennial review period. In this presentation I will provide an overview of the Basin Plan Program, summarize the Triennial review process, and discuss recommended projects to undertake during this Triennial review cycle.

So before I talk about the Triennial review process itself, I want to give you a very brief overview of our Basin Planning Program which implements the Triennial review requirements.

Overall, the Basin Planning Program is responsible for reviewing and updating the Basin Plan, including updates to water quality standards and the implementation provisions. This translates into a variety of tasks.

First, Basin Planning staff carry out projects to review and amend the Basin Plan, such as the reevaluation, revision or establishment of beneficial uses, the reevaluation, revision or establishment of water quality objectives, including those based on EPA (inaudible) criteria and recommendations, and the development and

incorporation of implementation provisions, including policies.

Second, Staff provides support to other Regional Board programs. This support applies to both surface water and groundwater programs, and consists of technical and procedural assistance for specific projects related to water quality standards and to the implementation of Basin Plan provisions.

Third, Basin Planning staff assists in the development of statewide water quality standards and policies initiated by the State Water Board.

And finally, Staff must be prepared to address mandates from EPA regarding new or modified water quality objectives, along with directive from EPA or State Board regarding implementation provisions for existing objectives. Staff can also be required to support our attorneys in petitions and litigations.

The Basin Planning Program currently operates with 1.7 PY per year. During the current Triennial review cycle, .5 Basin Planning PY are required to provide support and expertise to other Board efforts, leaving 1.2 Basin Planning PY available to address projects to review and amend the Basin Plan.

As an example of the work performed by the Basin Planning program, this slide presents a list of the projects

completed since the last Triennial review period, which was for 2011-2013.

First, we completed the update of Chapters 1, 2, 3, 4, 5, 6 -- no, not 4 -- 5, 6 and 7 of the Basin Plan. We are also assisting stakeholders in the development of Salt and Nutrient Management Plans or SNMPs, and incorporating the groundwater quality control measures outlines in these plans in the Basin Plan. So far, two groundwater basin groups have completed their SNMPs. And the management plans for both of them have been incorporated into the Basin Plan.

We also completed the reconsideration of recreational beneficial uses in the engineered channels of the Los Angeles River last year. Two resolutions amended the Basin Plan to adopt site-specific objectives or SSOs. The first one adopted SSOs for chloride in the upper portion of the Santa Clara River together with an averaging period for chloride. And the second one established SSOs for lead and copper in the Los Angeles River and its tributaries within the urbanized area of the watershed.

And finally, the Water Quality Control Policy for siting, design, operation and maintenance of Onsite Wastewater Treatment Systems, or OWTS policy, was incorporated into the Basin Plan.

Now, the Triennial review of water quality standards is required by the Clean Water Act in implementing

regulations. Congress and USEPA recognize that science is continually advancing. Therefore, the Clean Water Act contains a requirement for states to review water quality standards at least once every three years in a process known as the Triennial Review. This ensures that standards are based on current science, methodologies, and EPA recommendations and guidance.

Although the process involves a review of standards, it does not mean that all standards must be revised every three years. The availability of new scientific information or methods may not directly translate into a change to standards during a Triennial review cycle. At times it is prudent and necessary to wait until the science and guidance is more fully developed before making changes to standards.

Moreover, federal or state law and regulations that set minimum requirements may preclude changes to water quality standards that might otherwise be deemed desirable by stakeholders. Therefore, it is common for standards to remain unchanged as a result of a Triennial review process.

In addition to the federal requirements, there is a similar requirement for review of the Basin Plan in state law. The Porter-Cologne Water Quality Control Act requires a periodic review of Water Quality Control Plans or Basin Plans and that revision be made as appropriate. The

Regional Board addresses those federal and state law requirements through the Triennial review process.

The Triennial review is a three-year-long process that essentially consists of three steps.

In step one the Board reviews the Basin Plan, including water quality standards and implementation provisions, and identifies issues for possible Basin Plan amendments.

In step two the Board prioritizes the issues to be addressed during the three-year Triennial review period. Prioritization is necessary since the resources needs to address if the list of proposed issues exceed available state resources.

And finally in step three, Staff develops projects addressing the priority issues and brings them before the Board for consideration as individual Basin Plan amendments.

Generally, these three steps occur over the course of a three-year period. However, for large projects, step three, the project development, may take longer than one Triennial review period.

Stakeholder participation is the key component of each of those steps. For the 2014-2016 Triennial Review we are currently on step two.

Next, I want to link for you the general three-step process we just reviewed with the concrete steps that

we have and will be taking during this Triennial review cycle.

The current review began in the winter of 2014. At the first step we reviewed information and comments submitted by stakeholders during previous reviews, as well as the needs and suggestions from various Regional Board Staff -- staff and management.

I January 2015 a request for data and information was sent to stakeholders inviting them to discuss issues or projects they would like the Regional Board to consider. The comments received following (inaudible) are provided in your Board package on page 10-103, and discussed in Section 6 of the Staff Report which begins on page 10-57.

Step two started in July 2015 with a public workshop held with the purpose of providing the public an opportunity to discuss and begin to identify priority Basin Planning projects to be addressed during the current Triennial review period.

Staff presented stakeholders with potential projects to be prioritized, which included those submitted by stakeholders, as well as those identified by Board Staff. All stakeholders were provided the opportunity to present their top three priorities, and were also given additional time to submit these priorities in writing after the workshop. A summary of the outcome of this workshop is

provided in Section 7 of the Staff Report which can be found on page 10-63.

Based on stakeholder input and in consideration of the limited resources available, Staff selected a list of recommended Basin Planning projects to be addressed during this review period.

Step two continues today with this Board hearing where you will select the final list of projects.

Step three will commence after the Board hearing and will include workshops and scoping meetings on the selected projects, followed by the public notice process that precedes the Board's consideration of each project.

Finally, before I present the recommended projects, I want to go into more detail about the project selection process.

Based on issues identified by stakeholders and the needs and suggestions from Regional Board programs and management, Staff identified 16 potential projects, including 5 ongoing assignments. After identifying the various potential projects, prioritization was necessary since the resources needed to address the list of proposed issues exceed available resources. When prioritizing issues, Staff considered several factors, shown in the purple box on the slide, and that includes amongst others ensuring the protection of water quality and beneficial

uses, addressing legal requirements, and also being able to address these projects within the remaining timeframe from this Triennial review period, which is going to be roughly one year after the Board adoption. Ideally, selected projects address more than one of these factors in order to make the best use of available resources.

Given these considerations, Staff is recommending seven priority projects to be addressed during the current Triennial review cycle. Because of the limited time and resources available to complete this Triennial review period, Staff also recommends some of the projects identified to be set as high priorities for the next Triennial review period, rather than the current 2014-2016 Review.

Next I will present each proposed priority project in no particular order.

So the first recommended project is to continue the development of Salt and Nutrient Management Plans, or SNMPs. Following a requirement from the State Water Board Recycled Water Policy, stakeholders in the L.A. region are preparing SNMPs for local groundwater basins. Two of these plans have been completed so far, and management measures from these two plans were incorporated into the Basin Plans through two Basin Plan amendments adopted by the Board. Staff continues to work with the remaining groundwater basin

groups and expects all plans to be completed by mid-2016.

The next recommended project selected is the development of a regional strategy to address the effects of climate change on water quality. As a first step for this project, Staff released a framework for climate change adaptation and mitigation for the Los Angeles Region in July 2015. And a webpage dedicated to climate change was created on the Regional Board website. Staff is also crafting some language presenting climate change consideration that we will propose be included in Chapter 4 of the Basin Plan. Further work will include more detailed discussions with the various programs at the Regional Board, and a presentation of an information item on this issue to the Board during which Staff will gather input from stakeholders about issues that they consider as high priorities. Staff will seek input from both the regulated community that will be facing impacts to their operations, as well as environmental and community interests. Staff will then prioritize projects to be undertaken, and we'll be working with others to development permit language and identify research, monitoring and other contractings.

The three recommended projects consist of an evaluation of Basin Plan water quality objectives, including freshwater ammonia objectives based on new recommended water quality criteria published by EPA, and they mentioned some

of that earlier.

The USEPA final rule revision signed on August 5, 2015 requires that states during their triennial review must adopt new or revised criteria published since May 30, 2000, or must provide an explanation for why they did not do these changes. In light of this new regulation, Staff proposes to conduct an assessment of new or updated water quality criteria published by USEPA relative to our Basin Plan water quality objectives to determine which Basin Plan objectives need to be updated. We’re going through the identification of water quality objectives that should be prioritized for updating and preliminary work where appropriate. These considerations will be presented as part of the 2017-2019 Triennial Review Staff Report which will be released for public comment prior to the Regional Water Board hearing adopting Basin Plan and priority projects for that review. Following these determinations, Staff will proceed with any necessary water quality objective updates during the subsequent triennial reviews.

Note that this project originally consisted of the update of water -- or freshwater ammonia objectives based on the USEPA 2013 criteria. Based on the new USEPA regulation and on stakeholder comments the project was modified to include an evaluation of the Basin Plan water quality objectives, including freshwater ammonia objectives.

Next, Staff recommends as a priority the administrative update of Chapter 4 of the Basin Plan. The update of the Basin Plan started during the previous triennial review period and has been conducted in phases. So far six chapters have been updated, including: Chapter 1, Introduction; Chapter 2, Beneficial Uses; Chapter 3, Water Quality Objectives; Chapter 5, Plans and Policies; Chapter 6, Monitoring Assessment; and Chapter 7, Total Maximum Daily Loads. The update will be completed with the revision of Chapter 4, Strategy Planning and Implementation, which contains an overview of discharge permitting programs, surface water programs, groundwater programs, water recycling programs, funding for water quality improvement projects, enforcement, and also climate change consideration.

In addition to working on individual technical projects, as I mentioned earlier, Basin Plan Staff participate in the development of statewide standards-related initiatives, a few of which are outlined on the screen, provide support to other Regional Board programs, including TMDLs, and must also be prepared to address mandates and directives from EPA or State Board that would arise during the triennial review period. These are ongoing essential functions of the program which must continue through the triennial review period.

As I mentioned earlier, because of the limited time and resources available to complete this triennial review period, Staff could not include in the recommended projects some of the proposals that received a lot of interest from stakeholders. So as a result, Staff recommends some of the projects identified to be set as high priorities for the next triennial review period. So those projects are the continued development of technical guidance for making natural sources determination, the update of the bacteria objectives and all related implementation provisions as needed, the exploration of surface water discharge as a new beneficial use for surface water, and finally the work on a high flow suspension of recreational uses for engineered channels in Ventura County.

In response to the public notice of the tentative resolution and Staff report containing the list of recommended projects, five comments letters were received. All commentators are included in this Board package starting -- starting at page 10-70. Responses to these comments follow on page 10-85 of the Board package. The following are a snapshot of the comments received.

Both the Calleguas Creek Watershed stakeholders and Heal the Bay have concerns about the project presented in the original version of the staff report that consisted of the update of freshwater ammonia objectives based on the

USEPA 2014 criteria. They especially expressed concerns about its applicability in the region, and commented that it should be deprioritized.

Staff response is that in light of these comments and of the requirement of the recent USEPA final rule revision, the recommended project has been modified to include an evaluation of the Basin Plan water quality objectives, including freshwater ammonia objectives, based on new or updated recommended water quality criteria published by USEPA.

Second, as you may recall the Board took action earlier this year on the recreational use assessment of the engineered channels of the Los Angeles River Watershed, otherwise known as RECUR (phonetic), which was a priority project for the past triennial reviews. The Sanitation Districts of Los Angeles County requested that Staff continue the region-wide reconsideration of the application of REC-1 and REC-2 beneficial use designations, that was started with the engineered portions of the Los Angeles River Watershed, and expand this effort to the San Gabriel and Santa Clara Watersheds, as well as non-engineered channels.

Staff response is that given the Board’s reaffirmed goal of achieving the fishable, swimmable goal of the Clean Water Act wherever possible, the amount of

resources required to conduct this type of project and the limited resources available, conducting a similar effort in other watersheds should not be a priority.

In addition, a majority of stream reaches in the Santa Clara River Watershed, as well as selected reaches in the San Gabriel River Watershed support existing recreational use, which according to Federal Regulations cannot be removed.

Several stakeholders requested the prioritization of high flow suspension of recreational beneficial uses in the region. In particular, they requested that Staff conduct further work started for engineered channels in Ventura County, and expand the evaluation to the Santa Clara River. The State Water Board is considering high flow suspension of implementation provisions for natural and engineered channels as part of the development of water quality objectives for bacteria. Staff is following State Board's development of these provisions and will consider them in the context of water bodies in the L.A. Region once they have been finalized.

In addition, and in response to these comments, further work on a high flow suspension in engineered channels in Ventura County is recommended as a priority for the next triennial review.

And finally, Heal the Bay commented that the

Regional Board should deprioritize those projects that would weaken water quality protections and prioritize projects that will strengthen them. Examples of such projects include the exploration of surface water recharge as a new beneficial use or the identification of an update of beneficial uses for coastal and spring-fed streams, two projects that were considered during the triennial review selection process.

As stated earlier, several considerations were taken into account when prioritizing Basin Plan project, including whether the project ensures protection of water quality and beneficial uses. But given the short time remaining during this triennial review period and the limited resources available, priority was given to projects that are already ongoing and are part of a state or federal mandate.

In consideration of the interest shown by stakeholders in the project, the development of a surface water recharge beneficial use for groundwater was recommended as a priority for the next triennial review.

Before I discuss the options before I want to briefly discuss the change provided in the change sheet to the response to comments. A sentence was mistakenly incorporated in the answer to comment 3.3 that can be found on page 10-95 of the Board package. So our answer to

comment 3.3 now reads as,

"The Regional -- the Regional Water Board considers natural sources determination as an important issue and is recommending this project as a high priority for the next triennial review."

In the meantime, the Regional Water Board is already taking natural sources into consideration on a case-by-case basis as part of TMDL technical considerations.

In addition, a technical guidance developed a part of a contract with the University of California Santa Barbara is available that can be used to determine that exceedances on water quality -- of water quality objectives of a given pollutant are solely or predominantly a result of natural sources of that pollutant.

Besides this approach the Regional Water Board is also involved in developing methodologies for determining natural sources of bacteria and assessing the risks from those sources. Any future guidance developed by the Regional Water Board will reflect and encompass these (inaudible).

So the options for the Board on this item are to adopt the tentative resolution as proposed, adopt the tentative resolution with modifications arising as a logical outgrowth of this hearing, or no action. However, the Regional Board does need to act on this item in a timely

matter in order to meet the Clean Water Act requirements to conduct a triennial review.

Oops. Okay.

The staff recommendation to the Board is to adopt the tentative resolution as proposed which identifies the project -- the priority projects for this triennial review, and a knowledge that Staff will make changes provided in a change sheet to the response to comments as part of the record for this item. Performing changes to the item summary and any other documents will also be made.

If you have any question, we'll be happy to answer them. Thank you.

CHAIR STRINGER: Thank you. Thank you for the extremely thorough presentation. That was very helpful. And we were commenting on the new format for the PowerPoint too. That was --

BOARD MEMBER MEHRANIAN: It's very nice.

CHAIR STRINGER: -- refreshing.

BOARD MEMBER MEHRANIAN: It really is.

MS. GALLON: Thank you.

CHAIR STRINGER: A little bit of creativity.

MS. GALLON: Thanks.

CHAIR STRINGER: So, Madelyn, I'll start with you. Do you have any questions?

BOARD MEMBER GLICKFELD: We have nobody testifying

or --

CHAIR STRINGER: We have no -- I have no speaker cards on this item; is that correct, Ronji?

Oh, I do have one. All right. We have one speaker card.

Is it Arne --

MR. ANSELM: Yes.

CHAIR STRINGER: -- Anselm? Yeah. Mr. Anselm from Ventura County Watershed Protection.

MR. ANSELM: Chair Stringer, Board Members, I am Arne Anselm, Ventura County Watershed Protection District. I just want to quickly reiterate our support for high flow suspension for recreational channels in Ventura County. Thank you.

CHAIR STRINGER: Great. Thank you. We didn't even get the clock started on that one.

Madelyn?

BOARD MEMBER GLICKFELD: (Off mike.) Thank you. I think the plan is (inaudible). So I have a couple of comments. (Inaudible.)

CHAIR STRINGER: Madelyn, your -- your mike is not on.

BOARD MEMBER GLICKFELD: Sorry. Is that better?

BOARD MEMBER DIAMOND: Yes.

BOARD MEMBER GLICKFELD: Sorry. So the -- the

issue that I'm concerned about is I've been looking for some research on the impacts of sea level -- sea level rise on groundwater basins. There's a lot of work on sea level rise on impacts on buildings and infrastructure, but I can't find anything that's been done on -- on the groundwater impacts, and it's very important. Is there a possibility that part -- that through and the salt -- I guess you already had the Salt and Nutrient Management Plans for this -- but that you could open up discussions with both Ventura County and Los Angeles County Groundwater Basins, including Santa Monica which is not really belonging to Santa Monica but used by Santa Monica, to talk about and encourage them to come together to fund some research I this area?

Because it seems that I'm concerned that where we have the seawater barriers in L.A. County, that we might not be able to maintain them and we'll lose a lot of groundwater, or we may have a lot of saltwater pollution of our freshwater resources. And in Ventura County they have no saltwater intrusion barrier and they need one.

So I think that's a really important issue. If Deb could comment on that particularly, that would be good.

MS. SMITH: Sure. It's something that we definitely have been thinking of, and Celine has a specific -- has a specific response to you as well. But Celine and I went to an all-day workshop a few weeks ago

with the Coastal Commission and Adapt L.A. and a bunch of folks, and saw an excellent presentation from the USGS on sea level rise that I hope to bring to you guys, possibly at the next Board meeting. It's an excellent presentation. And we're working with him and others to try to -- you know, and that deals with, as you said, surface water, kind of sea level rise impacts on the coast. We're trying to find someone that can do something similar on more inlands streams. We're trying to find somebody to look at groundwater inundation as well. And again, Celine is going to tell you about a grant in a minute.

And also we're embarking on an effort -- I'm participating in a subcommittee of assistant executive officers in the state. I have a meeting in a few weeks to start talking about permit language to get in permits to get people to prepare. And we've thought this through. It's not only if you're on the coast, it's, you know, you're inland, you have sea level rise, if you have a groundwater cleanup and your area is inundated on the subsurface and your plume gets, you know, moved all over the place.

So we're definitely looking at all the media. It's not as -- people aren't looking it that much, as you said. But Celine possible has some good news for you there.

BOARD MEMBER GLICKFELD: Well, I think it's

something --

MS. SMITH: I'll turn it over to her.

BOARD MEMBER GLICKFELD: -- that's on the cusp now.

MS. SMITH: Yes.

BOARD MEMBER GLICKFELD: A lot of people are starting to get concerned about this. But it's not only -- you know, the flood control agencies, the Ventura County water entities that are here all should be really engaged in this at this point.

And, yeah, go ahead, Celine.

MS. GALLON: Yeah. I just wanted to mention, so a lot of the sea level rise work that's been done was done through USC Sea Grant in collaboration with USGS and other people. So that's a presentation we saw a couple weeks ago. And they've done a tremendous amount of work in both L.A. County and Ventura County. And all the results are going to come out, the full results in June of next year. We have the -- we had a preview.

And what I wanted to mention is that -- so USC Sea Grant is trying to expand this work to the coastal areas, including groundwater. They just submitted a proposal to the National Science Foundation to conduct some work on seawater infiltration in the groundwater. And also it's going to include some work on coastal ecosystems in wetlands

and beaches and things like that. So we're hoping that's going to get funded, you never know. But they're definitely looking into it and trying to expand their work. And we're --

BOARD MEMBER GLICKFELD: Who is that? That's USGS is making that proposal?

MS. GALLON: It's USC Sea Grant who is leading the effort. And so part of the sea level rise work was -- is coordinated, if you will, by USC Sea Grant and adapted to L.A. And USGS has done some modeling. There was also a consultant, which I don't remember the name of, who was presenting some work on sea level rise also. So it's like it's encompassing a lot of things. They also looked at social vulnerability related to sea level rise, and all these kinds of things.

So we are working with them, also, to try to expand this work to in groundwaters, as Deb was mentioning, or trying -- trying to look into possibilities of getting some funding because that's really -- you know, that's always the problem, finding the money to get that work done.

BOARD MEMBER GLICKFELD: Of course. Well, I think that there are lots of resource people that can do it, but I think there's little money available to do it. Perhaps after this year's drought and the amount of problems we've had with water, people will be more interested.

If I could make a couple more comments and then questions. The other issue on climate change is temperature. And I hope that when you look at the temperature issues and temperature of water, period, that you think about the fact that climate change is definitely already happening in terms of temperature increases. You know, this year's ocean, the entire kelp reefs -- kelp forests have been wiped out. We have fish coming that are not -- that are -- we have poisonous snakes and fish in the water that haven't ever been here before. So things are dramatically, dramatically changing. And it must be also changing in the freshwater. So I just wanted to ask that you consider that.

The second thing is this idea of having a surface water recharge benefit which, I guess, it protects the ability of groundwater to recharge surface water. So groundwater -- not only does surface water recharge groundwater, but there are some places with springs and where stream flows are that you're having water come, you know, water come out of the ground just to -- and are a big supply of surface water. It's really important that we keep those hydrological connections. And it's also really important that we protect the places that have these kind of -- of resource.

I'm a little worried about the recommendation that

you're really not going to do anything about this because of workload this -- this turn, because this is one of the things can get much worse really fast if we don't do something about it.

So I don't -- I don't know what to tell you because you have the workload you have. And it seemed to me that this is a big priority, and I would put it up higher on your priority list. I would put it up really high because I don't think there's a lot of time to waste. Once you lose a groundwater-surface water connection, it's not easy to get it back again either.

So the other thing is something Renee can -- can clear up for me, I believe that we did the Copper WER. And when we talked about the Copper WER we said we hadn't done anything about the lead. But at page 10-38 it says, "The Lead and Copper SSOs."

Could you explain that to me? Because I was very concerned because at the WER hearing we said don't worry, there's still lead constraints on this and it will get -- and still -- people will still have to address these metals. So I just want to make sure that we don't have another wide open door to --

MS. PURDY: Okay.

BOARD MEMBER GLICKFELD: -- exclude lead as an issue.

MS. PURDY: So this is Renee Purdy, Regional Program Section Chief.

And in response to that the -- it's actually zinc that is driving a lot of the -- the efforts, for example, that we're going to talk about after this item with regard to implementation. And so when we were having that discussion at a previous Board meeting we were talking about how zinc will be driving a lot of things, despite the fact that we're doing these copper-water effects ratios and showing that the copper levels can be higher without causing toxicity. And actually as part of that there was also a lead recalculation. So that action that you took previously established essentially site-specific objectives for copper and for lead, but not for zinc. And so it's zinc that we were talking about that is in many ways, along with bacteria, that is driving a lot of the -- the needed implementation of BMPs throughout the region. So that's the response to that.

And then I just wanted to touch briefly on your comments with regard to the -- the idea of a new beneficial use of groundwater to protect our surface waters. And certainly, I mean, we acknowledge and in the various work we do we pay attention to those surface water-groundwater interactions and connections that we have. And this is something that we just felt we haven't really codified that

in terms of having an actual beneficial use, whereas we do have a beneficial use of surface water recharging groundwater but we don't really have the flipside of that.

And so it's not -- it's not being ignored. We -- of course, like in the Santa Clara River, we pay a lot of attention to those groundwater-surface water interactions, and there's been a lot of study of that. We pay a lot of attention to those in Ventura River Watershed. So there are a number of watershed where those interactions are very clear. And we do spend a lot of time thinking about them through our TMDL, you know, processes and so forth.

But this particular project was one in which we felt it would be good to formally acknowledge in the list of beneficial uses that we have for our waters, that this is actually a beneficial use of groundwater to recharge surface water. And it is a project that we're suggesting be carried into the next triennial review as a high priority which, in fact, is only a little over a year away. So there won't be --

BOARD MEMBER GLICKFELD: Wait a minute.

MS. PURDY: -- a tremendous delay.

BOARD MEMBER GLICKFELD: We're three years behind?

MS. PURDY: Is -- am I right? Right.

BOARD MEMBER GLICKFELD: Okay.

MS. PURDY: It's there, yes. Yeah.

BOARD MEMBER GLICKFELD: Okay.

MS. SMITH: Yeah. We are -- we're coming in --

BOARD MEMBER GLICKFELD: So my only comment is that this is going to be a very big issue in litigation. It's part of the Groundwater Management Act issues. You just may want to say this is a priority for us to the State Board, to the people that are working on the Groundwater Management Plans and see whether they are doing work that will be directly applicable to us as well.

MS. PURDY: Uh-huh.

BOARD MEMBER GLICKFELD: So that might be a way of you getting the benefit without having to do the work, which this usually goes the opposite way with the State Board.

MS. PURDY: Right.

BOARD MEMBER GLICKFELD: Thank you.

BOARD MEMBER MEHRANIAN: I just have one quick question.

On the recycled water quality policy, when we do this by basin, so is there like -- is there like a general section of this, and then for each basin, specifics, I mean, in the regulations that we have? If you could shed some light on that.

MS. SMITH: Yes. The recycled water policy asks us to -- or asks stakeholders, actually, to do Salt and Nutrient Management Plans for a certain subset DWR named --

you know, the major basins in California. And then they're done one by one. I mean, basically, a group of stakeholders coalesce around a basin, all the interested parties, and then they work together over a number of years to develop their Salt and Nutrient Management Plans, and working closely in concert with Gnachi and Celine and others.

BOARD MEMBER MEHRANIAN: Thank you.

MS. SMITH: And then they bring us their plan for us to put it in the analysis they went through for antidegradation, to show what sort of a assimilative capacity they have for new projects in certain areas or basin-wide and that kind of thing, which really informs, you know, how we manage salinity and nutrients going forward with these projects.

BOARD MEMBER MEHRANIAN: So you would say that they're different from one -- one from the other, but then there's some generality that includes -- that pretty much cuts across?

MS. SMITH: Yes. We have a general process they need to go through, and certain steps and measurements and modeling that they have to do. But -- but each basin in different is different in terms of water quality.

BOARD MEMBER MEHRANIAN: Right.

MS. SMITH: So you start at -- you know, you go out and you look at what your water quality is and how --

how it compares to the standard right now. And if it's better than the standard, then you have what's called assimilative capacity that can be used up in small increments in order to allow, you know, recycled projects or something like that. And having this model allows you to manage it then, so you know if you do this project, even though the salt is a little higher than you might want it, you have the capacity for -- you know, the basin can handle it without throwing off the quality of that basin.

And we -- and the end result being that we can protect our mostly very high quality groundwater basins that we have in this region. We're -- we're pretty lucky compared to other parts of the state where we have some really, really good groundwater quality, you know, absent, you know, the other organic pollution we have. In terms of salinity, we have some really good basins.

BOARD MEMBER MEHRANIAN: Great. Thank you. And I wanted to just compliment you on the packet and the presentation. It was wonderful. It was very good to follow.

BOARD MEMBER DIAMOND: Just briefly, I, you know, I think you do an amazing presentation and an amazing job, given the limitations that we have with resources. It's mindboggling to me that you are able to tackle as much as you do. It's almost -- seems almost inhumane or inhumanly

possible.

MS. SMITH: Here's our program.

BOARD MEMBER DIAMOND: So --

MS. SMITH: Two excellent staff.

BOARD MEMBER DIAMOND: Really. But -- so it seems to me that -- that the umbrella that you are working under, even though you may not actually have it on this great PowerPoint is climate change and climate change adaptation, which I think is really significant. And in that -- that consideration I think the idea that we are looking at identifying surface water recharge as a high priority for our next triennial review I think is pretty much for me one of the very top. You know, it sort of rises to the top of the list, even though we're going to be continuing with all the other priorities. Because unless we really are looking at climate change adaptation, and this is a significant priority under that umbrella, everything else kind of -- we kind of lose everything else.

So I just hope -- I'll reiterate that that is a real high priority because we just need to protect these waters as -- and recharge them and as fast as we possibly can. And with this group who does so much so well, I feel like we'll be able to do that. So thank you.

MS. SMITH: Thanks. And we agree, Member Diamond, that climate change is so important. And we, you know, as

you know, we developed that framework about a year ago and finalized it this year. And we're the only Regional Board that has a framework for climate change. We're out in front, we're leading, leading the efforts around the state and moving this forward.

CHAIR STRINGER: Thank you, Fran.

Maria?

BOARD MEMBER CAMACHO: Great presentation. Thank you. And I appreciate the process that obviously you used in order to go through from the 11 projects to 7, and now trying to figure out what could be priority for now and what can be priority for the future, so I appreciate that. And it's very comprehensive, so it was good.

My only concern was just in our response to one of the comments submitted regarding the region-wide reconsideration of the application of REC-1 and REC-2 beneficial uses for the L.A. River and what that could mean for the other rivers, the San Gabriel and Santa Clara River. I just know that, you know, there's currently so much discussion of the L.A. River, but also what this could mean to start thinking about the network of urban river ways that we'd have in our region, which I think is really important. And it's even coming to mind through legislation, whether it's state or local -- local legislation and thoughts just in terms of that policy side of things.

So it sounds like we are going to continue that thinking and that expansion of thinking in future triennial reviews. But I just want to make sure because, again, I think there's so much going on with this discussion of the L.A. River and what that could mean for our tributaries and, you know, the San Gabriel River, Rio Hondo. I mean, there's so much going on. And so I just want to make sure that we're continuing to push the ball forward on thinking of what can become into these multi-beneficial uses of the rivers. There's flood control, at least from the river's perspective, and that's great. But else can there be? And so I just want to make sure we're -- we're continuing that effort.

MS. SMITH: Yes. I can assure you that we're continuing that effort. And our response to comments on that item was -- was definitely, we heard the Board's direction on that, even with the L.A. engineered channels. And what was brought to us for consideration was expanding it to even more natural channels, like the Santa Clara River. And that's why we did not make that a priority.

CHAIR STRINGER: Great. Thanks. I don't -- I don't have anything further, except gratitude. Thank you very much.

Do I have a motion?

BOARD MEMBER MEHRANIAN: Yes. I'll move approval

of the Basin Plan amendment -- adopt the tentative resolution as proposed.

CHAIR STRINGER: We have -- we have a motion to adopt the resolution as proposed by Staff today.

BOARD MEMBER CAMACHO: With the change sheet?

CHAIR STRINGER: Yes.

MS. FORDYCE: You don't -- yeah. You don't have to actually adopt the -- adopt the change sheet, but just acknowledge it because it's a change to the response to comments, not the resolution.

CHAIR STRINGER: Oh, I see. Okay. To adopt the resolution as proposed.

BOARD MEMBER MEHRANIAN: Adopt, yeah, adopt the resolution.

CHAIR STRINGER: So that's our motion. Is there a second?

BOARD MEMBER CAMACHO: Second.

CHAIR STRINGER: Moved by Maria, seconded by Maria.

All those in favor?

I'm sorry, Ronji. Flashback. Flashback.

MS. MOFFETT: Ms. Camacho?

BOARD MEMBER CAMACHO: Yes.

MS. MOFFETT: Ms. Diamond?

BOARD MEMBER DIAMOND: Yes.

MS. MOFFETT: Ms. Glickfeld?
BOARD MEMBER GLICKFELD: Yes.
MS. MOFFETT: Ms. Mehranian?
BOARD MEMBER MEHRANIAN: Yes.
MS. MOFFETT: And Mr. Stringer?
CHAIR STRINGER: Yes.
MS. MOFFETT: The motion passes.
CHAIR STRINGER: So before we take a quick break I just wanted to -- we have a lot of people here now for our workshop, which we're looking forward to. When we come back what I'd like to try to do, just so everyone is aware of kind of where we're going to -- kind of how we're going to move through the agenda, we'll start with a Staff presentation that Renee will lead. And then we're moving to our -- move into our Funding Strategies Panel. My guess is that we'll break after the Funding Strategies Panel for closed session and some lunch. And then we'll come back and we'll do the reasonable assurances panel after lunch, and follow that with comments, questions, discussion, that sort of thing.
BOARD MEMBER GLICKFELD: Is that the agenda?
CHAIR STRINGER: Yes.
BOARD MEMBER GLICKFELD: Okay.
CHAIR STRINGER: There is an agenda. There is an agenda.

BOARD MEMBER MEHRANIAN: There's always an agenda.

CHAIR STRINGER: So thank you very much. So let's break for five minutes. I know that will be ten minutes.

MS. PURDY: Maybe -- we might need ten.

CHAIR STRINGER: Let's aim for five, see you in ten.

(Off the record at 10:40 a.m.)

(On the record at 10:55 a.m.)

CHAIR STRINGER: The only time in almost two years I've wanted a gavel.

MS. PURDY: Right.

CHAIR STRINGER: My pen.

BOARD MEMBER MEHRANIAN: That works.

CHAIR STRINGER: So we're starting Item 11. And this is our second public workshop on the draft Enhanced Watershed Management Program. And we're going to get started with Renee.

Thank you very much.

MS. PURDY: Yes. Thank you so much. My name is Renee Purdy and I'm the chair -- excuse me, I'm not the chair of the Regional Program Section, I'm the Chief of the --

CHAIR STRINGER: You're welcome to it, please.

MS. PURDY: No thank you. I am the Chief of the Regional Program Section.

CHAIR STRINGER: But I will not take your job, not for a second.

MS. PURDY: Yeah. We could trade places for a day, see how that feels. Okay.

So as Chair Stringer said, the purpose of today is to have our second workshop on the draft Enhanced Watershed Management Programs that have been submitted as part of the L.A. County MS4 permit. And those drafts, we have 12 of those drafts that were submitted in late June of this year. And you recall that we started this discussion during the regularly scheduled July Board meeting with our first Board workshop on the drafts just a week-and-a-half after we received those drafts. And the purpose of that first workshop was to introduce the draft EWMPs to you and for the EWMP groups to provide an overview of the key elements of their programs to you. And for your benefit, we have provided copies of those presentations from the July workshop behind tab 11-2 of your Board package.

The second workshop was scheduled for this months' Board meeting because we have now received written comments from stakeholders on the draft EWMPs, and we've also completed our review of the draft EWMPs. On the basis of our review and our consideration of the public comments received on the drafts we provided detailed written comments to each of the 12 Enhanced Watershed Management Program

groups by the end of last month, which was according to the schedule that we set for ourselves in the L.A. County MS4 permit.

And at this point before I continue on I want to acknowledge the tremendous efforts of the Board staff team in conducting the review of the Enhanced Watershed Management Programs. And I want to just acknowledge them and maybe even have them stand up as I -- as I mention their names because it was a tremendous team effort, amongst not only the core staff, including Ivar Ridgeway who is the Chief of the MS4 unit, and his staff Rebecca Cristmann, Chris Lopez, Iram Razik (phonetic), Deborah Brandes.

Additionally, we had a number of other staff from the Regional Program Section who provided tremendous support, including Shirley Brosack (phonetic), Dr. C.P. Lai, Phan Lon Wynn (phonetic), Dr. June Chu (phonetic), Shana Rappaport, Man Vung (phonetic), Jessica Pearson, Theresa Rodgers, Sandra Kelley and, of course, Jerry has been a tremendous help as well.

So I just want to name them all by name because it really was a great team. And it took a team of that size to accomplish the review of these 12 Enhanced Watershed Management Programs. And, of course, we really support the -- appreciate the support of Deb and Sam and Jennifer through all of this.

So the purpose of today's workshop is to prevent -- present an overview of Board Staff comments on the draft Enhanced Watershed Management Programs, and also to allow stakeholders to address the Board and the Executive Officer regarding their comments on the draft Enhanced Watershed Management Programs, and allow the MS4 Permittees that are participating in these EWMPs to address the Board and the Executive Officer regarding their EWMPs and respond to some of the comments that they've received from us, as well as from stakeholders.

And today, I think as you heard earlier when Chair Stringer was introducing the item, we're going to focus on two specific topics that were the focus of many of the comments by Board Staff, as well as stakeholders, namely the cost of these Enhanced Watershed Management Programs and funding strategies for implementing them, and also a focus on the Reasonable Assurance Analysis which really forms the foundation for these programs and the watershed control measures and BMPs that they've selected to implement through these programs.

So I wanted to note, though, for both of these topics we do anticipate an ongoing dialogue amongst the Board staff, permittees and stakeholders, as well as the Board. We don't expect to discover the silver bullet to address all of these challenges today, meaning we're not

going to discover the perfect dataset or all of the funding sufficient to pay for full implementation of the EWMPs at today's meeting. But we do hope to hear about progress and a continued commitment to efforts to surmount these challenges and to discuss together how we can work together to address these challenges as we move forward.

Finally, during the workshop today we also want to discuss with you the Enhanced Watershed Management Program review process, including what has happened so far, where we are in that process, and what the next decision steps are. The EWMP review process is very similar to that of the ten Watershed Management Programs that were approved by the Executive Officer several months ago.

So the first thing that I wanted to do is get -- is show you a slide, which you've seen before, but just to give you an orientation of the 12 EWMP groups. There are 51 permittees out of the 86 permittees covered by the L.A. MS4 Permit that are participating in an Enhanced Watershed Management Program or more than one Enhanced Watershed Management Program. And the EWMPs are shown in the light gray shaded areas. The orange areas are the areas covered by the Watershed Management Programs. And then the lightly yellow shaded areas are the individual Watershed Management Programs, meaning a single city is pursuing their own Watershed Management Program. And then the dark gray areas

are those jurisdictions that have opted to not develop a Watershed Management Program or participate in an EWMP.

So these 12 Enhanced Watershed Management Program areas cover 81 percent of Los Angeles County, not -- and this doesn't count the large National Forest Service areas. So today's focus, of course, is on these 12 Enhanced Watershed Management Programs. And they cover portions of five of the major watershed in the region, including the Santa Monica Bay Watershed Management Area, L.A. River Watershed, Santa Clara River Watershed, San Gabriel River Watershed, and the Dominguez Channel and Greater Harbors Watershed.

So the next thing that I wanted to do is just quickly go over this. I covered a similar timeline in our July workshop that we had on the Enhanced Watershed Management Programs, so I won't spend a tremendous amount of time on these slides. But I just want to remind you of where we've been and where we're headed.

The permit became effective in December 2012. And the permittees were required to notify us six months after that in June 2013 of their notification -- or of their intent to develop either a Watershed Management Program or an Enhanced Program, and the permittees did that.

For the Enhanced Watershed Management Program groups, they were required to submit to use a final

Memorandum of Understanding amongst themselves to work together on the development of Enhanced Programs. Again, that was due in December 2013.

Then six months after that they were required to submit to us a work plan to show that they were making progress on the development of their draft Enhanced Watershed Management Program, which they all did. And along with that they also submitted to us their Coordinated Integrated Monitoring Program which is the companion document to their draft EWMP. And that came in June 2014 as well.

And I did want to note on those Coordinated Integrated Monitoring Programs that we have been reviewing those. And most of those are now finalized and the permittees are beginning to establish their new monitoring locations and start those monitoring programs up.

Then in June of this year, as you know, we received the 12 draft Enhanced Watershed Management Programs as required by the permit.

So after receiving those I mentioned to you in July that once again we had a tremendous effort to turn those around very quickly and get them posted on our website within, I think, two day so of receiving them. And we opened the public comment period on draft Enhanced Watershed Management Programs, and that public comment period went for

a 60-day period until the end of August.

During that time, of course, we held the first Board workshop on the EWMPs to introduce them to you. And then we -- we received public comments, which I'll talk about a little bit more later in the presentation, and continued our review and consideration of those public comments. And then as I mentioned at the beginning, our comments back to the permittees were due by the end of October. And so we did provide those comments back to the -- to each of the EWMP groups at the end of last month. And those are provided to you behind tab 11-5 of your Board package. And the public comments that we received are behind 11-4 of your Board package.

So where we are right now is we're having our second Board workshop. I wish I knew how to do that fancy thing that Celine did where it pulls that out, but I'll have to ask her about that. You can see that on the slide.

And I don't think that this works, does it, Jerry? I can't use the pointer? It's okay. It's not -- it's not that important. No, it doesn't work.

So the next steps from here are that now the permittees have three months to make the revisions to their draft Enhanced Watershed Management Programs and resubmit them to us. And they will be resubmitting their Enhanced Watershed Management Programs to us in the mid- to late-

January timeframe, based on when we send our comments to them. And then a final decision on each of the 12 Enhanced Watershed Management Programs needs to be made per the permit schedule by the end of April of next year.

BOARD MEMBER GLICKFELD: Can I ask a quick question?

CHAIR STRINGER: Yeah, of course.

BOARD MEMBER GLICKFELD: I thought they would have -- I thought that we gave them three years, so it would be from the date of intent, I thought it was going to be June of 2016 until we finalized it. It isn't?

MS. PURDY: No. It's 40 months.

BOARD MEMBER GLICKFELD: Okay.

MS. PURDY: We gave them 40 months. So the -- they -- they got an additional 12 months beyond the Watershed Management Programs. But what that equates to in the end is a total of 40 months from the permit effective date. Okay. And I'm sure we'll have time to discuss more about process. But if you have other questions I'm happy to answer them at any point during my presentation.

So what I'd like to do now is I'd like to go on and just briefly review for you the general criteria that we've been using to review the Enhanced Watershed Management Programs. And these criteria very much align with the permit requirements for what the elements of an Enhanced

Watershed Management Program include. So things that we looked at in terms of the draft programs were whether the water quality issues related to MS4 discharges were identified and prioritized as required in the permit, whether they had specific actions to achieve the various water quality outcomes selected and a commitment to implement those actions. And when I'm talking about water quality outcomes I'm talking about not only the TMDL water quality requirements that are in the permit, but also achieving the receiving water limitations for pollutants that may not be addressed by a TMDL at this point.

As part of that identification of actions for the Enhanced Programs in particular, of course there was a requirement to comprehensive evaluate opportunities for multi-benefit regional stormwater retention projects. That was really the hallmark of the Enhanced Watershed Management Programs was that we wanted to provide the additional time so they could look for those regional opportunities to comply with the MS4 Permit requirements. And also, whether they looked for innovative technology, approaches and practices, such as green infrastructure, Green Streets as a mechanism for complying with the -- the requirements of the permit.

We also did a very in-depth evaluation of their Reasonable Assurance Analysis. Of course, for both

Watershed Management Programs and Enhanced Programs it's a requirement that the permittees conduct that reasonable Assurance Analysis. We also looked and evaluated their compliance schedules to make sure that they were consistent with the implementation schedules that had been adopted by this Board in TMDLs, as well as for those pollutants where there's not a TMDL we evaluated the compliance schedules to determine whether we felt they were as short as possible, given the various considerations that are outlined in the permit for determining those schedules.

We also looked to see whether there were measurable milestones, meaning specific actions or outcomes that we -- and associated deadlines with those milestones that we could use to evaluate progress and evaluate compliance with the permittees implementation of the permit.

So the next thing that I want to do is just briefly go over the public comments that were received on the draft Enhanced Watershed Management Programs. And we received comments from the following organizations and individuals, the Construction Industry Coalition on Water Quality, the County Sanitation Districts of Los Angeles County, which they only commented on one of the -- the EWMPs, that for the Palos Verdes Peninsula. We also received a joint letter from Heal the Bay, NRDC and L.A. Waterkeeper. And finally, we received comments from a

private citizen, Joyce Dillard.

We considered all public comments when we were conducting our review of the draft Enhanced Watershed Management Programs. And in a number of cases we had similar comments and provided those in our written comments to permittees. So all public comments, as I mentioned, that we received on the draft EWMPs are provided behind your tab 11-4. And I'm just going to provide a high-level summary of these comments.

I do want to say you're accustomed to Staff providing responses to public comments. However, as these are comments on the permittees' draft Enhanced Watershed Management Programs, I'm not going to be responding to the comments today because, first, as I said, we often had similar comments, some of which I will note in my presentation. And second, we've asked the Enhanced Watershed Management Program groups to address the comments as appropriate when they submit their revised Enhanced Watershed Management Program. And I think some of them will probably be prepared to -- to respond to some of the comments in their presentations today.

So the -- the first category of public comments that we received were comments regarding the cost of implementation of the Enhanced Watershed Management Program, and also comments on the financial strategies that were

included by the Enhanced Watershed Management Program permittees in their -- their drafts.

So first I wanted to mention that the Construction Industry Coalition on Water Quality suggested that the cost estimates from the -- not just the Enhanced Watershed Management Programs, but also the Watershed Management Programs be compiled so we have a complete picture of the investments that need to be made in the MS4 over the next 20 to 25 years as set forth in these programs that -- that we've been reviewing.

And I did want to let you know, and I'm going to be presenting a little bit of this information today, that we've started this process of compiling the cost estimates from all of these Watershed Management Programs and EWMPs. And I think others have been doing the same thing. And we're going to be working with the permittees to continue this effort so that we can have a complete picture of what we're looking at with regard to the -- the costs and the investments that will need to be made.

In a related comment, Heal the Bay, NRDC and L.A. Waterkeeper, along with Ms. Dillard, expressed concerns regarding the financial strategies that were outlined in the EWMPs. And the -- the environmental groups in particular suggested that the strategies should include a number of things which they outlined on page six of their comment

letter, and I'll just mention a couple of those which included selection and prioritization of the multiple financial approaches identified, identification of current funding streams for each of the EWMP group members sufficient to implement existing stormwater projects, and a funding schedule based on the interim and final compliance deadlines in the 2012 permit.

And as I mentioned, we had some similar comments with regard to the funding strategies in our written comments. And also, as you know, we're going to have a panel discussion about funding strategies in particular after I conclude my presentation, because we know this is a very significant issue that needs to be addressed and we want to make sure that we're -- we're having an active discussion about how to establish the funding necessary to implement these programs.

And I also wanted to note, and I don't have something to show you just yet, but we are in the process of updating our website to include a page specifically on financial assistance as a resource for MS4 permittees and others. And we had previously put a lot of this information on our MS4 page. But like State Board, we're hoping to have a particular menu item right on the home page for the Regional Board regarding financial assistance that hopefully will be a valuable tool for the permittees and other

partners to find funding for stormwater.

The next area of public comments related to the Reasonable Assurance Analysis. And I'm just going to touch on these very briefly because we are going to also have a full panel on the Reasonable Assurance Analysis, probably right after lunch, and you're going to hear about a lot of these things at that time. But some of the general types of comments that we heard about Reasonable Assurance were some comments and questions about some of the approaches that were used to conduct the RAA. And, in fact, we're going to highlight two of those approaches for you this afternoon in detailed discussions.

There were some comments regarding calibration, which you recall we had some comments about that for the Watershed Management Programs as well. And then there were comments regarding how he Reasonable Assurance Analysis will be updated based on monitoring data that are collected through the Coordinated Integrated Monitoring Programs, and then also how all of that will fit into the adaptive management process.

And again, many of these things Board Staff also had comments on and provided those comments to the groups in our written comments. And, in fact, we've already been engaging both with various EWMP groups, as well as with the environmental organizations to start discussing in detail

some of the comments on the Reasonable Assurance Analyses.

The next category of comments that we received largely related to the watershed control measures that were proposed by the permittees to be implemented through their EWMPs to achieve the various water quality requirements of the permit. And in many cases these comments related to some of the assumptions that were made in the analysis about watershed control measures that they planned to employee.

And once again, some of these you will hear, we had similar comments on. One comment was the achievable of the Green Street implementation, as well as regional projects on private property, which some of the groups are employing heavily the use of Green Streets which certainly the permit encouraged and we encourage and think is an innovative and important way to proceed with EWMP implementation. But there were some concerns about whether that was realistic in terms of the scope of Green Street implementation and then, like I said, the regional projects on private property.

There were some assumptions regarding redevelopment rates and the amount of LID that would be implemented as a result of redevelopment rates across Los Angeles County. There were also some comments regarding the effectiveness of some types of technologies that were proposed, such as some catch basin inserts used for certain

types of pollutant removal. And there were some question about pollutant reductions from institutional controls such as street sweeping and that sort of thing.

Finally, there were some comments regarding the lack of detail on some trash controls to implement various trash TMDLs throughout the county. And again, in many cases we had similar comments that we provided to the permittees.

And the last set of comments that I wanted to briefly talk about with regard to public comments were comments on compliance schedules proposed in the EWMPs themselves. And primarily what I'm talking about here are compliance schedules related to pollutants that are not addressed by -- by a TMDL at this point. So these schedules were schedules that were proposed by permittees absent a TMDL schedule. And so there were comments from the public regarding whether those compliance schedules were appropriate given the type of pollutant. And in some cases an EWMP group might be proposing a schedule for a type of pollutant to align with another TMDL, but maybe that pollutant is in a different class.

And so there were a number of questions about whether those compliance schedules were appropriate, and also whether there were sufficient milestones for some of those other pollutants that don't have already essentially built-in TMDL milestones.

So the next thing that I want to do is I want to take a few slides to go over some of the high level Board Staff comments on the draft Enhanced Watershed Management Programs.

So just like for the Watershed Management Programs that were approved earlier this year, the groups were required to complete a comprehensive analysis of their watershed to identify water quality priorities that would be addressed by the EWMP. This is the starting point for these programs since it, of course, identifies the TMDLs that are applicable in that geographic area, as well as identifying other water quality impairments that are on the Clean Water Act section 303(d) list, as well as receiving water limit exceedances that may have been observed over the past few years.

So as dictated by the permit, this comprehensive analysis to develop water quality priorities, just as a reminder, is divided into four tasks. They include characterizing the water quality within the EWMP area, categorizing the pollutants into different classes of pollutants, conducting a source assessment to the extent possible with existing data, and then prioritizing the water body pollutant combinations, as we call them, that it will be addressed by the EWMP.

So because this is such an important part of

the -- the EWMP, staff commented on these analyses to ensure that the programs did identify all the water quality issues that need to be addressed. So just an example of some of our comments were that for the water quality characterization, Staff made comments to some groups regarding some mistakes in identifying appropriate TMDL listings or not applying the TMDL correctly, or not analyzing all available data. For the most part these were -- were relatively easy fixes to the draft EWMPs. And we don't think there will be any problem with the groups addressing these things.

For source assessment, Staff made comments to some groups to provide more complete analysis of the sources of pollutants, particularly to evaluate whether the source of the pollutant could be from MS4 discharges.

For prioritization, Staff made comments regarding the groups prioritization on water quality issues, and also correspondingly on compliance schedules, as I mentioned earlier, that the group developed for specific pollutants. So just to emphasize overall what the permit calls for is that the compliance schedules must be, of course, consistent with the TMDL implementation timelines that were previously adopted into the Basin Plan and have now been incorporated into the permit, or in the case of situations where a group is proposing a schedule for compliance it needs to be

consistent and reasonable and supported with sound rationale that it's as short as possible.

After identifying the water quality priorities the EWMPs need to identify and implement watershed control measures. And when I talk about watershed control measures, in some cases people will just refer to BMPs instead. I came -- I sort of used the watershed control measures as perhaps a more all-encompassing term than best management practices. But this slide just gives you a sense of the various types of things that are included in watershed control measures, both structural types of controls for stormwater and non-stormwater discharges from the MS4, as well as nonstructural controls, including source controls such as the various source controls through SB 346, if I'm getting the number right, for the Brake Pad Partnership to reduce copper discharges.

So now I'd like to just talk about some of the comments we specifically had on watershed control measures.

First of all, with regard to descriptions of control measures we made comments for group to provide additional information on structural projects, as well as jurisdiction-wide institutional control measures. In particular we asked that the descriptions for institutional controls were more detailed, and it was clear the responsibilities of each permittee with regard to

implementing these institutional controls.

Second, with regard to implementation timelines, in general the groups gave timelines of what they needed to complete -- or when they needed to complete particular types of projects or achieve a certain pollutant load reduction so that they could be in compliance with the interim and final TMDL limitations and receiving water limitations.

However, in some cases, particular with certain multi-benefit regional projects, Staff asked the groups to provide specific project timelines and milestones. This wasn't done for every potential regional project since Staff understands the need for flexibility in long-term planning. As I've mentioned before, these programs are looking at, in many cases, a 20- to 25-year planning horizon. However, timelines were requested in the case of many of the high priority and more near-term regional projects that are going to be implemented.

Also, we did comment on the feasibility of some of the control measures for some of the groups. For some of the groups we commented particularly on the regional projects on private property and to discuss more some of the potential obstacles and means of overcoming those obstacles for implementing projects on private property. And I think this really does speak to a problem in some of our watershed that some of the watershed are so developed that there is

not a lot of opportunity on public parcels. And so some of these group will -- some of these groups will need to eventually look to private property for implementation of some of these BMPS, some of the Regional BMPs. And certainly they're already looking to private properties to provide incentives for implementation of some distributed BMPs on private property.

So next I want to talk briefly about the Reasonable Assurance Analysis. Where area -- or, excuse me. When groups are not implementing projects that can retain that stormwater quality design volume of the 24-hour 85th percentile retention volume for a regional project, then they needed to conduct the Reasonable Assurance Analysis in those areas to demonstrate that the watershed control measures will achieve compliance with all of the water quality requirements of the -- the L.A. MS4 Permit.

So this makes the RAA the driving force behind much of the EWMP implementation, just as it was for the Watershed Management Programs. And you're going to hear a lot more about these Reasonable Assurance Analysis approaches used in the EWMPs on the panel this afternoon. And Sam and Ivar will be discussing and introducing that panel and talking a little bit more about the -- the basics and the purpose of Reasonable Assurance Analysis.

Staff had comments on all of the Reasonable

Assurance Analyses for all 12 of the EWMP groups. In many cases Staff's comments directed groups to provide additional information to demonstrate the appropriateness of a modeling approach or to provide rationale for certain assumptions. Just a sampling of some of the comments that we included in our written letters were that we were looking for additional discussion on model calibration metrics or of some of the calibration results that were falling outside certain thresholds that we had identified for model calibration.

We also asked for additional discussion, in some cases, of the selection of a representative or limiting pollutant in which if the group controls that limiting pollutant then the group is assuming that it will be controlling all the other pollutants adequately to achieve the requirements of the permit.

And we also asked for more verification of the Reasonable Assurance Analysis approach and that the proposed BMPs have assurance of achieving the receiving waters limitations in the -- the receiving waters themselves.

And as I mentioned, in many cases we've already started discussing these comments with the various permittees in the EWMP groups. And they have, in fact, already started providing us with some of the additional clarification that we're looking for.

So aside from the categories I've discussed,

meaning the water quality characterization, the control measures and the Reasonable Assurance Analyses, there are some specific EWMP provisions that groups needed to satisfy. And we had some comments on these things as well. These two general elements that I wanted to focus on today are the groups process for identifying and selecting multi-benefit regional projects that, where feasible, are retaining that 85th percentile 24-hour volume through stormwater retention, and then also the group's financial strategy that was called for in the permit.

So Staff made comments on the EWMP groups process of identifying and selecting regional projects. In most cases, however, groups did demonstrate that they went through a thorough process to identify these multi-benefit project locations within their watershed. And they did identify many of these types of projects in their EWMPs. Many of the groups have initiated site investigations which were provided in many cases as appendices to their draft EWMP and have included some concept designs for these projects already.

Above is an example of a regional project fact sheet that was provided for one of the regional projects in the Ballona Creek EWMP. In some cases Staff also commented that the groups should try to better articulate the anticipated multiple benefits of these stormwater retention

regional projects.

Next I wanted to talk about the -- the financial strategies as an introduction to the panel that we're going to have shortly. And, of course, it goes without saying that financing the projects and the EWMPs is one of if not the biggest issue in the MS4 program right now. And many talk about stormwater infrastructure, and particularly when we're talking about stormwater quality infrastructure, as an orphaned utility. It's certainly one that has not received the attention and capital investment that's been needed over many years. And I think that is in many ways what we're facing today with the implementation of these Watershed Management Programs and Enhanced Programs.

So Staff reviewed the financial strategies that were provided in the Enhanced Watershed Management Programs with these difficulties in mind and pushed the groups to provide as much information as possible on their financial strategies. In the case of the near-term Enhanced Watershed Management Program costs our comments directed the EWMP groups to provide funding sources or a process for securing funding to implement these near-term projects.

Above is an excerpt of the financial strategy submitted by the Upper Santa Clara River EWMP Group where they went through several different types of funding strategies and summarized the background potential process,

conditions and challenges that each of those strategies would present. And you're, as I said, you're going to be hearing a lot more about the financial strategy and strategies in the presentations to come. Much work definitely remains to be done with regard to these financial strategies. And there is no doubt that municipalities are in need of funding and ultimately a steady revenue stream to support the capital investments, and also the ongoing operation and maintenance of their stormwater infrastructure projects that will be implemented through these EWMPs.

We've begun to compile some of the data on capital costs and operation and maintenance across the 12 EWMPs. And I want to just present some of our initial compilation of that in the next couple of slides.

And I failed to -- to introduce, and I feel badly about this, we have a new scientific aid, and I think she's in the audience, Roxanna. She's working the Executive Office.

If you -- maybe you could stand up. Do you mind?

And she -- she just started this past week and she's jumped right in. And she helped with some of the compilation of these capital costs for the Enhanced Watershed Management Programs.

So thank you, Roxanna.

So the first slide that I want to show you is

looking at all 12 of the Watershed Management Program groups and looking at the capital costs that they have presented to us over the next 25 years. And the way that we looked at this is we basically aggregated the costs for each group according to permit term. So this looks at the costs for the rest of this permit term, through 2017, and then actually looks at five more permit terms after the current permit term in terms of costs.

And I do want to note that these are a rough order of magnitude estimates right now that are provided by the EWMP groups at this planning stage. We do expect that these costs will be refined over time down to the project level as they proceed with more detailed concept designs and engineering designs for many of these projects.

So clearly the costs here are significant. And I want to actually go on to the next slides which kind of break this down a little bit better. And you might be able to see a little more without having all 12 of the EWMPs on one slide. And what this does is this looks at the timing of capital costs by a various group. So the X axis provides you with the time starting this year in 2015, and then extending out for different periods of time depending on the watershed group.

So the -- the slide -- or the graph on the left is looking at most of the groups within the Santa Monica Bay

Watershed Management area. And what you can, which is interesting but not surprising in terms of the timing of capital costs, is the timing of the peaks for these capital costs largely coincides to TMDL final deadlines. And for the Santa Monica Bay, most of those watersheds, including Malibu, Marina del Rey, also the -- the coastal areas of Santa Monica Bay, most of those deadlines are driven by the Bacteria TMDLs which, for the most part, had a final deadline of 2021. So you can see that those Watershed Management areas and those EWMPs are going to need to be acting very quickly because most of the capital investment needs to happen by 2021.

If you look at the slide -- or the graph on the right you can see a different set of Watershed Management groups. And you'll see the X axis scale is different and it extends out a little longer. And then you can also see that rather than it peaking around 2021, you're seeing that the peaks are happening a little bit later for some of these EWMPs that are within the San Gabriel Watershed area, as well as the Santa Clara Watershed, and also the Dominguez Channel Watershed. And again, in larger part the peaks that you see here are driven by the TMDL final deadline.

So, for example, in the Santa Clara River Watershed bacteria is largely driving a lot of the investments. For the San Gabriel River Watershed it's

largely the Metals TMDL that's driving investments. And then the Dominguez Channel-Harbors TMDL is based on the Toxics TMDL for Dominguez Channel and the Greater Harbors area. And you can see the -- the peak, the building -- building up and peaking at 2032 in terms of investments for the Dominguez Channel area.

BOARD MEMBER GLICKFELD: I have one question.

MS. PURDY: Sure.

BOARD MEMBER GLICKFELD: So I can understand better, I'm looking at the slide that you previously showed, and you're showing all 12 EWMPs. And then on this slide you only show -- you don't show the Upper L.A. River and one other.

MS. PURDY: Here you go.

BOARD MEMBER GLICKFELD: Oh, that's this one. Okay.

MS. PURDY: I -- so I will say I needed to put these two on a different slide because one thing I did not point out is the Y axis scales are different, the -- in terms of cost.

BOARD MEMBER GLICKFELD: Oh, yeah.

MS. PURDY: These two, you can see, goes -- the one on the left goes up to 700 million. The one on the right goes up to 1 billion. This scale, as you can see, is markedly different from the others. And so I decided for

the sake of making it a little bit more easier to sort of understand what's going on and the magnitude of what's been going on to put these two on a graph together because these two certainly represent the most significant capital investments that are estimated for the Ballona Creek Watershed and the Upper L.A. River Watershed.

And I would say for the Upper L.A. River, in many ways it's -- because it is a very large watershed area, it also does have a lot of TMDLs that are -- you know, permittees are subject to, including a very big Bacteria TMDL to address bacteria, as well as metals in the L.A. River.

And then Ballona is a very densely developed watershed and also has a number of shorter term TMDL deadlines, which is why you see a very rapid increase in expenditures that need to happen in the Ballona Creek Watershed.

So that -- these three graphs together account for all 12 of the -- the EWMPs.

So the last thing that I wanted to do, and I realize this is very small, and maybe you can see it on your small screens there, it would be hard to read for the people in the audience, I apologize for that, but this is a small sampling of the structural BMPs that are proposed to be implemented just in the next five years, so basically from

2016 to 2020. And then it shows the capital cost, not O&M, just the capital cost that's associated with those structural projects. And this is not -- I don't have all 12 EWMPs here. I would have needed multiple slides to be able to do that. But I tried to give you a sampling, Upper L.A., a group from the San Gabriel River Watershed, as well as some of the groups from the -- from the Santa Monica Bay Area.

So you can see the significant investments that will need to be made for all of the different EWMP groups, even within the next four to five years. And if you look at the dates, maybe, Jerry, you can scroll to the dates, the dates are as early as 2016. There are dates for 2017, 2018. I don't know if we have a 2019 in there, but we have a 2020, a number of dates for 2020. So there will be significant expenditures being made over the next four to five years.

And with that what I would like to do is, let's see, is finish my presentation. And, of course, I'll be here all day for questions and discussion. But the -- what I want to do is introduce the next few parts of our presentation, and specifically the Funding Strategies Panel on the left. And we are now going to have a series of four presentations, and you can see what those presentations will be. I think we gave each of you also a detailed outline for the workshop today. But this just gives you a sense of what

we're going to be going over with the Funding Strategies Panel.

We're going to start it off with a presentation by Ken Farfsing who is the Interim City Manager of Carson, and Richard Watson from Richard Watson and Associates, to give us an update on a Stormwater Funding Options Report that was prepared about a year ago. I think we've mentioned this to you in the past, and I can certainly get you a copy of it if you don't already have one.

We will follow that with a discussion by Dr. Shahram Kharaghani from the City of L.A. with regard to the City of L.A.'s funding strategies for its -- the EWMPs in which it's participating.

We'll then have a discussion by Dr. Rita Kampalath -- and I apologize, I need to work on the pronunciation -- with regard to the environmental organizations' role in finding funding for some of these stormwater projects, and also perspective on funding strategies in the EWMPs.

And then we are going to round it out, fortunately, with a guest appearance by Chief Counsel Michael Lauffer from the State Board, which we're very excited to have him here today.

So that is what our Funding Strategies Panel will look like. And after we hear those presentations, then

we'll have a period of time during which we'll have question and answers for those speakers on that panel.

So with that I would like to turn it over to Ken and Rich.

CHAIR STRINGER: Great. Thank you, Renee.

I think -- well, we'll just see what -- what makes the most sense in terms of structuring our -- our conversation. But let's just continue on and we'll play that one by ear. Yes.

MR. FARFSING: Good morning, Chair Stringer and Members of the Board and Staff, my name is Ken Farfsing. And along with Richard Watson, we coauthored the Stormwater Fundings Option Report: Providing Sustainable Water Quality Funding in Los Angeles County.

Now before I move on to my comments I just wanted to take a second to thank Sam and Renee for their support for the City of Carson recently amending into the Dominguez Channel EWMP. But I also wanted to thank the city of Los Angeles and Shahram Kharaghani and his staff for working with Carson to amend into the plan, as well as the County and our other watershed partners.

Also, just a quick note for you on the Carousel Tract which you and your staff have provided invaluable direction to the homeowners in the City of Carson to remediate decades of pollution under existing homes, Shell

has begun the first series of detailed meetings with our homeowners just this past week. And with the first phase of ten homes planned for remediation activities beginning the spring, we're now well underway. And I think our residents can start to put this long nightmare behind them.

Now I'm sure you rarely receive thanks from a city, but I wanted to personally thank you and your staff for all of your efforts to right an environmental injustice.

Now let's move on to the funding report. Hopefully I do this right. Nope, did it wrong. There we go.

We need to recognize that the report would not have been possible without the financial and logistical support of my former employer, the City of Signal Hill, and the Los Angeles County Sanitation Districts. My entire counsel in Signal Hill, along with Chief Engineer Grace Hyde, were advocates of the report.

Now the Funding Options Report grew out of the frustration of the cities when the Board of Supervisors tabled the Clean Water-Clean Beaches Funding Measure in 2012. Now rather than engage in a useless exercise of finger pointing the cities decided to collectively study the funding effort and learn from it and to propose funding solutions.

So the Los Angeles County City Managers Group met

and decided to organize a committee of local elected officials to produce the report and the recommendations. We requested the assistance of local governments' consensus-building organizations in our area, which is the Los Angeles County Division of the League of Cities and California Contract Cities Association.

The elected officials committee was diverse and large since we wanted to include skeptics and supporters of stormwater funding. We also wanted it to represent the diversity that is Los Angeles County's 88 cities representing beach communities, disadvantaged communities, the urban core and the suburban communities. We included our partner, Los Angeles County, the Los Angeles County Sanitation Districts, and the Regional Board Staff. And we included a stakeholder committee representing environmental groups, the public schools and the business community.

Now the report is first and foremost an educational document. And this is due to the fact that local elected officials and the public need to be continually educated on the importance of water quality improvements and the hurdles to sustainable funding. The committee completed the report in October of last year with 42 separate recommendations. The report essentially lays a foundation for prioritizing funding strategies.

Now if you can summarize 125 -- 112-page report

with one single thought it would be what Renee basically mentioned, is that municipal stormwater programs are orphaned utilities. They're stranded without the Prop 218 fee support that traditional utilities rely upon to deliver services and improve our quality of life.

Now the question is: Where do we go from here?

So the report itself contains a series of recos on education and outreach, proposed legislation, if the county is interested in basically going back and looking at the Clean Water-Clean Beaches, there are some recommendations, also local funding options. And then we have some recommendations to engage the Regional Board.

We've also discussed evolving funding opportunities. And this report has generally been well received statewide. We're not aware of any region that has tried to tackle the stormwater funding problem much like Los Angeles -- the cities in Los Angeles County have.

The committee kept pushing for legislation, even before the report was finished. And we worked with Assembly Member Rendon in 2014 to get AB 2403 passed. And this last year we worked the Sanitation District to get SB 485 by Senator Hernandez passed. Both of those were signed into law by the governor and they were -- came directly out of this report as recommendations.

We also had the steering committee work with the

League of Cities and California Contract Cities to provide input and support for Prop 1. Though it didn't provide as much funding for stormwater, it's certainly a step in the right direction.

So why is the funding report important and, really, what are the next steps?

Now we recognize that improving water quality is really critical, and also improving water supply, they go hand in hand. Now taking a look at the economic models which we're going to talk about later today basically show billions of dollars in estimated municipal stormwater compliance costs in Los Angeles County.

Just for an example, Carson, where I basically started in July there and started to help look at their stormwater programs, looking at our participation in the Dominguez Channel EWMP, that total EWMP for all the cities and the county is close to $1.7 billion, again and that's estimated coming out of consultant Paradigm. Carson, because it's one of the larger cities in the area, it's about $21 million per square mile over the -- the 20-year period of the implementation of the Dominguez Channel EWMP.

Now Carson is a disadvantaged community. Our per capita income is pretty low. It's about $23,000, whereas state per capita is at $29,000. Unfortunately, the city has been running at multi-million dollar budget deficits for a

number of years. I count seven of the last ten. I'm currently in about a $3 million deficit, and I'm trying to help the city balance its way out of that. And unfortunately, like most cities, there's no dedicated source of funding for stormwater.

Now the follow-up to the report, essentially what we did is we worked with Contract Cities and the L.A. County Division to basically begin implementing more of the recommendations, 59 of the cities that agreed to fund about a $200,000 work program which will look at the funding options and create what we call a toolbox. We don't believe there's any one funding solution. There's no silver bullet here that's going to provide all that money. We basically have to be creative and we're going to have to find as many funding solutions as possible. And that's what this toolbox does is it basically takes a look at not a one-size-fits-all approach, but it basically looks at a number of actions which Rich Watson will talk about in a second.

There's a ten-member elected officials steering committee. We basically just got them reorganized. Fifty -- basically, five of them come from the League and five come from California Contract Cities. I've volunteered to chair the committee again, as I did for the production of the original report. And the first meeting will be next week. SCAG has been invaluable in helping us. They provide

the meeting logistics for us and we can reach out electronically to all the elected officials. They don't have to come to SCAG. They can basically tie in by conference phone and by webcast, so it's been very helpful. And basically we're going to work on both short-term and long-term funding.

So I'm going to go ahead and turn it over to Rich and he's going to talk about where the committee is going in the next six months or so.

CHAIR STRINGER: Great. Thank you.

MR. WATSON: Thank you, Ken.

Chair Stringer, Members of the Board, as Ken said, my name is Richard Watson. I'm the coauthor of the report. And if you don't have it you should get it and take a look at it. And I also have been hired as a consultant by Contract Cities to work on their further development of it.

Oops. Excuse me.

This -- these are some of the initial actions that we're going to be doing with the committee when it starts next week, one obviously, reviewing the work plan that we've sent out to them, looking at the budget. And we're going to set up more committees this time. We started last time, as Ken said, with a working group of city managers. This time we're starting with a steering committee of elected officials and then setting up other committees, the city

managers, public works officials, public information officers, and importantly a stakeholder committee, including a number of different groups including environmental groups and foundations.

One of the initial things we're going to do is start, by the way, looking at short-term funding, because we know the amount of money needed for the WMPs and the EWMPs is phenomenal.

One of the things that has come out, and we talked about this at the CASKA (phonetic) conference a couple weeks ago, we had Caltrans on a program that I ran on funding, and they're looking at using cooperative implementation agreements as one way of funding stormwater projects. The first two of those have already been done. They were developed when the funding or the agreement of the State Water Board didn't get consummated in time and they wanted to get some of their credits. But they're now fine tuning the paperwork for that. They're putting together a list of projects. And I think it will be a potentially good funding source for people in L.A. County and elsewhere. And probably about half the money will come here because it's based on TMDLs. And it will be somewhere between $149 million and $290 million a year if it's funded properly by the legislature.

What we're going to do, we're going to talk about

a number of things. Ken mentioned the Clean Water-Clean Beaches Initiative. We're going to be talking again with the staff and with board members, particularly new board members. Ken mentioned the partnership with the Sanitation Districts. We've been talking with them about how to implement 485, and that will be a discussion of the new steering committee and the cities, and then developing additional partnerships with other groups.

Capture and use of stormwater is something that we're going to be really focusing in on a little bit, looking at the technical and regulatory hurdles to capture and use. And there are several of them and we've already started working on that with a particular pilot project. And then looking at legislation to address the liability issue. As you may recall when the county was considering a funding measure before schools in particular -- excuse me -- were concerned about that.

The 218 reform, we're active, and I will defer on that since Michael Lauffer is going to be talking about that.

We will also be looking at special assessment districts. And there's a particularly interesting 1931 Act on Water Conversation Districts that may be applicable.

And looking also at state projects. One of the things that came up as we were meeting with cities last time

was basically cities don't have a lot of control over schools. We've got to go to the state architect. And state park projects and others have not always really been consistent with the requirements that we have in the local MS4 permits.

One of the things that we're really going to be looking at carefully is source control. Renee mentioned SB 346. We know that's working, and I hope to come back and give you another report on that shortly.

But one of the things we're also looking at is zinc and tires. We know that a little less than 50 percent of the zinc in metropolitan discharges is coming from tires. That's work that CASKA did. And so we're looking at another bill perhaps to -- to address that. There may be an opportunity to use the Safer Consumer Product legislation or regulations that DTSC had. And they're doing some other rulemaking, so we'll be involved in that.

And then looking at a variety of local funding options just because, as Ken said, there's no single silver bullet here. So there are going to be all sorts of things that we have to do to get enough money to make this work.

We also have a few recommendations we want to meet with you and the staff about. And then, you know, we hope that State Board is going to come back and deal more with the stormwater policy. You know, they're doing that

certainly partially through the initiative in -- as it was just republished as Storms a couple of days ago. And then coordinating with U.S. Conference of Mayors. We've been doing that already. We did that last year on federal issues and then meeting with the State Board Members and staff about how we might implementation the federal -- or the EPA fiscal capability analysis here in the State of California.

This one is perhaps one of the most important elements of what we're going to be doing this year. And we -- we are going to be seeking your help in this, and one of the recommendations that we'll discuss with you relates to this. But we're not going to go very far raising money unless people really understand the problem, and most people don't understand stormwater. Ken used the term, and I think Renee did, too, that stormwater is sort of an orphaned utility.

When we did 218 back in '96 and we did the implementing legislation in '97, people didn't think of stormwater utilities. They were thinking about other utilities, water waste, water refuse. So we need to educate folks and we need your help with that. Particularly we need to educate local elected officials because they're the ones who are going to have stand up and be counted if this is going to take place and if we're going to get a fee program or a variety of ways to do this.

We want to reach out to the school districts. I'm already working with one, and we'll work with others.

And we need to communicate with the governor and the legislature. We want to reach out to our congressional delegation to see if we can get help out of Washington.

And perhaps most importantly, we need to reach out to our L.A. County legislative delegation because they need to make sure there's enough money put forward in new bond measures or that Caltrans gets enough money to implement what they're trying to do with their Attachment 4 and funding stuff through their Cooperative Implementation Agreements. So there's a very important group there that we need to reach out to. And we want to encourage some stormwater-specific standards in the Basin Plan.

And then we want to work with MTA and others because we need to relate to transportation funding, as well, because -- to integrate stormwater because it's such an important part.

And then, just in conclusion, we think the county is probably going to wait for the cities to stand up and be counting. So that's one of the reasons why education is so important. And as Ken said, there's no single answer. Our efforts this year will be, as Ken said, the toolbox and looking at options and pursuing the short-term funding, what we need.

And with that, we're available for answering question.

CHAIR STRINGER: Did it cut you off? I want to make sure we -- do you have some more to say?

MR. WATSON: Oh, okay. I'll go back a slide.

CHAIR STRINGER: I mean, assuming it's not another hour.

MR. WATSON: Yeah. One of the things that is true right now is we have a lot more information than we did a couple of years ago about the costs. I think one of the reasons many cities didn't stand up and be counted when the county was considering the fee program is they didn't understand the magnitude of the expenditures they were going to have to be making. And we now have that information. We hope that you will help us reach out to cities and educate folks because we think, as I said before, outreach and education is the critical element to get to the funding we need to implementation the WMPs and the EWMPs.

Thank you.

CHAIR STRINGER: Great. Thank you. Education is key, for sure.

So we have next up the City of L.A., I believe.

MR. KHARAGHANI: Good morning, Mr. Chair, Board Members. My name is Shahram Kharaghani from Watershed Protection Program, L.A. Sanitation.

Before I go over my presentation I want to acknowledge Mr. Unger, Ms. Smith, Ms. Purdy and Mr. Ivar Ridgeway for their support of all of the meetings that we have regarding the permit.

While the City of Los Angeles is involved in watershed to create Enhanced Watershed Management Program, the presentation that I have for you today is specifically for City of L.A. and some of the -- the strategies that we are following.

I will go over some of the (inaudible) funding status that, again, we have in the city, the cost of the Enhanced Watershed Management Program for the city, the CIP, Capital Improvement Program, that we have prepared that prioritize the projects that we have in EWMPs, some of the funding options, and then closing remarks.

CHAIR STRINGER: All right. Could you just speak into your microphone a little bit --

MR. KHARAGHANI: Yes.

CHAIR STRINGER: -- more directly? Thanks.

MR. KHARAGHANI: Yes.

CHAIR STRINGER: Thank you.

MR. KHARAGHANI: So the (inaudible), the City of L.A., we are lucky enough to have a dedicated funding as of right now. This is the fees called the Stormwater Pollution Abatement Fund. It was created back in 1980s, 1990s. It is

approximately -- the fund is approximately -- the budget for the program is about $35 million. The fee generates each year about $28 million.

And then we get -- and it is $2.00 per month for a typical residential parcel in the city above 7,000 square feet.

We do some receive some funds from general funds for doing (inaudible) streets and some of the bulky items that we pick up.

And then we receive the grants from all of the proposition water bonds that have passed over the past 20 years. On average we receive $1 million or $2 million per year based on the projects that we apply for.

And we do also have the Prop O, the $500 million that was passed by the City of Los Angeles residents. And that -- that fund has already been allocated to 46 projects that have been completed or are very close to be completed and helped us on two TMDLs, Trash TMDLs and Dry Weather Santa Monica Bacteria TMDL.

As you have heard before, somehow stormwater, even though it creates water and supplement and augment the water supply, has been ignored. As you can see right now throughout the nation, some of the fees for us, of course, is the 2 bucks, the $2.00 that you see. And we have (inaudible) that’s more than $26.00 per month.

So the Enhanced Watershed Management Program costs for City of Los Angeles, these are obviously approximate numbers as we know them right now, for Marina del Rey, $2.50 and so on, Santa Monica, Dominguez Channel, Ballona Creek, they add to be 7.3. And that's the number that you may have heard by -- shared with our City Council during my testimony of what would be the costs of our TMDL, the 22 TMDLs that the city has. And I usually use the number of $8 billion for the -- over the next 25 years.

So as a result of the Enhanced Watershed Management Program we have created a Capital Improvement Program which is basically the document that we use in the city as far as providing funding for the projects. The CIP that we have right now has $850 million, specific projects, and the projects have series of metrics and they can be quarried that each one provide water supply, how much acre feet. So all of the metrics that you have heard are audited in this CIP. And so the CIP have series of signature projects, distributed green projects. Then we have -- rainwater capture and water supply are a priority in the city. It starts with infiltration first, if we can capture it and use, number two. And last by many margins would be water filtration.

And then the projects also are intersection of all of the flood protection problems that we have, water

quality, water supply, habitat. So these projects are multipurpose in -- in nature. And we are going to expand the CIP by adding more green infrastructure that we have, and that puts us at $1.5 billion for that CIP that we have.

Now some of the funding options that we currently all right pursuing, one obviously is State Revolving Fund. That's the fund that in the past, in fact, back in late 1990s I was -- I was helping the bureau to receive $200 million for our ESYS (phonetic) project which was a sewer system. We could use the same fund to also fund some of our stormwater program. We have obvious grant Prop 1 Water Bond which is a good augment, but is one project at a time. It's not a secure source of funding for the program. And then we could -- you could look at, also, stormwater fees increases and taxes based on California Constitution Prop 218 and Prop 26. And then some of the out-of-the-box ideas that, you know, we are pursuing.

State Revolving Fund, as I mentioned, I don't know, you may have heard, Sacramento received $1.5 billion at 1.26% interest rate for them to do nitrification and de-nutrification. So if there are monies left in the State Revolving Fund, that would be one source. And it is a short term -- actually, you know, some of the strategies would take, you know, years for them to actually bear fruit. But having, you know, having a document with the State Board

should not take that -- that much time, as long as there's money available. And then we have to have the collateral to pay -- to pay the principal and interest. And that can be -- that can be created -- again, there are -- there are many financial instruments that can be created to hold the interest and principal for first year, two years, three years, four years, whatever years that we agree upon until such time -- such time that the other longer-term strategies can bear fruit.

So that's one idea, State Revolving Fund, so we are pursuing that. I have been in contact. I have talked to Mr. Bishop, I have talked to other state folks and they are open to it, but we are working with them to see how we can move forward. So that's one. And this is the option, obviously, of borrowing enough money for us to implement, you know, talking about billions of dollars. And when I hear billions of dollars, you know, I cannot wrap my money around -- my head around those numbers. But as you will see it the presentation, we could borrow enough money per year for us to implement some of our projects to meet our (inaudible) for the 22 TMDLs that we have.

We have the Prop 1 Water Bond which we have been providing comments on the guidelines, and we will be applying for a Water Bond. But again, as I mentioned, it is a very good opportunity, but this is just one project at a

time. And my share of the Watershed Protection Program share has $1 million or $2 million per year based on prior, you know, prior proposition that we have had. And it is a good idea for individual projects but not a program such as Enhanced Watershed Management Program.

Then we have the, obviously, the series of fees. As you know, the fees in California are subject to 218, 26 and other propositions, so those barriers have to be overcome. And they can be overcome, but all of these are long-term plans. It would not -- it would not bear any fruit. You know, next year, as -- as Renee mentioned that, you know, some of our deadlines is over the next four or five years by 2021. And some of these strategies would take longer than four or five years for them to bear fruit. So we need to have a short-term strategy for us to be able to implement.

So city -- city fees and taxes, you know, can be pursued, and we are looking at that. County-wide funding, you have heard my colleague Richard mentioned that a lot of cities did not support the Clean Beaches and Clean Water Initiative. But City of L.A., as you remember, you know, we were there and we testified before the County Supervisors as a support of that fee.

All of the -- some of these, you know, strategies would require, again, because of 218 a two-third approval of

the voters for 51 percent, 50 plus 1 vote of (inaudible) ballots from the city residents. And sometimes, you know -- well, most of the time it's politically, you know, challenging, and it takes time.

Now for the City of Los Angeles, I mentioned to you our Capital Improvement Program, a billion-and-a-half. If you want to pay that as cash, that would be $300 million per year. That's not how we operate our own financial at home. When we buy a house or when we buy a car we always, you know, go through debt financing, so this should be no different. But if you're trying to pay cash it does not make economic sense. So if we want to pay cash we have to raise our fee from $2.00 per month, that is going to go to $20.00 a month, and that would be a give increase; right?

But if you go debt financing and I have $100 million there which is a much easier number for me to wrap my brain -- my money around, as you would see that if you're talking about increasing the fee $2.00 per month to $6.00. And that's something that, you know, everyone can relate to based on the cost of living that we have or any -- any food, beverages or coffee that you have, that makes more sense in my mind explaining, you know, how the (inaudible) can be, you know, defunded.

And these are very fast. There's one more slide. I just go very fast. These are some of the out-of-the-box

ideas. All of these are leveraging resources. And we are pursuing them. We have obviously public-private partnership. And we actually have an example of each of these things that I'm going there. So we are working with a golf course, a private golf course, you know, to have a joint venture project.

We could have Joint Powers Authority, special district. All of these, again, takes time. We are pursuing that in Upper Los Angeles River.

Partnership with public agencies, those are the ones at county level or at any other level.

And then stormwater credit trading, this is -- this is the concept here that when a development can provide, you know, some credit and some development cannot comply the LID, they come and buy that on market. So there's studies of those, also, that we are pursuing, both private-to-private or public-to-private.

So that's the summary of the -- my presentation. That's the cost for the City of L.A., $7.3 billion. But as I told you, for the $100 million a year, $6.00 per month, that's what we are -- that's what I'm suggesting to start. And we have the CIP for us right now that we are sharing with the State Board regarding the State Revolving Fund. And we are pursuing all the traditional and creative out-of-the-box ideas, as well, and all of those would help. This

is all about a strategy where we need to have a secure source of funding.

I think that concludes my -- my presentation. Thank you.

CHAIR STRINGER: Great. Thank you very much. That was very informative.

Dr. Kampalath, hi.

DR. KAMPALATH: Good morning, Chair Stringer and Board Members. My name is Rita Kampalath and I'm the Science and Policy Director at Heal the Bay.

First of all, I wanted to thank you and the staff for holding this workshop today, and especially convening a panel to discuss this very important issue of funding.

I don't want to dismiss the very real technical challenges to stormwater management, but I think we can all agree that there's a lot of expertise out there on the technical solutions to stormwater issues, so much so that it's become clear that one of the major risks to achieving water quality standards isn't now about the technical solutions but rather about finding sustainable sources of funding to actually implement them.

With that, I'd like to talk briefly about what NGOs such as Heal the Bay, NRDC, L.A. Waterkeeper and others are working on around stormwater funding. So in brief, recognizing the enormity of this issue we've all prioritized

this goal. And our efforts range from working on current stormwater funding proposals, to getting stormwater capture incorporated smartly into other less obviously related measures, as well as more long-term ambitious goals.

In terms of current proposals, I'm sure you're all aware of Prop 1 Stormwater Guidelines being worked on at the State Board. We've been working closely with the State Board on this to ensure that this funding goes to truly multi-benefit projects. And that in particular water quality is recognized as a critical goal, not just water supply.

In terms of more long-term stormwater funding goals, as my -- as, you know, the other panelists have mentioned before me, we recognize, of course, that one of the clearest paths to a sustainable source of funding would be an actual stormwater fee. Some of you, I'm sure, were all familiar with efforts that were made around the countywide stormwater fee which, unfortunately, ultimately failed, so we would like to see this effort revived. And we're starting to work towards that by reconnecting with partners around this issue and using the numerous lessons learned during the previous effort to inform our strategy.

We're hoping that the path towards this goal will be an easier one this time, given the existence of plans like the EWMPs and DWP's Stormwater Capture Master Plan that

contain real multi-benefit projects proposed that people can get excited about, as well as factors like the drought which have made people more water conscious than ever.

Going along with that effort to some extent is the work that we're doing around Prop 218 reform. I know that Michael Lauffer will be speaking about this in more detail and I don't want to steal his thunder, but in brief, Prop 218, of course, requires that many local taxes and fees be approved by voters. Now on the face, of course, these appear to be reasonable provisions, but they've also hindered effective water planning and management. Having to go to the ballot box anytime rates need to be increased for vital services like water presents great challenges for local governments.

The proponents of Prop 218, of course, recognize this. And that's why drinking water and sewer services are exempted from those voter approval requirements. Stormwater, however, was not included in how water defined.

Given how far our understanding of the interconnections between water resources have really grown, even just in the past few years, that's probably not surprising. But it's unfortunate because, of course, this inability to raise stormwater fees has resulted in differing needed maintenance to our stormwater drain -- or to our

storm drain system and flood channels.

So as such we've been working as a part of a coalition of NGOs called the California Water Partnership, alongside a diverse group of partners, including other NGOs, water agencies and local governments to bring attention to the need for a constitutional amendment that would address the issues posed by Prop 218.

We were pleased to see the governor also take note of these issues in one of his recent signing messages. Governor Brown identified Prop 218 as, quote, "an obstacle to thoughtful, sustainable water conservation pricing and necessary flood and stormwater improvements." We're hopeful that the governor -- governor will serve as a leader in the coming year to address these issues.

So obviously these efforts that I've mentioned so far are at an early stage. And we understand that there are real resource needs now that will continue subtly over the next few years. I've heard this phrase frequently in reference to the stormwater funding issue that the solution will be a silver buckshot, not a silver bullet. In other words, it's probably not the case as, again, other panelists have mentioned that there will be one thing that answers all our needs. And so that's the approach we're taking, as well, to really look for all opportunities available to fund these projects.

To that end there are several measures we've been actively tracking and, in some cases, working to shape. One of these is the newly proposed LADWP rate increase. We're advocating that LADWP dedicate a portion of these funds to stormwater capture projects which can serve, of course, to increase local water supply in addition to the water quality benefits.

We've also been actively engaged in the development of two county funding measures which, again, while not specifically about stormwater, we feel have great potential as part of the overall stormwater funding portfolio which may be on the ballot as soon as next year. One of these is the so-called Metro Measure R 2 which will likely consist of a half-cent sales tax and is projected to raise around $90 billion over the next 45 years for various transportation improvements.

Where we come is as part of a coalition working on principles that we would like to see built into the measure in some capacity. Among other sustainability goals our coalition is pushing for Metro to include green infrastructure as a requirement for all projects funded by this measure. With a wide range of projects that this measure could fund the geographic scope, we're excited about the potential through this measure if it is indeed designed to smartly incorporate stormwater capture.

In a similar vein, the second countywide funding measure which we're actively tracking and working on is the new parts measure which, again, may be on the ballot next year. This measure is likely to consist of a parcel tax similar to measure P which was narrowly defeated last year. As we're all aware in this room, of course, in the L.A. Region where space is at a premium, parks are absolutely critical to stormwater management, serving as ideal locations for regional projects in particular.

So hopefully I think we'd all agree that spending money on improving existing parks or even building new parks without incorporating stormwater capture whenever possible would be a massive wasted opportunity, to say the least.

So within this mind we're once again taking part in the coalition, developing principles that should be built into this measure. We're again advocating that funding through this measure prioritize multi-benefit projects that smartly incorporate stormwater capture.

Another goal of ours is to encourage coordination among agencies so that as parks' projects are planned, water agencies in particular are brought in early in the process and that water resources needs are considered as part of the prioritization process. The county is actually currently working on a parks' needs assessment, and we are specifically working with them to incorporate EWMP priority

projects as part of these needs.

So in closing, that was a brief snapshot of what we're working on. There's obviously a lot of work to be done that will require broad collaboration and support, but also incredible potential outcomes if we achieve these goals.

So we're looking forward to working hard on these measures over the next few years. And I'd be happy to speak with anyone who is interested in hearing more details and, of course, working with us on these issues. Thanks.

CHAIR STRINGER: Great. Thank you. That was very helpful. And thanks for your leadership on these really important issues.

Mr. Lauffer, thank you for joining us on the front lines here.

MR. LAUFFER: Oh, I am absolutely thrilled to be back down here. It's been a long time. Good afternoon, Chair Stringer, Members of the Board and Staff. It has been too long since I've been down here. And I'm also very cognizant of the fact that I'm between you all and lunch at this point in time, so I will keep my comments relatively brief.

CHAIR STRINGER: Well, it's important to hear from you.

MR. LAUFFER: And I will say that, you know, I

think Renee has always done a good job pulling together a tremendous panel. And even though we did not have a lot of opportunity to coordinate, threads of everything I am going to say were woven through each of the panelists that proceeded me.

And I'm really going to just try to sum it up with a quick snapshot view of Proposition 218, just so that you can really appreciate, you know, how we got to the point where we're at now on stormwater funding, as well as talk about, you know, how -- how stormwater ended up shunted off and became a stranded utility. And then finally talk about, as some of the other speakers have alluded to, some of the efforts that are going on now to reform Proposition 218.

And I always hate to steal my own thunder, but I will say that my message is not one of tremendous hope, even if we get the changes that we want. When you see the challenges we face in the L.A. Region and around the state as a whole, even with significant Prop 218 reform, it's going to require tremendous commitment by our local agencies, the state, and most importantly by the voters of California.

I could probably sit down right now but -- so it's --

CHAIR STRINGER: That was less thunder -- that was less thunder and more a cold drizzle.

MR. LAUFFER: So I think a lot of people when they think about Prop 218 really don't stop to think that really it all started in 1978 with Prop 13. And I think Prop 218 is a logical consequence of Prop 13. We have a lot of very clever and crafty folks in the state who, you know, have a strong commitment to public service and are doing their best to get resources to folks. And when they see one resource constrained they obviously look elsewhere to try to serve their citizens.

And Prop 13 in its effort to limit general taxing abilities for both the state and the local agencies spawned a cottage industry of new ways to raise revenue to cover these essential services. And some of those were incredibly well meaning, and some of them rose the ire of voters. And 20 years after the passage of Prop 13 we saw Proposition 218 try to reign in the proliferation of new property-related fees that voters are paying.

I'd like point that out because I see a progression and I see a 20-year cycle occurring between major initiatives on some of these issues. And I think we're really at the -- the precipice of meaningful reform in a productive new way on property-related fees. And so that's why I think it's important to look at that -- that 20-year cycle between Prop 13 and Prop -- Prop 218 in 1996 and then see where we are now 20 years later.

And essentially Prop 218 represented a paradigm shift. Up until that point it was the governing bodies of local agencies that really determined what fee increases would occur and how those fee increases would occur. And after Prop 218 the voters really put the fee payers and the local voters front and center in making those determinations. It ensured that local agencies provided a notice at least 45 days before fees were to be increased, property-related fees, as well as provided a public hearing on them before the local agency could commence that property-related fee increase.

But there is then a little breakpoint between the two different types of paradigmatic fees that can occur under Prop 218. You heard those utilities that are not stranded, water, refuse and sewer. We call out and recognize that really you couldn't put every single potential fee increase for these essential services out to the voters. And so Prop 218 allowed a protest process for those fees to go forward. They still have to be noticed. But unless a majority of the owners -- or the fee payers object to the proposed property-related fee the fee can go forward. That's been a much more streamlined path. That's what has allowed water rates and trash rates to at least rise to meet the needs.

And a lot of folks at the time Prop 218 were

passed, you know, our Stormwater Program was pretty (inaudible) here in California. And we were weren't thinking about, and I don't think the proponents of Prop 218 were really thinking about water as a full service and that stormwater is intimately related to water service here in California, and that flood is likewise interrelated.

And so the language is less than artful. That's one of the disadvantages of the initiative process is it doesn't go through the fine tuning that legislation does. And then once it's actually in the constitution it's very difficult to change without another constitutional amendment.

And so as the Stormwater Program matured we had local agencies begin to try to pass fees in order to fund their program. The City of Salinas in 2002 faced a challenge from the Howard Jarvis Taxpayer Association for a stormwater fee that they had passed that was not related purely to the -- the parcel of land. It actually was relatively sophisticated as an early stormwater fee. It was tied to the amount of impervious surface on the parcels.

And the court, looking at the history of Prop 218 and the fact that there really wasn't anything out there to support or recognize at that time, and really the Water Boards really weren't talking about stormwater as a resource at that point in time, the court looked at it and said, you

know what, this is not like these other utilities. This is something different. There's nothing in the language of Proposition 218 or its history that says stormwater should be treated like these other utilities. And so the court said, no, the protest is not going to be available. Essentially, the voters have to vote on and pass the proposed property-related fee for stormwater before it can take effect. And so that's how we ended up with this stranded utility.

And cities, and many of them are in this room or at least their representatives are, immediately recognized the ramifications because this is coming a year after the L.A. Board adopted the 2001 Stormwater Permit. And there were significant efforts in the legislature over really a course of 12 years to get an amendment to the constitution before the voters that would essentially recognize stormwater as a true utility and put it through the more expedited process of Proposition 218.

Those efforts, though, really languished. I mean, nothing ever made it out of the legislature and was presented to the governor. As time passed between the City of Salinas decision and our current time, really the interest in pushing it, while it stayed strong amongst core constituency, no longer were the amendments getting introduced each year in the legislature, and they were not

even getting out of committee or even having a committee hearing.

But I'm optimistic now because we've had a real confluence of events over the last three years. And I think the municipalities have gotten much more sophisticated in terms of who good partners might be on these efforts. And you've seen the environmental justice community step up with concerns, companion concerns arising from Proposition 218 because it puts -- puts substantive limits on property-related fees, as well. Those property-related fees, you know, the fee paid by a parcel has to be proportionate to the benefit it receives. It cannot be general revenue generating. But it's that proportionality requirement that creates a whole cast of other problems that have come to the fore lately.

Affordability in California has been a huge issue. And with Proposition 218 there's an inability for local agencies to establish lifeline rates. For those of us who get our utilities through the Public Utilities Commission and pay your phone bills you are accustomed to seeing lifeline rates for those who can't afford that essential service.

In water our local public agencies cannot establish lifeline rates because of Prop 218. Publicly regulated utilities can. And the PUC often compels that

they have lifeline rates. So that's one push on 218 that's really evolved over the last five years.

The other push has come in the last two years with California's drought response. And I think this has really elevated some of the Prop 218 challenges so that Proposition 218 and its limitations are actually part of the public discourse, not just the discourse of well-connected local officials who are aware of the restrictions associated with it. But Prop 218 and its proportionality requirements have been held to limit the ability of local water agencies to establish conservation rate structures, a very common economic tool to promote conservation.

And while it is the position of our office and others within the executive branch that you can establish meaningful sustainable conservation rates even within the context of Prop 218, the proportionality requirements of Prop 218 make it much more difficult.

And then in the recent decision from -- involving the City of San Juan Capistrano's rate structures, the court's language in looking at this issue really puts, and this is now in the governor's words, a "straightjacket on local agencies" as they try to navigate that conservation rate need.

Now what was interesting is you actually had every major newspaper in California talking about the challenges

of Proposition of 218 and it being a barrier to successful water management in California, which is not the kind of public discourse we've been having in the realm of stormwater. While it's equally true, and you heard the prior panelists talk about 218 being a hindrance to effective water management, it was not something you would see on the front page of the San Francisco Chronicle, Sac Bee or L.A. Times until the San Juan Capistrano decision.

And so you have this confluence of events. You have a small cadre of folks who have been continuing to work on the stormwater issue, but now they're pairing up with other agencies and with groups who have historically not been involved in Proposition 218 issues. And I expect that in the next three weeks you will be seeing submitted to the attorney general, as all initiatives must be for a ballot summary and language, you will see language proposing to amend Proposition 218. And I can't go into all the details about that, but let me be clear about what the approach will do.

It is not going to open the bank for stormwater funding in California. It will really align stormwater with the other resources and recognize that stormwater is part of the full lifecycle of water, and that we can recognize and use it as a resource, and that that really should have the expedited funding benefits that other utilities enjoy.

It will provide some relief, lifeline rates and conservation rate structures, noting that those would be two reasons for potentially deviating from the strict proportionality requirements of Proposition 218. And I expect you'll see all this wrapped up, not in the context of what's known as Article 13(c) and Article 13(d) of the Constitution which is where taxing goes on, but elsewhere in the Constitution, Article 10 which concerns water, recognizing that water really has a special place in California.

So there's not a clear path forward for this initiative, let me very clear about that. I think that there's been a lot of really thoughtful work put into this. But ultimately it's going to be the voters who have to pass it. And voters like clean water, they like lifeline rates, and they like conservation rate structures. They would also very much like to decide on each of those issues one at a time so that they can make sure that they're managing their local agencies. So there's going to be a huge need to educate people as this initiative moves forward.

You heard reference earlier that the governor signed -- in a signing statement on AB 411 which is designed to address affordability of water. And the State Water Board and the Board of Equalization are required to prepare a report on affordability of water. But in his signing

statement the governor did call on -- or recognized the need for Prop 218 reform, recognized how it frustrates the efforts to manage water in California for flood, stormwater. It frustrates the ability to do conservation and lifeline rates.

But there is an important part of that signing statement that was left out, and that is the governor continues to believe that there needs to be adequate ratepayer protections. And the framework for that is already in 218. It's just stormwater needs to be recognized as being able to take advantage of that framework.

I want to leave with two -- two thoughts. First of all, I encourage everyone to pay attention when that initiative gets out. I think it's going to be very important for a sustainable water future here in California.

But there's also been a lot of talk about bonds. And, you know, one of the challenges, and there was a call for the governor to get engaged on this Prop 218 issue early, it's going to be a very busy ballot next year, put aside the presidential issues. There is already talk of and it's already on the AG's page of another water bond. That water bond would potentially include $1.5 billion for stormwater, which is still a drop in the proverbial bucket. But that would be a significant commitment for the people of

the state. In addition, we already have the $200 million from Prop 1. So it is, again, pulling all these different pieces together and working together.

The final thing I promised Renee that I would mention is there continue to be legislative efforts to work on funding stormwater. We already heard the discussion earlier this morning about L.A. County Sanitation District's new role in constructing projects for stormwater runoff and for urban runoff.

In addition, there was AB 2403 which has been discussed multiple times today. And while that works within the constraints of the existing Proposition 218 which creates essentially now, after the City of Salinas decision, this firewall between stormwater funding and other water utility funding.

What AB 2403 did was amend the Prop 218 Omnibus Implementation Act to at least provide for those agencies that have a water supply function, in other words, that already are performing a water service that would not be subject to the pre-vote of core requirements of Proposition 218. It opened it up for them to -- for the courts and for those agencies to recognize that they can tap all water resources in providing services to their -- water service to their citizens.

And to make it clear that if they are going to

fund stormwater capture projects that will supplement their own local water supply, that that would be an appropriate water service to fund under the utility provisions of Proposition 218.

So I'll leave you with that. It's a glimmer of hope, something that would make things a little bit easier for our local agencies as they seek to generate a sustainable revenue stream to do stormwater implementation. But it's -- it's not a clear, easy path. And as earlier speakers have said, it's going to take a mix of a lot of different activities.

And ultimately the most important thing I heard this morning was educating the voters. Because when you talk about those various issues that people like in reforming 218, conservation rates, lifeline rates, stormwater, flood control, the one that actually polls the worst is stormwater and it's simply because don't know what that means. And the one who do know what it means are concerned about it potentially being a giant hit where you would just keep pouring money without benefits.

Now the Enhanced Watershed Management Plans programs and the programs that are in the permit that you all adopted and the State Board upheld earlier this year provide a framework so that it's not a bottomless pit, so that there is a clear demonstrable improvement in water

quality and a fixed endpoint to it. But it's still going to take a lot of education so that our voters understand what stormwater is, why stormwater quality is important, and what the full lifecycle of water is in California.

Thank you.

CHAIR STRINGER: Great. Thank you, Michael. Are you and others on this Funding Panel, are -- are people planning on sticking around for the day or --

MR. LAUFFER: I will be around for a couple more hours, yes.

CHAIR STRINGER: For a couple more hours? Okay. I'm just thinking about questions. If there are a lot of questions I'd prefer to wait until after lunch. If -- if we just have a few questions then we could do it now. But after, okay, after it is.

So how much time do we need for closed session at the most?

MR. COUPE: I think we'll need at least an hour.

CHAIR STRINGER: We'll be back here at 1:30.

MR. COUPE: Well, let me make the closed session announcement.

CHAIR STRINGER: Okay. Please do.

CHAIR STRINGER: Items 12.4, Balcom Ranch versus the State Water Board and Los Angeles Water Board; Item 12.7, the City of Los Angeles versus the Los Angeles Water

Board; Item 12.2 which is ALCA Properties against the Los Angeles Water Board and the State Water Board; and finally, Item 12.16 which is Barclay Hollander Corporation against the Los Angeles Water Board.

CHAIR STRINGER: Great. We're going to work very hard to have a very efficient closed session and see you at right around 1:30. Thank you.

(Whereupon, Closed Session was convened from 12:36 p.m., Until 1:45 p.m.)

CHAIR STRINGER: Thank you, everybody, for your patience.

I have a very important question. Did anyone leave a backpack in the cafeteria? Security is here and is wondering if anyone left a black backpack in the cafeteria. If so, please raise your hand and go fetch it please. It's sort of like the airport, if you leave your luggage somewhere it's gone. Okay. Sorry. Apparently not.

(Colloquy Between Board Members)

CHAIR STRINGER: So we got everybody.

Before we close out the Funding Strategies Panel, I'd like to spend just a little bit of time giving the Board Members an opportunity to ask questions specifically on funding strategies. And of the panel members that spoke, I know that at least one of them needs to leave. And then we'll move into the next panel and comments. And then we're

going to have Board discussion when we're -- when we've got -- when we've kind of heard everything.

So on -- questions for the panelists on funding strategy? If it's possible to distinguish questions from comments and discussion, let's try to do that. We're just doing because people have to leave. Thanks.

So I think I'll start with you, Madelyn, because you seem the most prepared.

BOARD MEMBER GLICKFELD: Thank you. So --

CHAIR STRINGER: No offense, Maria.

BOARD MEMBER GLICKFELD: This is a general question to the -- to the two city representatives, I think it was Ken and Richard Watson. If you guys would come up. So is financing all about how to get money or is also about how to evaluate the costs that have already been coming up and how to reduce the costs that have already been coming up.

MR. WATSON: Well, first --

BOARD MEMBER GLICKFELD: Is it -- is --

MR. WATSON: -- apologies for Ken, he had to leave.

BOARD MEMBER GLICKFELD: Okay.

MR. WATSON: So I'll try to answer that.

We were not attempting to then evaluate the costs from the different WMPs or EWMPs. But what we are doing is

seeking ways to reduce the costs overall, and that's that source control component that I mentioned and that Renee mentioned. We do know that SB 346 has been very effective. And we do want to go after zinc in brake -- I mean in tires. One of the reasons for that is that CASKA did a study that showed a little less than 50 percent, maybe 45 to 50 percent of the zinc that gets in municipal discharges is coming from tires. It's -- zinc oxide is an acceleration in the vulcanization of rubber.

And Kelly Moran, who is a consultant that we use in CASKA, and I had a meeting with the Rubber Manufacturers Association three-and-a-half years ago, I guess, and we told them we were interested in zinc in tires. They weren't very interested in our interest in it.

BOARD MEMBER GLICKFELD: So this is -- this is a preventative.

But the question is: Is there any kind of a group of EWMPs, representatives from different EWMPs, trying to piece together these plans and see if there's duplication of costs, or are there better ways that we might look at order issues --

MR. WATSON: Well, there are.

BOARD MEMBER GLICKFELD: -- upstream and downstream?

MR. WATSON: There are a couple of cases where

there are groups working together. There are -- there are three cooperating WMP groups. I'm heavily involved in the Los Cerritos Channel and somewhat involved in the Lower L.A. River and the Lower San Gabriel. And we twice went out to save money by combining first the RAA contract, so we got one consultant to do all three, and then we just did it again with the monitoring, so we hired one consultant to hire the monitoring, handle implementation of the SIMPs for all three of those WMP watershed. So in that way we're working to cut down costs. And I can't say about other -- any of the EWMPs --

BOARD MEMBER GLICKFELD: Thank you.

MR. WATSON: -- because I'm not working on them.

BOARD MEMBER GLICKFELD: Thank you. All right. Well, then if there's going -- I have one question for Mr. Lauffer, then, as well. It's actually about two of them, actually two questions.

School districts; we have had a couple of schools come up and try to participate. L.A. Unified, mostly what they've done is try to compete for money with our -- with our cities. They -- we had -- as I recall, they are not under NPDES or general permits of any kind because the last tie we had to a general permit was in the middle of the great recession and nobody wanted to do that to school districts, which is understandable.

But are they -- is there any prospect for either your Board or our Board bringing them under permit and encouraging them, in doing so, encouraging them to partner with our -- our watershed groups and invest together?

MR. LAUFFER: So with respect to the phase two general permit, there is still latitude, and this is for the small municipal stormwater permit that the State Board issues as a general permit and then there are enrollees under it, there is still an opportunity for Regional Boards to designate local school districts under that permit and bring them under the stormwater program that way. And that permit will be up for renewal. So there's a designation process in place. And the larger issue of all school districts could be -- all schools could be reevaluated when the State Water Board reissues that permit. I think it's due up in 2017.

In terms of partnering and pairing up, there -- there are some areas where, and I'm thinking more in the Bay Area where some of the new schools are going in, the local communities have really looked and looked at, for example, the fields for those schools being a potential SUSMP approach that could be utilized to benefit and serve an entire regional solution. It's very committee, for example, in the Midwest to use the fields as -- as stormwater detention basins, basically, flood out. Nobody is going to

be playing at that point in time. And then they just taper off the water of they use it for recharge. So there are opportunities to have those discussions.

BOARD MEMBER GLICKFELD: So one of the problems that we have here is, in addition to the lack of interest, there's been active opposition by many school districts to allowing water to get onto their sites, and they are critical. In many of the areas they may have more open space than anybody does, so I think that's an issue. I would hope that the State Board would think about, how we can -- how we can engage with them to at least get them to feel that they -- we can handle liability issues for them so that they can participate. Because giving -- giving the opportunity to our dischargers to be able to use those for regional projects could bring cost down a lot if that was a partnership.

MR. LAUFFER: That's something I will talk to our Stormwater staff up at the State Board level and see what kind of connections they've been making out into the education community.

BOARD MEMBER GLICKFELD: And that's it.

BOARD MEMBER MEHRANIAN: I have a question.

CHAIR STRINGER: Okay. I just have a -- I'll just -- I'm going to ask a quick of you while you're there, Michael.

I think we all agree that education is really critical to succeeding on the funding front, because ultimately it's up to the voters. Do you have any thoughts or ideas about how to -- how to sort of initiate a coordinated education effort that really sort of starts to get people used to the notion of stormwater being a resource, and also its connection to water quality? But, you know, now that you've got people's attention on the drought, you've got people's attention on water supply, obviously, and stormwater's connection to all of that I don't think is really foremost in --

MR. LAUFFER: Yeah.

CHAIR STRINGER: -- most people's minds.

MR. LAUFFER: There's a lot of effort being expended right now. I mean, it's no surprise to anyone, we're on the precipice of what could potentially be a very water-rich El Nino storm-driven winter season. And there's been a lot of effort to try to figure out, how do we fine tune that messaging and really use this as an opportunity to start to educate people on the connections.

The Safe Our Water campaign that is largely run by AQUA (phonetic) with a lot of support from the Department of Water Resources and others, my understanding is they're going to be taking a few pages live (phonetic) in this specific area to talk about those connections so that people

are thinking about stormwater as a resource that helps them. Even if they're not storing it behind a dam, it's a resource that helps them for sustainable local water supplies. The California Water Foundation has already embarked on an initiative in this respect.

So, you know, I don't have a silver bullet on this. I don't even have, what was it, a silver buckshot on this. But there are a lot of people who are very good at communication, it's not -- happen -- it doesn't happen to be one of my strengths, who are looking at how do we effectively get people to understand the connections. There's been a lot of progress made but there's a long way to go with the typical voter.

Your communities down here in L.A., the -- the city managers and the stormwater program staff, have come a phenomenal distance in the last 15 years. Now it's taking it that one step further out into the -- the citizens that all of them serve.

CHAIR STRINGER: Okay. Sure. Yes.

BOARD MEMBER DIAMOND: Michael, I have a couple of questions. You talked about having stormwater become part of the conversation as a full -- the full part of the lifecycle of water, and that's part of the education. And you talked about an initiative, potential initiative.

So I guess one of the questions I have is the

governor was -- was really a leader on Proposition 1. Have you heard of any -- any potential leaders in this area, whether it's -- it's Assembly Member Rendon or the governor or anyone?

MR. LAUFFER: Yeah. I wouldn't want to get in front of anyone. I think at this particular point in time when we're a year out from the general election it's obviously early for the governor. But I'm just heartened by the fact that, you know, in signing statements he's actually recognizing the challenges that local agencies face with Proposition 218. And I, you know, I think we'll be well into it before we see the statewide elected officials really start to figure out, you know, how does this fall in and fit relative to some of the other priorities we'll see next year. But there have been a number of legislative members who have stepped forward to indicate they'd be willing to carry something in this regard.

I referred to the California Water Foundation. And, you know, one of the challenges on Prop 218 is, you know, the biggest advocates for it for, you know, maintaining appropriate voter or ratepayer protections while at the same time providing enhanced flexibility are local agencies. And that's about one of the worst entities to have trying to get an initiative passed because they don't have deep pockets to fund an initiative effort.

So they're, you know, trying to partner up with folks who understand the importance of this. And the California Water Foundation, I think, may very well end up being a leader once the initiative is actually released. And maybe offline I can talk to you about some of the members that have been discussed as potential -- that have expressed an interest in Prop 218 reform.

BOARD MEMBER DIAMOND: And one other thing is that -- and this could be part of, maybe, part of the educational aspect of it that you were talking about is that so much of our water, a good part of our water portfolio was imported water which is so expensive. And there, I mean, there has been a lot of talk about, you know, well, what if we -- what if the wholesalers who are -- who are paying money for -- to bring us imported water give us credit for any water that we -- local waters that we have here, including stormwater, that we're allowed to store or infiltrate. Is there any talk about that? Because that would be part of the -- you know, an educational process for voters. Like we could be saving -- if there's -- there are savings to be had from stormwater capture and reuse.

MR. LAUFFER: Yeah. There are certainly plenty of folks who are starting to talk about that. I mean, you know, no one is going to give up their imported water supplies. But it is part of -- and I talked about the

synergy with the drought. I mean, it's at times counterintuitive to talk about the storm events that we may see this winter as anything other than the drought goes away. I mean, part of our message is, you know, this is part of what we will need for sustainable local supplies.

And so that -- that kind of dives into what you're talking about there, Ms. Diamond, in the sense that we really will going forward have to talk about this as stormwater is essential for sustainable local supplies. And, you know, I can't say that I'm aware of any specific conversations on wholesalers down here looking to stormwater as a potential solution.

But there's been a lot of talk in Sacramento about legislation, I don't think we've actually seen anything make it in print yet, but a lot of talk about what legislation could facilitate those kinds of connections and encourage those kinds of, for lack of a better word, markets going forward. I don't think, at least right now, you'll see situations where say a wholesaler like MWD is going to be directly funding stormwater projects. But you could see, with some of the things that people have been discussing, a viable market set up where they would be able to tap the benefit and essentially provide remuneration to those agencies that have invested in stormwater infrastructure.

BOARD MEMBER DIAMOND: Thank you.

BOARD MEMBER CAMACHO: I think a couple of the questions were asked that I was interested in.

One thing is when we are, and maybe this is for Staff, so I don't -- you can pass it Staff, that's totally fine, but in the presentation that was received there was discussion of capital costs, right, over 25 years. And is there also an ability to add in an analysis like a cost benefit analysis; right?

So kind of like what Board Member Diamond was saying is if we are saying it's going to cost this much over 25 years for this -- these projects, what does that mean from a savings perspective or what does that mean from, you know, our ability to create more local water supplies, or what we're doing to benefit these other things? I mean, is that part of the analysis? Because if we can add that into the analysis then those are the talking points that we can add or use for discussions with the public. But it's like, look, stormwater capture system and these projects are actually allowing us to save X amount of millions of -- billions of dollars over 25 years, like those are like the strong points. But I think if it's like here, it's raining, and we're rushing however many millions of gallons of water down the L.A. River to the ocean --

MS. PURDY: Uh-huh. Uh-huh.

BOARD MEMBER CAMACHO: -- and we're in a drought

and --

BOARD MEMBER DIAMOND: -- Right

BOARD MEMBER CAMACHO: -- but it's raining.

So how can we talk about costs, but also talk about the cost benefit analysis and kind of wrap that in together?

MS. PURDY: Yeah. I think that's a very good question, and it's not something that has been done yet. I mean, there's -- there are a lot of challenges associated with that. And it also harkens back to a comment by Board Member Glickfeld about the monetization of stormwater and the fact that that is an important piece to all of this, to -- to really recognize that stormwater does have a value to augment local water supplies, increase our local water supply resiliency. And we haven't really, I feel like at least to my knowledge, we haven't really cracked that nut yet in terms of really definitively saying, okay, we know this, you know, this amount of stormwater has this value and start to look at those monetary benefits.

And then there are other monetary benefits that, you know, that could be derived as well. But a lot of the benefits that we're talking about sometimes in terms of recreation, habitat, open space, greening of our urban areas, a lot of times those are non-market benefits that are hard to value in many cases without doing detailed surveys

of, you know, people's willingness to pay for these various community benefits.

So it's a very good point. I don't think, unfortunately, we haven't gotten to that point to really quantify in a monetary way the benefits of these projects, but I think that that would be a good conversation to have. And one of things that -- I heard somebody mention this earlier today, and I know I've mentioned it to you before, is there's a Statewide Stormwater Strategic Initiative, which has been renamed STORMS, that's going on. And part of that -- that whole strategic work plan is, one, looking at the value of stormwater. It's also getting at the issue of education and messaging and raising awareness about the importance of the stormwater management measures and WMPs and EWMPs and their implementation.

So I think there is increasingly a focus on trying to educate people about the importance of this and of those additional economic benefits that can be derived from doing these types of projects, to start to think about that as a way of couching that, yes, there are these capital costs, but we're also getting these economic benefits. But, no, unfortunately that hasn't been actually quantified yet.

EXECUTIVE OFFICER UNGER: But can I add that, too? I think there's an opportunity for us to possibly reach out to the -- some of the permittees and other stakeholders to

at least sort of scope out what type of an analysis it would be. And we could probably bring that to you, I would say possible discuss it at the retreat in January if it's feasible to do so, those types of things. But I think we could at least start trying to scope it out and consult with some of the people who have spoken with you today and try to put -- put a little bit of framework of sort of how much work it is and, you know, how we can get it done.

BOARD MEMBER CAMACHO: Yeah. I mean, I just think it's so important. Because those are the facts that people remember, whether they're members of the public or legislators; right? I mean, that's what makes them like, oh my god, okay, wow, I'm in.

MS. PURDY: Uh-huh.

BOARD MEMBER CAMACHO: -- whatever that is.

MS. PURDY: Uh-huh. Uh-huh.

BOARD MEMBER CAMACHO: I think --

EXECUTIVE OFFICER UNGER: Can we bring that to you at the retreat possibly?

BOARD MEMBER CAMACHO: That would be awesome. Yeah.

EXECUTIVE OFFICER UNGER: Okay.

BOARD MEMBER CAMACHO: I would love it.

EXECUTIVE OFFICER UNGER: Thank you.

BOARD MEMBER CAMACHO: And I think one other

comment is just in knowing or hearing really the foundations, the philanthropic community is very much wanting to be at the table. And especially in Southern California, it sounds like there are more and more foundations here that are like, oh, water, right, environment in the L.A. area, oh, we should be a part of that discussion. It's more prevalent in Northern California. In Southern California the foundations that I've been interacting with are definitely more and more interested in the environment. And water, obviously, is a very important topic.

So I think whether it's the California Water Foundation which is obviously fantastic and led by Lester Snow, and there's other -- you know, L.A. In Sync, and Southern California Grant Makers, and the California Communities Foundation, and they just launched a 100-year initiative. And I think that this topic could be of interest to these foundations. And maybe there are grants that they would be willing to give out and/or be brought to the table at least to be educated on the topic of the environment, and specifically water.

And so I don't know how there's a way to bring the community and the -- and the stakeholders that we're working with in front of the foundations, which I know you and I have talked about --

MS. PURDY: Uh-huh. Uh-huh.

BOARD MEMBER CAMACHO: -- and Board Member Diamond. But I know -- it sounds like there's a page on our website now that we're going to be possibly adding, I think you had mentioned, on the top of --

MS. PURDY: Right, for financial assistance.

BOARD MEMBER CAMACHO: -- for financial assistance.

MS. PURDY: Right.

BOARD MEMBER CAMACHO: So I don't know if there's a way for them to plug in or -- I don't know. I'm just --

MS. PURDY: Uh-huh.

BOARD MEMBER CAMACHO: I've just heard so much about the interest of the philanthropic community and getting involved in this topic.

MS. PURDY: Uh-huh.

BOARD MEMBER CAMACHO: And I think now it's -- it's that time, it's like the momentum is there and how can we utilize and leverage the abilities for us to kind of run in that direction? So --

MS. PURDY: Right.

BOARD MEMBER CAMACHO: -- I don't know. It's just more of a comment. And I'm happy to help try to orchestrate along with the various community and stakeholders. And maybe there's a way for us to hold, I don't know, like some

kind of discussion on it because I think it's really important.

MS. PURDY: Yeah. I think that that's a really good point. And I don't quite know how to go about doing that either myself. But I think if we can find out if there's a way for the Board to help facilitate those connections to see what opportunities might be there, that would be fantastic.

BOARD MEMBER MEHRANIAN: I have a question.

CHAIR STRINGER: Yes. Absolutely. Yeah.

BOARD MEMBER MEHRANIAN: Michael Lauffer, I have a question for you. I'm sorry I missed you when I had the turn. I was excited about the second water bond. And I wanted to -- and I don't want to get ahead of ourselves, but one of the issues that happened is that like the stormwater guidelines for accessing the funds were kind of delayed until this December. And in the light of -- you know, if we have the rains and we're kind of behind, and I know that the little cities were really, you know, eager to start that.

And yet, so if there is a second bond, first, I wanted to know structurally if it's the same and if the same regulations will apply? And it might not be clear yet, but I hope that it's not -- if it's not we make a point about that.

MR. LAUFFER: So first, in defense of the State

Water Board on the current guidelines, because they actually -- the Board has it's -- Division of Financial Assistance has done an exceptional job getting the bond guidelines out. Unfortunately, on the stormwater guidelines it was the one guideline that kind of go back-ended in. It was not exempted or required in the bond itself, but there was a piece of companion legislation that went forward that required it and then didn't provide the administrative streamlining that the other bond guidance documents received, which was unfortunate.

But it is on track. And, you know, I think it's pretty clear from some of the presentations we heard up at the State Water Board recently that the L.A. cities are going to be in a much better position than just about anybody in the state to compete for that $200 million pot of money.

But looking at potential future bonds, which want to temper everyone's expectation. We have language that's been submitted by a sponsor to the attorney general's office. That's a long way from, you know, the voters voting on it.

BOARD MEMBER MEHRANIAN: Sure.

MR. LAUFFER: There actually are eight different versions of the exact same water bond before the -- well, I shouldn't say the exact same, eight different versions of

that water bond. All of them feature $1.5 billion for stormwater. And as written it would bootstrap off the guidelines that are to be adopted by the State Water Board. So it would essentially allow things to move immediately using the existing guidelines. So --

BOARD MEMBER MEHRANIAN: Paid by tax hikes.

MR. LAUFFER: There would not be that -- that startup process next go around.

BOARD MEMBER MEHRANIAN: Wonderful. That's what I wanted to know. Thank you.

CHAIR STRINGER: Great. Thank you very much.

With that, if everyone is okay, I think we will move forward to the next panel.

So, Renee, did you want to briefly introduce it or -- again or we can just roll into it right now?

MS. PURDY: I can, though I think Sam is going to do that. So --

CHAIR STRINGER: Oh, great.

MS. PURDY: Well, I think I'm just --

CHAIR STRINGER: Okay.

MS. PURDY: -- turn it over to you, Sam --

CHAIR STRINGER: That's great.

MS. PURDY: -- because Sam is going to start with some remarks and some introduction. And then he will be followed by Ivar, and the two of them will introduce the

other panel presenters.

CHAIR STRINGER: Fantastic.

EXECUTIVE OFFICER UNGER: Thank you, Renee.

And good afternoon again, Chair Stringer, Members of the Board.

So we're here to kick off the Reasonable Assurance Analysis Panel today. And really one of the key issues, both in Staff's review of the Enhanced Watershed Management Programs and in the petition in the Watershed Management Programs is the Reasonable Assurance Analysis and the water quality modeling that has been submitted in support of the RAAs that were submitted. This analysis is required by the permit and it is a major differentiator between the present 2012 permit and the previous 2001 Stormwater Permit which relied solely on an iterative approach with no methodology specified to guide implementation of BMPs to attain water quality standards. The 2012 permit requires that a Reasonable Assurance Analysis be conducted by permittees to guide their selection of BMPs that they propose to implement.

Because the Reasonable Assurance Analysis is new it's not surprising that it has been scrutinized by stakeholders and permittees alike. However, the RAA -- the RAA methodology is not unfamiliar to the Board.

Next. I think it's -- my slides may be out of

order again. Here we go.

The RAA methodology is not unfamiliar to the Board or to Board Staff because it is the same methodology that is required for the development of 52 TMDLs that have been adopted in this region. The TMDL methodology is technically sound and established in the Code of Regulations, Federal Regulations, and consists of six basic steps: First, assessment of water quality in the water body of concern; identification of pollutants; the water quality -- a statement of the water quality targets or standards that apply in the receiving waters; the source analysis, that is where are the pollutants coming from; the linkage analysis which is key, that’s actually the water quality model that ties the pollutant loading to the water quality in the receiving waters; the wasteload allocations and load allocations. Finally, for our TMDLs we also include, per state regulations, the implementation plan.

The key component of the Reasonable Assurance Analysis are two numeric quality -- numeric water quality models, the WMMS which means Watershed Management Modeling System, and the Structural BMP Prioritization and Analysis Tool. WMMS was developed by the County of Los Angeles with funding by the USEPA. And the Structural BMP Prioritization model called SBPAT, SBPAT was developed by the city -- primarily by the City of Los Angeles and Heal the Bay. In

this workshop we intend to provide you with an overview of the scientific and technical bases that underlie the water quality models and discuss how these models were used in developing the EWMPs. The workshop will demonstrate that the RAAs that have been developed are rooted in sound scientific principles and a wealth of data that are available to model complex hydrology -- hydrology of Los Angeles and the pollutant transport and fate.

After I provide a brief overview of the scientific principles underlying the Reasonable Assurance Analysis, Ivar will discuss the data that are available to support the pollutant load reductions for these proposed BMPs.

We will then turn the presentation to Mr. TJ Moon of Los Angeles County Watershed Management Division to discuss the development of the Watershed Management Modeling System for Los Angeles County. The model is one of the most comprehensive, robust and detailed water quality models in the United States, and Mr. Moon was instrumental in its development.

After Mr. Moon, Ken Susilo and Dustin Bambic will discuss two approaches that were used in developing the RAAs.

And we will then open it up to discussions and questions.

So next slide please. One back. Two. Two back

please. There you go.

The RAAs are based on two well accepted scientific principles. First is the hydrologic cycle, and the second is the principle of mass conservation which applies to most of the pollutants and how they affect the chemical composition of our waters.

The underlying scientific is the hydrologic cycle as shown on its well-known depiction as published by the United States Geological Survey. All of the processes which govern the movement and phase changes that water undergoes as it cycles through our environment are shown here. And this is well accepted by the scientific community. This diagram has been around for decades. It shows the key media, including the atmosphere, the ocean, land surface, and terrestrial and subsurface waters which are also known as groundwaters. The slide depicts how water moves between these media and accounts for changes in water quality as it is -- as it is altered by physical processes such as precipitation, runoff, evaporation, infiltration, etcetera.

The second technical principle that is at -- excuse me -- that is at the core of the RAAs is the principle of mass conservation which was actually discovered as far back as 1785. Applied to water quality this basic principle states that the pollutant mass will not be created or destroyed by chemical reactions absent physical

alterations. Thus a fundamental assumption of the RAA is that chemical pollutants that are discharged into the MS4 system and reside in the MS4 system are mobilized into and through the MS4 and are discharged into the receiving waters. The principle of mass conservation does not apply to bacteria, and the modelers will describe their approach for that pollutant.

From these two fundamental understandings of the hydrologic cycle and the principle of mass conservation the key task was to apply this model to our region. The task entails specifying the magnitude of each of the water cycle processes. The processes include quantification of meteorological data, climate data, runoff data, water quality data, and associate these data with descriptions of the watershed, that is elevations, perviousness and imperviousness.

In Los Angeles County this description includes a number -- a numeric catalog of factors such as elevation, the permeability of soils, and geographical representation of the storm drain system. Such features include depictions of our steep upper watershed and our flatter highly-urbanized impervious lower watershed. TJ Moon of Los Angeles County, as I said earlier, will provide a more comprehensive discussion of the factors included in the model. And we also have a long and robust record of

precipitation patterns, climatological data, and intensity of rain that have been incorporated into this model.

The 2012 permit provides a far more comprehensive view of water quality data than was provided in the previous permit.

I'd like to skip ahead a couple of slides please, real quickly. What this -- one back please.

What this slide shows is in the 2001 permit where you see those, I think seven stars, those were the mass emission monitoring station. And that essentially encompassed the entirety of the modeling -- or, excuse me, the monitoring that was done under the previous permit.

Next slide please.

This slide depicts the number of monitoring sites in the -- in the current permit as well. As you can see the present permit will provide robust data throughout the watersheds, and it includes both outfall and receiving water data. Water quality data are important not only for building a model, but also to calibrate and validate the accuracy of the model. The permit requires that the watershed management groups update the model during the life of the permit as monitoring data are generated.

So with that basic fundamental understanding of the scientific principles underlying the work that was done, I would like to turn it over to Ivar who will inform you

about the BMPs and the data that are available to estimate their effectiveness in volume capture and pollutant load reduction.

MR. RIDGEWAY: Thanks, Sam.

Good afternoon, Chair Stringer and Board Members. I'm Ivar Ridgeway, Unit Chief of the Stormwater Permitting Program. And I'm here to present a brief overview of the International Stormwater BMP Database as it relates to the Reasonable Assurance Analysis requirements in the L.A. MS4 Permit.

I'd like to point out that since the 2010 Ventura MS4 Permit was adopted all subsequent MS4 permits have included onsite retention as the preferred -- as the preferred approach for implementing BMPs to comply with the new and redevelopment provisions in the L.A. MS4 Permit.

The EWMPs also feature a retention approach but on a lager subwatershed-to-watershed scale. This is important because several EWMPs rely on assumed pollutant load reductions from the implementation of the new and redevelopment, excuse me, provisions in the L.A. MS4 Permit, along with those achieved -- the reductions achieved from distributed and Regional BMPs.

The International Stormwater BMP Database provides key data used in the RAA process. The database provides effluent water quality for a wide range of BMPs which can

assist permittees in selecting upstream BMPs to comply with water quality-based effluent limitations and receiving water limits. The RAA guidance document developed by Regional Board Staff used the database to provide suggested BMP performance parameters for empirical-based stormwater models. Information added to the database subsequent to the permit adoption includes the addition of more data -- BMP data points, a study that analyzes the volume reduction achieved with the implementation of bioretention BMPs, and the new performance summary of effluent water quality achieved with proprietary BMPs.

There are two other issues of note I'd like to mention. The International Stormwater BMP Database is now home to the National Stormwater Quality Database which contains over a decade of outfall monitoring data collected throughout the country.

A second issue I'd like to mention is the Southern California Monitoring Coalition is ready to kick off a LID BMP Effectiveness Project. The project will likely include LID BMP monitoring and assess runoff volume capture of various types of LID BMPs.

At this point I'd like to turn over the presentation to TJ Moon from the County of Los Angeles to discuss the county's WMMS model, followed by Ken Susilo and Dustin Bambic who will discuss two different RAA approaches.

CHAIR STRINGER: Great. Thank you.

MR. MOON: Good afternoon, Chair Member Stringer and Members of the Board. My name is TJ Moon. I'm with L.A. County Public Works. I work for the flood control district. And I'm here to tell you about the county's Watershed Management Modeling System.

Before I begin let me just tell you a little bit of a brief history about myself. About eight years ago I got recruited to Watershed Management Division to work on this specific project. That was -- we hired a consultant. It was a $2 million project. We started in 2008. We finally published the software in 2013. So I've seen it evolve from an idea back in 2008 to what it is today. And what it is, it's really a great tool for decision makers to have to make cost effective and wise decisions about stormwater and stormwater quality.

So like Mr. Unger said, what are we modeling? We modeling the water cycle. And the key -- the key point of it is it's conserved. The water is either in the groundwater, it's in the stream, it's in the -- it's in the clouds. The amount of water doesn't change. So that key component of water makes it really easily modelable and we can actually use mathematical formulas to model water.

And so here's what the flow chart looks like. It looks a little complicated, I know. But all -- all it is,

is you're just adjusting parameters to tell the water, hey, I want you to -- I want more water to go into the groundwater because infiltration rates are high, or I want more water to go into the clouds because evapotranspiration rates are high. So it's just a matter of adjusting parameters to match what's actually happening in real life here in Southern California, so that's -- that's what we've done.

And modeling is not new, like Mr. Unger said. We've -- we've used models to develop many TMDLs. This is just a list of some of the TMDLs. And so models were used because we don't have monitoring data everywhere. And so we need a representation of what's going on, so we have to use models in certain situations. So it helps us make good decisions. And the district has built upon these models. And what we've done is we've added all our data, we got more data from other sources, and we're trying to make the best model possible.

So let me just tell you a little bit about our process. Like I mentioned, a key component of a good model is having good data to work with. And so the Flood Control District, we've been operating for over 100 years so we have a ton of data, reservoirs, stream gages, rainfall. And so when we first started on this project my first task was to gather as much data out there as possible.

So I'm just going to share with you some of the data sources that I was able to use. We're talking about the entire L.A. County that we modeled, right, 2,655 subwatersheds, they're about 500 acres each, 941 reach segments. This is over 3,000 square miles that we modeled, and they're very unique watersheds from Santa Clara, Malibu, to the urban watersheds of L.A. and Ballona Creek. So we had to deal with very different types of watersheds in a very large area.

We scoured every single rainfall gage that's out there nationally or locally. LADWP had some rain gages. We found 448 rain gages just in the L.A. County area alone. And out of these we selected 148 rain gages because they had the best available data, they had the most recent data. So we decided to use these 148 rain gages to incorporate them into our modeling system. And we performed the same process for 17 evapotranspiration stations, as well as throughout the county.

The major breakthrough in our model development was the land use representation. The county, we had access to the County Assessor's database. And in that assessor's database there's a little field for what type of land use that parcel is, for example, it could be single-family residential or multi-family residential. And what we did with that data of that information was we created a GIS land

use based on that assessor's parcel information. So our land use representation is a parcel-level representation. So we have the impervious and pervious percentages for a parcel-level representation. So you see all those lines? Those are all small streets. You have the major streets. And it's an incredible resolution. It's unheard of in any stormwater model nationally. And we were able to create this in our stormwater model.

However, L.A. County, it's very complex. There's a lot of manmade structures that input water or take water out of the water cycle, and we need to account for these structures as well, there's dams, there's spreading grounds, there's wastewater treatment, there's industrial permittees. We incorporated all the dams and spreading grounds because those are Flood Control District facilities and we had data -- data on that. I contacted all the wastewater treatment plants in the L.A. Region and we got their data. We were able to incorporate them. We were also able to incorporate some industrial permittees, as well, because like I said, they input water or they take water out, so that effects the water cycle and that's what we're trying to model.

So we talk about calibration a lot. And what is calibration exactly? L.A. County and also SCCWRP, we have done some land-based monitoring. So we find a homogeneous

land use and we monitoring that land use to see the differences between different land uses. And then we compare that real monitoring to our modeling.

And so this is an example of the -- it's a watershed. It's a watershed in the Santa Clara River. Essentially, it's a mountain. It's a vacant mountain land use. But we have land use data for vacant mountain land use. And so what we are able to do is compare our modeling results to our actual land use sampling, and what we do is we adjust these parameters in the water cycle until the modeled and the observed data actually matches.

And here's some of the results. As you can see, the -- the blue dots are the observed flow and the average -- the model flow is in the orange, and for the most part they match. They're within ten percent, as stated in the RAA guidelines as being acceptable. And this is what we did for every single different type of land use. We -- we get real data, real observed data, and we compare it with the modeling and we make sure the model matches the real data.

So once we do that we can validate the model. This is an example in the L.A. River where you have many different land uses in the L.A. River. So once we calibrate each single individual land use we validate that to see how that works when you have a mix of different land uses. And

here's the results of the L.A. River, again, the modeled, when the orange matches fairly closely to the observed.

And we also do that for pollutants. Again, we have a lot of pollutant data from the county. We've been monitoring all the mass emission stations. We got monitoring data from SCCWRP. And we're able to adjust the parameters of the model to match the pollutant data that we actually sampled.

And so here's an example of a zinc loading map that I created for the county. As you can see, once we calibrate all the water quality parameters we can generate heat maps such as this. This helps us prioritize certain areas. We know where to put our BMPs. The model is a cost effective tool to help -- help decision makers know where to place BMPs, how many BMPs. That's essentially what -- what this model does.

We've been using the model for many years now. In 2011 we developed four implementation plans using the WMMS. And since that time when we released it we've updated all the reservoir and dam information. We contacted the Army Corps. We got all the dimensions of the Army Corps dams in Los Angeles. We updated all the spreading grounds. We updated the rainfall data. We got all the water quality data. We provided it to all the EWMP groups so that they can accurately calibrate the models themselves. And our

WMMS model was used for 9 of the 12 EWMP groups.

Again, it's -- it's a major breakthrough in stormwater compliance because I've gone to different stormwater conferences throughout the state and there's no model quite like our models that we've developed here in Los Angeles County. I mean, it doesn't come close. The resolution, the scale, the amount of data we have, the amount of information we have, I mean, nobody comes close to what our models can do here in Los Angeles.

And so we've created this model and we thought we were just going to use it for, you know, TMDL compliance or MS4 issues. But what we've realized is we made such a good tool that other agencies want to use it. The U.S. Bureau of Reclamation is using the WMMS to do a climate change study in the L.A. Basin. And what they're doing is they want to see how Los Angeles responds to 100 years of future precipitation. So they actually used their model, came up with theoretical rainfall for 100 years, and they ran our model.

The L.A. Department of Water and Power also used our model for the Stormwater Master Plan. And also UCLA and the Pardee Rand School are also using our model for their research and sustainability issues in the Los Angeles Region.

So in conclusion, these models, they're well

vetted. They're based on a lot of data. They're based on a lot of information. They're calibrated well. They're validated. They're an incredible tool for decision makers to use to make wise decisions regarding stormwater model. The results can be trusted. And we believe this is the future of stormwater compliance.

Thank you for your time.

CHAIR STRINGER: Great. Thank you very much.

Ken Susilo? Apologies for -- if I mispronounce your name.

MR. SUSILO: No, that was well done.

Good afternoon, Chair Stringer and Members of the Board, Staff. My name is Ken Susilo. I am a principal with Geosyntec Consultants based here in Los Angeles. Today we're going to talk a little about Reasonable Assurance Analysis specifically for bacteria.

So by way of introduction, the -- the question of bacteria really becomes relevant in a lot of the Santa Monica Bay Watershed. So what you see there are the EWMP groups that are impacted. There's 13 entities that have been -- that are under the Bacteria TMDL, about 180 square miles. And the purpose of these bacteria-driven EWMPs is to really attain and protect the recreational and beneficial uses. The purposes of the Reasonable Assurance Analysis, as you know, is to provide reasonable assurance that the EWMP

is an appropriate basis to establish compliance. The purpose of my presentation this afternoon is to demonstrate the validity of the Bacteria Reasonable Assurance Analysis approach.

So I need to start with some baseline assumptions to -- you know, so that we're all starting at the same place. We talk about recreational beneficial uses. Fecal indicator -- fecal indicator bacteria is the indicator that we're using to establish human health risk. One of the interesting concepts here when we talk about bacteria is the reference watershed approach.

So the Arroyo Sequit Watershed at the border of Los Angeles and Ventura County is the reference watershed. And the key metric here is given the -- the recreational and beneficial use, how frequently is that beneficial use lost? And so that's manifested in terms of exceedance days which is different than, you know, a conventional modeling criteria. And it's important that we understand that that's really what we're talking about here. It's a 17-day criteria, that is this reference watershed, you know, a pristine watershed in terms of a basis for evaluation.

There's not an expectation that we're going to improve upon nature. And there is an understanding that even in a natural watershed there are natural exceedances of our recreational and beneficial uses standards. So that's

really what we're trying to hit is what is that reference watershed.

There's also recognition that there's an antidegradation consideration. There are some coastal watersheds. We saw what they looked like. They're already essentially in compliance. We need to make sure that the implementation plan and the program does not make anything works and it actually improves things.

And as Ivar talked about, one of the tools that -- that we would be using in these analyses is the SBPAT model. It is specified in the permit as something that's been looked at. It's a public domain open source. You know, you can go to www.sbpat and take a look at download the source code and take a look at all the -- all the ins and outs of it if there's interest, developed by Heal the Bay, the city, County Public Works, funded by the Regional Board, the State Board, as well as many of the participating agencies.

So I'll kind of walk through some of the basics of the RAA approach. We start with sort of a characterization of the watershed and the water bodies. We understand what our priority pollutants are and what are MS4 system is, the Municipal Separate Storm Sewer System. Then we pick our model. And so in this case we're using the SBPAT model and collect the data. And these are critical points, the calibration and the validation of that model. And the

linkage of exceedance days to loads is going to be an important thing that I'll talk about in a second.

The first step is to estimate what that reference load is. So what are seeing at the Arroyo Sequit, at our reference watershed, and then where are we today in terms of loading and what is the difference there? That difference is what we're calling the target load reduction. That's where need to be as we do our analysis. So you can think of the -- the reference load as our finish line and our current loads as our starting point. And, you know, we're starting our race to the finish.

So how do we get there? Is, you know, watershed control measures, best management practices, BMPs, call them what you want, there's major categories of structural and nonstructural in terms of bins that we're putting them in here. They each have estimated performance. Ivar talked about the International BMP Database as one method of doing it. Obviously, if you're fully capturing and infiltrating you're moving 100 percent of those pollutants. Then there's -- and then that's sort of a generic how these BMPs perform.

Then you look at where are they, how big are they, and what can you actually get in relation to the MS4 system. And that's where have our estimated load reduction. So the idea is we take the target load reduction, the estimated

load reduction after we implement the plan, and then that's where we get to our compliance.

So TJ talked about data sources. They're an absolutely critical part of any model analysis. And the key -- and one of the key things is to use all of the best available data that you can.

So one of the things that you'll see there in the upper right is -- it's one of our subwatersheds and it's sort of color coded. And it really highlights a relative frequency of exceedance of this recreational standard, of the fecal indicator bacteria standards from each of these watersheds. So one of the things that we wanted to do is really incorporate what we're seeing there in terms of monitoring to fit into our conceptual model as a basis for our RAA. So the -- the bright red is the -- this scale, it's all relative, is sort of the higher percentage of exceedance. And then the dark green there is basically antidegradation watershed. So that's sort of a range of -- of what the monitoring data show us.

Land use EMC, so the event mean concentrations or the amount of pollutant loads that we expect from any given land use is an important element. It's important that we use real data. So real, you know, collected data was used in this model and was continually updated and has been.

I should mention that the SBPAT model has been

used in San Diego County, Orange County, Ventura County, as well as Los Angeles County. Through all these studies we updated these data sets so it's continuously improving.

Another key element is the -- is hydrology, and what is the rainfall a year that we're concerned about? So we need to address a 90th percentile year. And interestingly how you look at that can depend on what you get. So we -- so 1995 is a year that with respect to total volume is in the 91st or 93rd percentile, in that range. So that's like the top -- you know, within the top ten percent of rainfall events on a volume basis. It's also the 91st percentile on a storm frequency basis. Again, we're talking about exceedance frequencies as a basis for our Bacteria TMDLs, so it's important to think about both of those. So 1995 is the year that was selected. And then the BMP database, not just understanding what our pollutant removal rates are but where are they, how big are the BMPs, and what are the characteristics of that?

This is an example of how the EMCs compare to studies that were done by SCCWRP. They're in the bottom right. And it's just basically a validation of the collected data that was used to develop the model.

So the big thing in this whole equation is how do we link this concept of allowable exceedances to target load reductions? And our allowable exceedance status at each

subwatershed is a combination of the number of discharge days and the frequency that we see from each of those monitoring stations of -- of exceedance at those monitoring stations.

So the bottom left you see a bar chart and it's got 26 bars, and it actually goes out a little bit further. The magic number here for this analysis is 17. So for this example we're assuming 100 percent exceedance. And basically what we're saying is if you can capture everything and fully mitigate everything that is greater than the 17th storm, in this case it's actually smaller than the 17th storm, then you would end up with 17 exceedance days. And so that is a basis for conducting an analysis.

Looking at that you -- if you build a BMP and you put something in place, you're also going to improve what's happening in those larger storms. So what you see in the pie chart there is the green and the light blue, the combination of loads that are needed in order to reduce flows and reduce loading to get to the 17 exceedance days.

So a second thing is in looking at this 90th percentile year, how do we actually come up with the target load reduction; right? That was a little -- a little box in the previous flow chart but it's a pretty important box. So the approach here is to run a continuous simulation, go every -- I think we went every 5 minutes or 15 minutes over

the course of this 90th percentile year and then -- and basically say let's put a hypothetical BMP at the downstream end and we'll keep making it bigger until we meet that exceedance day criteria.

And so when we're -- when we're done with this and we have this diversion BMP and infiltration BMP, call it whatever you want, once we build this thing, then we see how much load it actually produced. That's our target load reduction. That's what -- that helps us connect the dots between loads and annual exceedance days.

We talked about calibration. We, you know, we're a little bit limited. We're only -- we only calibrate as good as the data is, and for bacteria it's somewhat limited. We do have a gage where we have good hydrologic records and good water quality information. All of the information that was available was used either in the development of the model or for the calibration studies or for validation.

The hydrology studies, and what you see there is -- on the left is a chart where the dots basically are plotted with what the model says versus what is observed. And if everything were exactly perfect and reproducible, then that would follow that dash line exactly. What you see is we're pretty much hovering around it. Our area is about .2 for percent, and that's somewhat expected to have some variability.

Did I just do that? Oh. Okay. Yeah. That's all I had on that. It threw me off there.

So the second part is the water quality validation. And so the idea here, let's take this model approach and apply it back to the reference watershed and see how we do. Now again, the actual ultimate indicator is days. So what we ended up was when we ran the model, did the calibration, put it back in the Arroyo Sequit within a day of what the target was. So we're comfortable with this validation approach.

BMPs selected, I'm not going to go into too much detail about this in terms of what they are. But one thing to note is we talked about source control is in the institutional types of BMPs there are things that are programmatic, there's informational things. There's ordinances for low-impact development. But then there's also this thing, you see pathogens there at the top, it's an ASCE report that's really directed towards microbial source tracking, source tracking for bacteria loading, and that's really a method, a technical method that's being developed right now in the industry of how to actually get to what is causing those bacteria loads, and that's part of the toolbox that we -- we can use.

Distributed Green Streets, we all are pretty familiar with that, as well as Regional BMPs. That's an

example for J14 of the Malibu Legacy Park Project which is a capture and then -- and use and offset of potable water in the Malibu area.

A question came up with how do you pick these BMPs; right? It's not -- it's not a random process. It's kind of -- for purposes of discussion I've put them in three tiers. The first is the low-hanging fruit category which is really programmatic, institutional, things that are pretty easy, things that you have leverage funding opportunities, so you've identified some way to -- to compile funds and move forward, the source control or targeted approaches, and then projects that meet the most urgent water quality needs.

The second thing would be strategically targeted areas, opportunities for public-private partnerships, areas where we have public land, public right of way, and areas of where we have the multiple beneficial uses.

And then the third one is projects that require additional funding, projects that we expect will improve in terms of efficiency and once we understand more about the technology and more about the watersheds themselves and those final things that we need to get over the finish line.

I'm going to spend one minute to talk about the strategically targeted areas there in the middle because that's sort of an example. In -- in the South Bay Beach Cities we took a catchment area, subdivided it into about a

40-acre watershed, and then identified what were the highest priorities. Where were we getting the most pollutant loads that were causing the impairments of the receiving waters. And so the hot pink ones are the ones that are the most, you know, potentially load bearing and things that we might want to target our -- our activities in.

The next thing would be to look at opportunities. So again, going parcel by parcel, looking at publicly owned parcels, in this case to see where are there opportunities for Regional BMPs or distributed BMPs. And so you have an overlay of land use, parcel opportunities there in the figure to the right. So that's -- that's an example of one sort of screening process that went through.

Ultimately we need to demonstrate that we not only meet ultimate compliance but have interim compliance. And so this is sort of an example of how the modeled results get compiled together. And this is an example, I'll give you a couple examples of watershed. So the Herondo Drain, this is in the South Bay Beach Cities, and it's an example of the target load reductions being met by the suite of BMPs, multiple Regional BMPs in this case, including structural and nonstructural. This particular one has a robust BMP selection with alternative sites at many of the locations. So we understand you could have some limitations at some of the locations, and so there's an alternate site.

One of the things that we noted, and there was a discussion on climate change earlier today, we're doing a sea level rise analysis right now for Hermosa Beach. And we're understanding that -- and this is sort of associated with climate change, so we understand there might be some limitations with what you can do as you get closer to the coastline, so that's why we have alternative project opportunities here.

A second one is in Santa Monica Canyon, target load reduction fully met. There is again some redundancy. You can see that our target lead achieved through the plan is 54 percent where, you know, theoretically we only need 36. But you also can see that, you know, there's a possibility that maybe some of these projects could be removed if they don't -- you know, if there's a feasibility issues.

This is a project that was alluded earlier, the public-private partnership with the golf course. So this is the watershed where that golf course is.

We understand that there is variability and a need to adaptively improve and continuously improve our system. We know there's variability in precipitation patterns in terms of monitoring data, BMP performance. We understand there's a continuous improvement that has to do not only with design but operations and maintenance. With evolving

targets and changing technologies, these are all things that need to be continuously monitored.

In conclusion, planning efforts were developed using a robust model approach, best available data. The adaptive improvement will help enhance planned performance targets and project designs. And, you know, in conclusion, reasonable assurance is demonstrated.

And I have five seconds left. Thank you.

CHAIR STRINGER: Clockwork.

Mr. Bambic, thank you.

MR. BAMBIC: I'll introduce myself. Good afternoon, Chair Stringer, Board Members and Staff. My name is Dustin Bambic. I'm a Director and Certified Professional Hydrologist with Paradigm Environmental. We're a consulting firm that specializes in water quality modeling. And we've had -- we've been grateful to have served as the lead on the RAAs for five of the EWMPs. And those five EWMPs are on the slides. That's the Upper Los Angeles River, Ballona Creek, Malibu Creek, Upper San Gabriel River, and Upper Santa Clara River. So in other words, this is a presentation on five RAAs in 15 minutes or less.

So with that, we'll get going. I'd love to go through and name all the cities that are involved with these groups, we're very grateful to have worked with them, but that would probably use all of my time.

An overview of what we're going to talk about, let's touch on those watersheds to make sure you see where they are, do an overview of the RAA process. And then we were asked to take a few of the key topics head on with our PowerPoint, and so we do. Those are critical conditions, limiting pollutant, and post-EWMP effectiveness.

I should say, also, thank you to the previous presenters. I'm so glad you've had that introduction. And so now when I show you my very complex figures and tables they will be more easily digestible, just like your lunch. Okay.

So the EWMPs covered, here they are. You can see that these are some of the largest EWMPs in the county and cover a large portion of the county, the Upper L.A. River, Upper San Gabriel River, Upper Santa Clara River, Malibu Creek and Ballona Creek. There are close -- over 30 cities that are represented in these EWMPs.

Let's do an overview of the RAA process. What's the main thing we're trying to do? We are trying to evaluate the combination of BMPs or the permit, now we call them control measures but we use those two things interchangeably, the combination of control measures that will most efficiently meet the requirements of the permit. You're familiar with them, the institutional BMPs, the Green Streets, the LID and the regional projects.

To do that these are RAAs that are based on the Watershed Management Modeling System, as Mr. Moon so eloquently presented to you. There's really two components of it to mention. There's the baseline modeling. That's where we figure out what is the current condition and how much pollutant we need to reduce. Then there's the BMP modeling where we figure out the effectiveness of different BMPs. And perhaps most importantly, we look across millions of different potential strategies to make sure that we're being as efficient as we can to meet these objectives.

So if you look up in the lower right-hand corner there's a whole bunch of dots. You can picture each one of those dots as being a different implementation plan. And we're using the modeling system to figure out which one is the most efficient. And with that we come up with what we call an EWMP implementation strategy. That's the combination of institutional, LID, Green Streets and regional projects.

Here's an example, EWMP implementation strategy, what does it look like? Let's go up -- all the way up to the jurisdictional level. And over a few slides I'll show you kind of one of the main challenges, and also one of the main benefits of these RAAs where we go -- we cover a huge scale, and also a very small scale. So if we go up to a big scale we're at individual jurisdictions.

Here's 17 agencies in the Upper L.A. River. After a few years of modeling we identify the combination of LID, Green Streets and Regional BMPs to meet the requirements of the permit. That's the green, blue and orange bars. The height of the bar is how big those BMPs need to be.

You can see that the City of L.A. is fortunate enough to get their own scale in this case where they're -- because they're so -- their area is so large within that watershed.

At the same time there's even more subsets of BMPs that we looked at. So this is the same exact plot, just looking at it with more detail of the different types of Regional BMPs, different types of LID ranging from the ordinance due to new and redevelopment to residential incentive programs, putting rain barrels on homeowners properties. That's the level of detail we go into for all those different types of BMPs, a very detailed analysis in terms of where we can put all of these things.

Here's -- at the same time the EWMP is really -- there's normally a lot of little EWMPs within an EWMP. So here's an example for Upper Santa Clara River where we have a bunch of watersheds that watersheds that drain into the main stem of the Santa Clara River. And we develop a unique recipe for each one of those water bodies to make sure we're meeting the objectives for those water bodies that are in

the permit.

If you look at all those catchments, those little polygons that are in there, those are the different subwatersheds. Mr. Moon showed you there's thousands of them in the county. And, in fact, we went down to that scale at the same time.

So here is for the Upper San Gabriel River. You can see those catchments. And there's different levels of blue in there which is simple way to express how much BMP capacity needs to go into all of those different drainage areas. And the modeling system helps pick where you should put your BMPs to get the most bang for the buck. That doesn't mean cheap, but at least we're -- we're using the system to figure out how to be most cost effective.

If you picture a recipe for compliance, as we affectionately call it within our meetings now, for each one of those subwatersheds it's beautiful. It looks like that, where each row is one of those catchments and there's a recipe of LID, Green Streets and Regional BMPs to meet the limits that are in the permit.

If you look over on the left-hand side of the table with the little bitty tiny font it is -- it says "Compliance Target," a volume of stormwater to be managed over 24 hours. That's a very important metric as these programs go forward, how much water do we need to capture?

And, in fact, during adaptive management that metric of the volume managed will be a very important metric to design -- to quantify during design processes, and also to put forward during adaptive management to exchange BMPS, do a little less of this BMP and a little more the other BMP.

You can see on the right, what are we talking about? It's the effect of storm size or drainage area on the BMPs. If we have a small storm the BMP can handle it quite well. If you have a large storm there's potential for the storm to overtop and that water does not get managed.

The same goes for drainage area. If you just take the parking lot and route it into a BMP it can handle that water quite well. If you take all of downtown and route it into that BMP it cannot handle it so well. So through the Watershed Management Modeling System we can work through all that and make sure that we're managing the right amount of water for these plans to ensure compliance. Okay.

So I mentioned the key topics and I've provided the overview of the RAAs. Key topics for the RAAs are critical conditions and limiting pollutants. To provide reasonable assurance these two elements are really important.

One, we need to establish a critical condition. What type of storm are we trying to manage? Is it a 100-

year storm? No, thankfully. But you have one type of critical condition that you're familiar with, that's the design storm, the 85th percentile 24-hour storm. That's an example of a condition that we're trying to size to manage. And for these EWMPs, when we couldn't get that design storm we at least make sure that we're going to meet the limits in 90 percent of the storms.

There's also identifying limiting pollutants. You've already heard talk about those. The bad actors are zinc and bacteria, but there's other pollutants to. And so we have to work through, use the model to make sure that we're addressing all of the pollutants, all of the limits.

To get there kind of the first step is the calibration. We've already heard that word a few times. Basically, when we get a time series of flow and concentration we want to make sure that it is reliable. That baseline model is -- is really important.

So here's an example from Malibu Creek EWMP where we did a calibration. The top left is the -- the hydrograph, the flows, making sure we're getting good hydrology. The bottom left is the concentrations of nutrients across the watershed to make sure we're matching the available data there. And then we're even also kind of tracking, where is the water coming from, which also

supports the implementation strategy.

In order to identify these two key points, the critical condition and the limiting pollutant we developed a concept called the exceedance volume. The main thing is that with stormwater the critical challenge is to make sure your BMPs are big enough to manage the water that come into them. And so the exceedance volume approach provides assurance that we have sufficient capacity, our BMPs are big enough, and it also allows us to put the different pollutants on -- provide a comparison of the different pollutants that we're concerned about.

So if you look at that figure there you can see a line, a conceptual line of flow and concentration. And you see that as soon as the concentration, the orange dotted line, goes above the limit, the receiving water limit, that water needs to be managed of you cause and contribute to exceedances downstream. That -- making sure the BMPs can capture that exceedance volume is important. And that's -- we use this approach to establish the critical conditions for the RAAs.

Tell me more, I'm sure you're saying that. Let's look at metals, okay? For metals, you've heard of the first flush effect. The concentration tends to be higher in the early parts of the storm event, and so the exceedance volume is also most important at the early part of the storm event.

In contrast, you just heard about bacteria. Bacteria are very bad actors. They do not generally follow that same pattern. When it starts raining bacteria are high everywhere. They exceed everywhere. But at the same time we have the important thing. Earlier in your triennial review process you talked about implementation provisions, exceedance days of high flow suspension. If it wasn't for those provisions in your Basin Plan, no pun intended, but bacteria would blow zinc out of the water. But because of those provisions the receiving water limit doesn't always apply during the biggest of big storms. And so -- but at the same time, even with that, it's still an incredibly challenging pollutant for the region.

My turn for complicated plots. There's -- once -- to think about these volumes we look over ten years, use the model for ten years, these flow and concentration, and track those volumes. That's what the plot is on the right-hand side. We're quantifying those volumes every 24 hours. We're ranking them from highest to lowest, highest being on the right, lowest being on the left. And we're making sure that our BMPs are big enough to capture 90 percent of those so that at the end of the day we're in compliance of 90 percent of storms with the limits that are in the -- in the permit.

You can also see there's different pollutants up

there. There's E. coli, zinc and lead. There's a little inset up there that's very nice looking, if I might say so myself. There is a zinc plot.

You can see that in this case for this watershed, this is L.A. River Reach 2, down by downtown, zinc is actually the limiting pollutant versus -- and if you mange lead because the volume is lower. And if you manage zinc you should be able to manage E. coli because that volume is lower. You're BMPs will be big enough. But this isn't the case for everywhere. In fact, in our RAAs we always looked at both. We always made sure we were managing zinc and bacteria.

The -- here's an example from Ballona Creek with zinc. Here's that same plot. How much BMP do we need to address zinc? We put those BMPs into the modeling system and then we route that bacteria storage through the same BMPs. And while we're addressing bacteria in a lot of the watershed, as shown here with the empty parts of the watershed, there's still areas where some bacteria needs to be managed. And so that's why we're always looking at both of them. And then the final EWMP has enough capacity to make sure that we're meeting both of those challenging pollutants.

We've been working with Staff, particular with Dr. C.P. Lai in terms of your staff has really been grilling us

on that is very interesting but show me more. We want to know more, more information on our RAA guidelines. We need to make sure that this approach is conservative enough.

Here you have bars that show how much load is there during our storm, that exceedance volume storm, versus the RAA guidelines. In this case the bars being good -- really big are good because we're making sure that we're managing enough flow.

At the same time we have some plots of the -- the EWMP after it's implemented, making sure that we're achieving those receiving water limits at the end of the day. That is harder than it sounds.

And then finally, just with the conclusions, wrapping up, perfect timing if I may say so, EWMP RAAs, Mr. Moon said it the best, they really are the most advanced methods that we've seen to date. The critical conditions are highly protective. We've been working with Board Staff, feeding information back and forth, and we appreciate that. And these tools will continue to be important moving forward. There's already development of some ideas and systems to track those volumes and make sure that as BMPs are developed those volumes are quantified.

Thank you.

CHAIR STRINGER: Thank you. Thank you very much for a passionate presentation. It's nice to hear the -- see

the aesthetic sort of components of what I think a lot of us think of as a very kind of non-aesthetic field. Science is beautiful. I appreciate that.

So let's just pause for a minute. Do we have questions for our panelists on this particular segment? Let's start on this end first.

Did you have anything now?

BOARD MEMBER CAMACHO: Well, I mean --

CHAIR STRINGER: I mean, there will be time a little bit later.

BOARD MEMBER CAMACHO: -- my mind is like wow.

CHAIR STRINGER: Yeah.

BOARD MEMBER CAMACHO: We're good. I'm good.

CHAIR STRINGER: I know we're got questions down here, working this way.

BOARD MEMBER MEHRANIAN: I'm good.

CHAIR STRINGER: Madelyn, go ahead.

BOARD MEMBER GLICKFELD: Oh, gosh, I'm going to make myself sound really stupid. Could all there of you come back up?

CHAIR STRINGER: Why do you think we're not asking questions?

BOARD MEMBER GLICKFELD: I know. I know.

So this is -- this is an issue that I just -- there's a couple issues I don't understand. We have a

dispute between the environmental community and these -- and the modelers and the EWMPs about how good the data is for calibration. Renee showed us the -- the mass emissions monitoring stations that we have that are seven stations. She showed us what we're getting to the next -- in terms of the next modeling, which is extremely bigger and much more populated data that we can use for modeling.

What I don't understand is there's, I think in listening to them underneath all of the discussion that they had there, I think that there is more data than those seven mass receiving stations, which is what I though was all we have. We certainly don't have a lot of other time series data like that. But what else do they have to model how much zinc there is, how much -- where the bacteria is, because they don't get it from the receiving water still. I know that we have data along the coast for bacteria, but I don't know whether we have any inland.

So maybe the modelers can answer this or you can answer it.

You explain it the way you understand it, Renee.

MS. PURDY: Okay. I will. This is Renee Purdy again. And I'll -- I'll invite any of the other panelists to -- to join me to supplement what I say or correct what I say as maybe appropriate. But you're right, there are more data than just what come from the seven mass emission

stations. Those -- those data were a part of the datasets used. But the additional data that you heard about, of course, was all of the hydrology data that has --

BOARD MEMBER GLICKFELD: I understand that, but I want to know --

MS. PURDY: Right. And so in terms --

BOARD MEMBER GLICKFELD: -- about there is data.

MS. PURDY: Right. So in terms of water quality, though, there's additional data too. One, the -- the county, under the MS4 Permit has -- we showed you the mass emission stations for the receiving water. But in addition to that they also had historically done what Mr. Moon talked about which is some land use monitoring where they actually took samples, water quality samples from certain homogeneous homogeneous land use areas and analyzed those samples for a range of water quality constituents --

BOARD MEMBER GLICKFELD: A one-time --

MS. PURDY: -- metals, bacteria.

BOARD MEMBER GLICKFELD: One-time analysis or multiple-times analysis?

MS. PURDY: No. It was over -- and this is something where I might need to defer to the county to give you the details on it, but it was over a period of years that they were doing this land use sampling in one of the earlier generations of the L.A. MS4 Permit.

Additionally, they have also been doing receiving water sampling in various tributaries where they've basically rotated among watersheds. And so in addition to the seven what we call mass emissions receiving water stations, they had also been collecting data from in-stream from various tributaries throughout the L.A. County Area, so we had that data.

And then finally, there were -- I think there was about a three-year period from, if I'm remembering correctly, 2005 to 2007, the Regional Board actually funded through our TMDL contract money SCCWRP to do some land use sampling, as well, to look at the -- the various pollutant levels coming off different land use types. And so when you hear discussion, for example, from Ken when he was talking about the land use EMCs or event mean concentrations, that -- those data that -- that he was talking about and that TJ was talking about come from those land use datasets where there were multi-year efforts to collect samples from different land use types and analyze them for a wide range of pollutants.

And so that is a lot of the water quality data that were used to build these models and then be able to predict the concentrations and loads of pollutants that are coming off of these subwatershed areas and then be able to aggregate that up into the -- the larger watershed areas.

How much do you think it's going to be improved when we get the -- the Regional Monitoring System data starting -- starting coming in? And when -- when are you going to recommend that they start to utilize that to recalibrate the models?

MS. PURDY: Well, that, I think that it will depend somewhat on -- on the watershed area, depending on how much data have already been available. Because there are some watersheds that have -- also, I didn't talk about the TMDL monitoring data that have been going on as well.

But it is -- the situation is going to change dramatically, as Sam talked about, because what we have been missing in large part all this time has been outfall monitoring data. So we've had various datasets for receiving water, but now we're going to have a tremendous amount, as you saw on the map, of outfall monitoring data that will allow us to look at what the model is predicting in terms of the pollutant loads coming from these small subbasin areas or subwatershed areas and see, was that prediction accurate based on the outfall monitoring data?

So I think that in terms of when we'll have them go back and revisit the RAA, you may recall that the State Board in upholding the L.A. MS4 did make some changes to our order. And one of the changes was to indicate that the RAA had to be updated no later than 2020-21. It could be

updated sooner if we, the Regional Board, determine that that would be appropriate to have it updated sooner, but no later than that 2020-2021 period. And that would be on the basis of the -- the data that are collected --

BOARD MEMBER GLICKFELD: So you --

MS. PURDY: -- under these monitoring programs.

BOARD MEMBER GLICKFELD: -- basically -- we're in -- almost in 2016. And you're saying --

MS. PURDY: Right.

BOARD MEMBER GLICKFELD: -- in five years.

MS. PURDY: Within four to five years.

BOARD MEMBER GLICKFELD: So if there's five years of accumulated data, and we've already spent a lot of money, we're going to then recalibrate then?

MS. PURDY: Well, so, yes. That -- it is -- it is four to five years. But when you think about the timeframe for when -- you know, the time period over which these EWMPs are going to be implemented, and if you think about some of those curves that I showed you earlier in terms of sort of the timing of investments, that -- that period for some watersheds is a big part of when they'll need to make investments. For other watersheds that will still be a relatively early phase of investment and implementation of the EWMP within the next four years.

BOARD MEMBER GLICKFELD: And then I have just two

short questions then.

What is -- other than the project that they talked about, I guess it's going to be the Riviera Golf Course that's doing a public-private partnership in the city within that one watershed, the Santa Monica Watershed, what is a private Regional BMP? I thought of Regional BMPs as on public land, in parks, on schools, things like that. So what's --

MS. PURDY: Right.

BOARD MEMBER GLICKFELD: There's --

MS. PURDY: Well, I'll give you --

BOARD MEMBER GLICKFELD: There's one slide there that that -- that there's going to be a lot of dependence on private Regional BMPs, so what's going to happen?

MS. PURDY: I'm going to steal Mr. Kaden Young's thunder a little bit in the Marina del Rey Watershed. One very good example of a Regional BMP on private property is the Costco BMP which we heard about in July, and I think you'll get an update on later this afternoon. So that's an example of a Regional BMP that's going to treat, if I'm recalling correctly, 42 acres of the City of Culver City within the Costco parking lot.

BOARD MEMBER GLICKFELD: Right. And so this is when the city uses its LID Ordinance to require improvements on private property? Is that pretty much what we're talking

about?

MS. PURDY: In part. But it also -- there -- I mean, if that was the case that would mean Costco just managing its own -- its own stormwater within its boundaries. But in this case the partnership is the fact that the -- the BMP that's on the -- in the Costco parking lot is being sized big enough to actually address a larger area of the -- the City of Culver City. So the -- actually, it's the entirety of the City of Culver City, if I'm remembering correctly, that is within the Marina del Rey watershed is going to be managed by that private-public partnership.

BOARD MEMBER GLICKFELD: Got it.

And then my last question is for Dustin, and I don't know exactly how to ask this question. The exceedance volumes that you talked about, I assume it's what you're using as design criteria for EWMPs; correct?

MR. BAMBIC: Correct.

BOARD MEMBER GLICKFELD: So are you able to say if the storm flow is X we can capture in that BMP this proportion of it? Is that what we're talking about?

MR. BAMBIC: Yeah. We're making sure that the BMPs are large enough to be able to capture the volume that can cause or contribute to exceedances that are in the permit.

BOARD MEMBER GLICKFELD: So let's say we're looking at a giant permeable parking lot and it's got -- it's got -- it's got -- underneath it, it's go infiltration to groundwater. How do you figure out, except for on a very site-by-site basis, what the infiltration rates are and how much of that water is going to get into the ground and so you don't have flooding?

MR. BAMBIC: There is a very large dataset on county soil types that was brought into the WMPs and improved upon for the RAAs where we have infiltration rates across the county, and that's kind of the basis of what the infiltration rates are.

And as far as the exceedance volume goes, I showed you all those little catchments, it's more at that scale, making sure that every one of those catchments has the right combination of LID and Green Streets and Regional to meet that volume for that -- for that whole catchment. And then during implementation they'll get down to the parking lot scale.

BOARD MEMBER GLICKFELD: Do you think in the future if the MDW, for instance, wants to pay for -- a certain price for an acre foot of water that's captured in one of these BMPs for water supply purposes, instead of importing water they pay the equivalent price here, do you see both these models and maybe sophisticated sensoring

technology able to reliably predict how much water is being captured by these facilities?

MR. BAMBIC: I do think there is a very straightforward nexus between capturing water and recharging water and providing value to the drinking water providers. And the DWP is already talking about how much that is, how much is an acre foot worth? It's somewhere in the neighborhood of $1,000 per acre foot.

BOARD MEMBER GLICKFELD: So you know the volume that's being infiltrated and you know what the price is. Then all of a sudden you've added -- put a value on stormwater; right?

MR. BAMBIC: That could be, yeah. And that's -- when we talked about those volumes, that's one element that is important is getting volumes. Water providers don't talk in loads. They have no idea what we're talking about. Even the design storm, they don't know. So talking in terms of acre feet per year in their metrics really helps them understand what it is we're talking about and helps us talk in their -- their -- the commodity that they use.

BOARD MEMBER GLICKFELD: What can the Board do to encourage this kind of thought on the part of the water agencies and these kinds of partnerships? You heard earlier that there's been some frustration and disappointment, frankly, on my part of -- of the lack of involvement with

some of the water agencies in trying to capture local water supply and reduce that. You're getting out of the way?

No, I mean, I'm asking -- who is it in the audience that could answer that question? What is the Board can do? So if the technology is there to do this, what is it the Board can do?

EXECUTIVE OFFICER UNGER: I'll do this.

BOARD MEMBER GLICKFELD: Because I don't think we're going to fix this problem with grants and loans. It's just not going to happen by itself.

EXECUTIVE OFFICER UNGER: No. I'll just try to give it a shot. And the fact of the matter is I don't have the answer. But we are --

BOARD MEMBER GLICKFELD: But Ken does.

EXECUTIVE OFFICER UNGER: But we are doing in the groundwater side is we are partnering with more and more agencies, even though our cleanup programs and things like that with DWP, Watershed Replenishment District, West Basin, all these folks now we've entered into various partnerships with for various types of other projects. And we have a venue to start this discussion there. We haven't had those discussions yet. We've been more focused on cleanups of those aquifers and things like that and what we can do together in that arena. And we have a very good entree there because the Water Code gives us some very strong

authorities in identifying responsible parties who could be responsible for contamination of an aquifer.

So the other -- the agencies you're talking about, Madelyn, they have been coming to us and we've been coming to them in various forms, in some cases informal MOAs and things like that where we are working with them. And it's a matter, I think, of building upon those relationships an expanding those scopes, if you will, to enter this part of the discussion.

BOARD MEMBER GLICKFELD: Right. Well, I just feel like this is something that Board Member Camacho mentioned earlier in terms of we need to -- we need to get the public to understand this. But we also need -- I can see, listening -- listening to the technology presentations today, these models can help us do more than figure out how to size things and how -- which ones to put where. They can help us figure out how much water we're capturing.

EXECUTIVE OFFICER UNGER: Absolutely.

BOARD MEMBER GLICKFELD: And then we can start to value it.

EXECUTIVE OFFICER UNGER: Absolutely. And then I think it's time to, again, you know -- and even we're seeing other of our -- you heard this morning from the Joint Outfall System, the County Sanitation District. I mean, they're -- they're getting into, you know, this sort of

arena too.

So there -- there are a bunch of new players. We do have relationships with most -- most of them, if not all of them. And it's going to be a matter of just expanding upon those and working with the people that we' now.

BOARD MEMBER GLICKFELD: Thank you.

CHAIR STRINGER: Thanks.

BOARD MEMBER GLICKFELD: That's it.

CHAIR STRINGER: We've got a couple of hours of -- of, you know, further comments, presentations. So --

BOARD MEMBER GLICKFELD: Sorry.

CHAIR STRINGER: It's okay. Okay. Yeah.

Are you okay?

THE REPORTER: Sure.

CHAIR STRINGER: Okay.

MS. PURDY: Okay.

CHAIR STRINGER: I'd suggest we just -- we just plow forward. If people want to step away on their own, feel free to do that. But we've got so much I'd hate to break and then try to corral everybody again.

So next up is the -- are the joint presentation by Heal the Bay, NRDC and L.A. Waterkeeper.

MS. HAYAT: Good afternoon, Chair Stringer, Members of the Board. My name is Becky Hayat and I am with the Natural Resources Defense Council. I am here today with

Arthur Pugsley from L.A. Waterkeeper and Rita Kampalath from Heal the Bay.

First of all we would really like to thank both the Board and Staff for holding this workshop and for providing us the opportunity to share our comments on the draft EWMPs that were recently submitted by permittees of 2012 MS4 Permits.

And at the outset I just want to say that environmental groups have always endorsed a collaborative watershed-based approach to stormwater management, especially one that prioritizes multi-benefit projects. While we fully support the intent behind the 2012 permit's Watershed Management Program and Enhanced Watershed Management Program, I would like to remind the staff and the Board that the number one reason the State Water Resources Control Board ultimately approved the WMP and EWMP provisions of the 2012 permit is that -- is because it believed that the WMP and EWMP approach provided permittees a rigorous, well defined and implementable alternative pathway for achieving receiving water limitations, which is the core requirement of any MS4 permit.

Therefore, as non-permittee stakeholders, our number one inquiry and concern is whether or not the draft EWMPs comply with permit requirements as written, and as such whether they meet the goals and spirit of the 2012

permit.

In our review of some of the draft EWMPs, specifically EWMPs submitted by Upper L.A. River, Upper San Gabriel River, Santa Monica Bay and Beach Cities, the plans as currently written do not meet explicit permit requirements for what all needs to be included in the draft plan before they can be approved by the Regional Board.

For one thing, we are significantly concerned with the draft plan's extremely inadequate financial strategy discussions. The 2012 permit requires that permittees ensure a financial strategy be in place in their draft EWMPs. Having a detailed financial strategy is key to ensuring that the EWMP approach will actually provide permittees and ambitious and effective alternative to the permit's receiving water limitations.

While all the permittees recognize that the cost of implementing their EWMPs are orders in magnitude higher than have been previously committed by their MS4 programs and that none of them currently have sufficient existing funds to cover the costs, none of them have proposed a real plan or strategy to obtain the needed additional funding. For at least the four EWMPs the environmental groups reviewed the plans financial sections end at the mere identification of potential funding sources with no real step-by-step plan for carrying out the identified funding

strategies.

While we recognize that it may not be possible to develop a firm financial plan for the entire implementation period, which may last for 20 years or more, at a minimum, however, permittees can and should propose a solid funding strategy for at least the first few years of implementation for the near-term projects. And we really urge the staff and the Board to require this level of commitment from the permittees.

Again, without a real financial strategy in place to actually implement the proposed control measures and BMPs the EWMP approach will not meet the ultimate goal and requirement of its 2012 permit.

Last but not least, Staff needs to hold permittees accountable to the enforceable requirements of the permit's EWMP provisions. Some of the language in the draft EWMPs suggest that the interim and final compliance deadlines are subject to the procurement of funds. We urge the staff and Board to make it clear that the EWMP requirements of the permit are not contingent on the securement of funding. Permittees must meet the compliance deadlines and load reductions proposed in their draft EWMPS regardless of whether they're able to find funding or not. This, of course, makes it all that much more imperative that permittees actually have a financial strategy in place in

their draft EWMPs before they start implementing the programs.

In a little bit Rita will continue to discuss the other major issues we identified.

But before I turn it over to Arthur I just want to say one last thing, and that is after permittees submit their revised EWMPs and the time comes for the Regional Board to either approve or deny the programs, the Regional Board or Executive Officer on behalf of the Board must approve or deny only. There cannot be another round of conditional approvals with the EWMPs, as we saw happen with the WMPs. If the EWMPs as submitted in their final draft versions do not meet -- are facially inadequate, meaning they do not meet the requirements of the permit, then they must be denied as required by the permits.

And consequently, permittees will be immediately subject to the receiving water limitations provisions of the permit. The Regional Board must stop shoeing permittees from liability at the expense of the health and safety of our local communities.

Thank you.

MR. PUGSLEY: Good afternoon, Mr. Chair and Members of the Board. As Becky mentioned, my name is Arthur Pugsley and I am the new Staff Attorney with the Los Angeles Waterkeeper. I'm here today appearing jointly with NRDC and

Heal the Bay. I look forward to working with you as this review process proceeds.

I also want to thank the Board and staff for holding this workshop today and providing us the opportunity to share our comments and concerns. I also want to thank you for the very helpful binder you provided us with your comments on the EWMPs.

I'm just going to briefly touch on -- expand on one procedural point that Becky has made, and that is that we urge you to strive for transparency in the process of refining the EWMPs. One of our major objections to the recently -- the Board's WMP process involved the difficulty faced by non-permittee stakeholders in obtaining timely information on how the WMPs were being revised in response to communications between Board Staff and the permittees. And that was a result of the ad hoc conditional approval process that was set up in that case.

The -- the mechanics of the conditional approval process simply did not allow for the non-permittee stakeholders to have equal access, timely equal access to the information that was being exchanged between the Board staff and permittees. So to avoid this same problem with the EWMP review we urged the Board to provide a much higher level of transparency regarding communications, both oral and written, that are relevant to revising the EWMPs in

response to stakeholder comments to ensure all interested parties have access to material information in a timely manner.

Thank you.

DR. KAMPALATH: Chair Stringer and Board Members, once again, my name is Rita Kampalath and I'm the Science and Policy Director at Heal the Bay. Thank you again for holding this workshop and for the opportunity to speak today.

Just continuing on the comments that Becky and Arthur have made, I wanted to discuss a few more of the specific concerns that we raised in our comments on the EWMPs.

As you heard from Becky, a major concern we have is with the lack of a financial strategy which poses a risk that these projects will never -- never get off the ground. However, another concern is the timelines that have been proposed for compliance. While compliance schedules for some of the constituents are clearly laid out by Regional Board-developed TMDLs, there are a number of constituents that don't fall into this category.

While the permit allows permittees to use established TMDLs as a guide for setting schedules for other pollutants so long as they are in the same class as the TMDL pollutant, there are several cases where far too much

liberty was taken in defining pollutants as the same class.

In addition, where there is no TMDL that can be used as a guide, the permit specifies that schedules be designed to achieving receiving water limits, quote, “as soon as possible.” It is critical that permittees demonstrate compliance with this requirement as early as they can to ensure that there is no unnecessary delay in achieving water quality standards.

We know that Regional Board Staff has also raised issues on these schedules and these points. And we urge you to ensure that these concerns are addressed in the revised EWMPs.

Next we raised several concerns about some of the language used in the EWMPs to build in flexibility around specific projects. While we understand that at this stage of planning project details can’t be guaranteed absolutely. This uncertain necessitates a clear and concrete adaptive management program that spells out the steps permittees will take to select and evaluate different projects and demonstrate that newly proposed projects are equivalent to original ones. Without this there can be no confidence that these plans, which may guide implementation over the next 20 years or more, will remain after multiple iterations true to their original goals.

Finally, we urge Staff and the Board to ensure

that the details comments that we made and that Staff made are carefully considered and incorporated where appropriate, and where they are not incorporated, the reasons why they were rejected should be clearly documented. As Arthur discussed, it is critical that there is transparent documentation to how all comments were dealt with so that the evolution of these plans can be tracked and to avoid the process concerns that occurred with the -- with the WMPs.

And we did want to close, though, by acknowledging the efforts that your staff has made to work with us on these concerns so far, especially Sam and Deb and Renee. They've been very open to hearing our perspective and input on how to create a better process and we really do appreciate that.

We believe that we're all working towards the same goal of achieving water quality limits. And we're looking forward to continuing to work collaboratively towards that end throughout this EWMP development process.

Thanks.

CHAIR STRINGER: Thank you very much. Okay.

Next up is the Beach Cities Group, I believe John Dettle. Great. Thank you.

MR. DETTLE: Honorable Chairman and Board Member, my name is John Dettle. I've been asked by the Beach Cities Groups to do an update for the Board on the status of our

EWMP implementation and project funding.

The Beach Cities EWMP Regional Project, which was the one that was required to be in process, the Stormwater Basin Enhancement Project has been completed this last fall. This project has received awards from CASKA, APWA and Stormwater Solutions. And we believe that this is a model for multi-pollutant, multi-benefit project because not only does it capture storm events from the Herondo Drain Watershed.

But also provides for groundwater infiltration and recharge. It reduces potable water demand by 25 acre feet a year by retrofitting parks and baseball fields to use recycled water. It provides restored habitat for 30 acres of open space. It harvests rain water to provide most of the irrigation needed for that open space. It provides recreational trails viewing areas. We installed 180 catch basin screens, 1,800 “No Parking for Street Sweeping” signs which was very popular. And it also provides educational opportunities for stormwater native habitats inside an urban environment.

And, in fact, we are going to have an open house for this project between 9:00 and 10:00. And I’d like to leave the flyers with the Board Members, if you’d like to see one of these projects completed.

The funding model that the City of Torrance used

to complete this project is the one that the Beach Cities are proposing to do with the rest of our EWMP projects. The city invested general fund monies to come up with a 30 percent design. And that effort was rewarded with a $3.3 million grant from the Santa Monica Bay Restoration Commission, and a $300,000 grant from the Bureau of Reclamation. So all in toll this was a $5 million project, $3.6 million in grants, $1.4 million in city funds.

The Beach Cities Groups are planning to use our remaining funds from the EWMP process. We have some funds left over to pursue a Prop 1 Coastal Conservancy Grant to prepare plans and specs for our two high-priority projects. Those projects are the Manhattan Beach Infiltration Trench and the Hermosa Beach Greenbelt Infiltration Project. Both these projects will provide substantial load reductions for bacteria, DTT, PCB and trash, and also provide groundwater recharge that will actually help with the prevention of saltwater intrusion, ocean water intrusion. They also provide increased flood protection. And one of the projects will provide coastal dune habitat restoration.

While the EWMP did develop the design concepts for these projects, additional studies are needed. That’s what we’re going to apply for, for the -- for the design. We need studies for geotechnical investigations, one of the most important things, evaluation of infrastructure and

easements, preliminary engineering cost estimates, we need to do the CEQA process and do the final plans, and then those projects will be ready to apply for additional grants.

Also, Hermosa Beach is pursuing Prop 84 Grant funding for their Green Street Project that will address 47 acres in the Herondo Drain Watershed. That was one of the ones that was mentioned before by Ken. This project would also provide multiple benefits in the form of increased flood protection, groundwater recharge, urban greening, as well as the water quality benefits for the Santa Monica Bay.

And so I'm available for any questions.

CHAIR STRINGER: Great. Thank you very much.

Palos Verdes Peninsula Group. I don't have a name on that one.

MR. WINJUI: Good afternoon, Members of the Board and Staff. I'm Andy Winjui, Senior Engineer with the City of Rancho Palos Verdes representing the Peninsula Watershed Management Group. And I'm joined -- will be joined in a minute by Bill Johnson with the L.A. County Department of Public Works.

We want to take just a few minutes -- sorry about that -- to talk about updates to when we were here in July with our program. We received the comments just last week. But after our first review we don't see any difficulty in responding to those in the time allotted, by the end of

January. We have completed the negotiations for our SIMP MOU language and we've selected our SIMP contractor. We are waiting for SIMP comments to be finalized. So as soon as that's finalized we'll be able to go through the formalities of getting the MOUs through our city councils and hiring our contractor.

We've already completed, of course, our 30-month projects, and also some additional Regional BMPs. And the group has been very proactive about addressing the TMDL (inaudible) which is our most important deadline.

We want to talk a little bit about funding, since that seems to be a topic of the day. Early action projects that we did, the Santa Monica Canyon and the Equestrian Center were both completed and finances with grant funding.

We have a new project, the South Coast Botanic Garden Wetland that Bill will talk about in a moment that's also been a recipient of grant funding, and they're pursuing additional grants.

We have two regional projects that were funded privately through the CEQA process to condition and redevelopment in the Rolling Hills Estates area. And from that we're able to capture an 85th percentile storm through private money, which we thought was very innovative.

And then my city, the City of Rancho Palos Verdes is working to renew our Storm Drain User Fee for another ten

years. And we go before Council for the next steps on November 17th, just two weeks from now.

At this point I'll hand it over to Bill to discuss the Botanic Garden project.

MR. JOHNSON: Thank you, Andy.

Good afternoon. As mentioned, my name is Bill Johnson. I'm with Los Angeles County Department of Public Works. And we're really excited to present the progress made on our project of the South Coast Botanic Garden.

The Botanic Garden is a really unique facility in that's constructed over a formal sanitary landfill. Thus, sustainability and land reclamation are of tremendous importance to this facility. Our project will build off these priorities by revitalizing the garden's existing lake and constructing treatment wetlands.

This photo taken in 2013 shows the lake full of -- the existing lake full of -- overgrown with plants, and it was full of sediment.

Earlier this year we received a $1.4 million grant funding for the removal of sediment and for the revitalization of this lake. Currently the overgrown vegetation has been removed and preparations are being made for the removal of the sediment.

Shown here is a concept for a future wetland which will be constructed upstream of the lake. This

September we submitted an $800,000 Prop 1 Grant application for the design. This area is currently vacant and used for staging. Runoff will be diverted to the new wetland where it will be treated and then flow into the revitalized lake. While it's stored in the lake it could be used for irrigation of the Botanic Garden.

It is important to note that every year over 100,000 people visit this facility which shows a huge potential for this project's public outreach.

Thank you for your time. I'm going to turn it back over to Andy.

MR. WINJUI: I just wanted to address a question that came up from the Sanitation Districts of Los Angeles County about one of the projects that we had listed in our -- in our EWMP, the Palos Verdes Landfill Project. And the comment was that it's a technically challenging issue that's going to require collaboration with a number of agencies.

And we just wanted to inform the Board that we are very aware of that and the technical challenges there. But we do have successful projects already on the landfill with the Botanic Garden itself, and then this new project there. The model Equestrian Center that we did was also built on the landfill site.

So we're very confident that we can work through

the process. And if there's a way to technically do the job there we'll be able to pursue that. In the event there's not, we have some alternatives that are listed in our EWMP and here on the screen. And we will look at those, as well, in the case that we can't handle -- we're not able to technical do that project.

And while we also know that because of our modeling that we've done already we are meeting final targets already for nitrogen which is the TMDL issue there for this issue, and we're very close on the phosphorus (phonetic) targets. So our gap to compliance is smaller than we originally thought. And we may be able to look at some other projects to meet our goals that don't require as big a project as we were envisioning before.

Thank you very much.

CHAIR STRINGER: Thanks a lot.

L.A. County. Paul Alva?

(Timer rings.)

MR. ALVA: I guess I'm done.

CHAIR STRINGER: Time's up.

MR. ALVA: Thank you. Good afternoon, Chair Stringer.

CHAIR STRINGER: Slow walking.

MR. ALVA: All right. Okay. Good afternoon, Chair Stringer, Members of the Board. My name is Paul Alva

and I'm the Stormwater Program Manager for the County of Los Angeles and the Los Angeles County Flood Control District.

The county and the Flood Control District, in partnership with 52 other cities, have been involved in developing the 12 EWMP plans that were submitted back in June. We'll be working closely with the 52 partnering cities to incorporate the comments received from the Regional Board for the last two months -- last two weeks. And we appreciate the Regional Board staff willingness to meet with us to go over those comments.

The EWMP plans contain clear commitments to improve water quality and achieve water quality standards over time. I'd like to briefly share with you some of the efforts that we have undertaken since submitting the EWMP plans in June.

First, we've already begun preparing and submitting grant applications to implement the projects. For example, we submitted grant applications for Prop 84 Grant funding and Prop 1 Grant funding. Not only are we applying for grants, but we're also working with the Prop 1 Grant funding agencies to make sure that those guidelines are consistent with our EWMP plans to pave the way for future grant opportunity, not just for the county but for all the other 84 permittees in the L.A. Region.

We have also met with a number of agencies to talk

about funding opportunities, including the USEPA, Caltrans, the water foundations, and Metro.

We've also been moving forward with projects identified in the EWMPs, including coordinating with our County Parks and Recs Department to make sure that we're implementing stormwater capture projects at county parks. We're also beginning to prepare preliminary design plans and performing hydrology studies and geotechnical sampling activities.

In addition, Green Streets are an important element of the EWMP strategy. Building on the success that the county has performed with Green Streets over the last five years, we're aggressively working to incorporate additional Green Street elements in our projects. We have -- we're in the process of establishing an internal working group to take advantage of opportunities for those projects in the pipeline and the current planning and construction phases, including the developing a Master Green Street Plan for the county unincorporated areas.

Now as part of the county's effort to retrofit all its catch basins we recently advertised the retrofit of 800 more catch basins and designing additional catch basins in high -- high-trash generation areas. And it's important to note that these are not in the trash -- their not subject to Trash TMDLs.

Lastly, the flood control district is working with all the permittees to fast-track the permitting process to establish monitoring locations at our county flood control facilities. In addition, we're also working with other partners, the U.S. Army Corps, Fish and Wildlife, to also fast-track the permitting process for our partnering cities.

In summary, the development of the EWMP plan is a culmination of unprecedented collaboration and commitment by both the permittees and the Regional Board to improve water quality, but to also use stormwater as a resource. We look forward to working with stakeholders in carrying out these projects and through the adaptive management process.

With that, that concludes my presentation. Thank you.

CHAIR STRINGER: Great. Thank you very much.

The Upper San Gabriel Group, Linda Lee Miller.

MS. MILLER: Good afternoon, Chair Stringer and Members of the Board. My name is Linda Lee Miller with the L.A. County Department of Public Works. And I'm here to represent the Upper San Gabriel River EWMP Group.

The group as you may be already familiar with is on the east side of the county in the yellow small areas. And the group consists of Baldwin Park, Covina, Industry, Glendora, La Puente and West Covina, county unincorporated areas, and the Flood Control District.

This presentation is going to be very project focused. During the EWMP development we realized the importance of Stormwater Capture BMPs in public improvement projects, so we began implementing projects even before the EWMP was finalized. My presentation will highlight some of these recent projects that are Green Streets oriented and low-impact development on public land.

I will then discuss the institutional controls that will -- will be implemented in the next couple of years, and planning efforts for regional projects.

The first one is a project in the City of Glendora. In June 2014 the city removed a portion of existing concrete curb and gutter on Pasadena Avenue and constructed pervious concrete. The city was (inaudible) to rapid infiltration during rain events. (Inaudible) showing that the City of Glendora. In April and October 2014 the city constructed dry-well catch basins upstream of existing catch basins to capture street flows. During rain events infiltration was so rapid that the city absorbed no flow passed to dry-well catch basins.

This project is -- was implemented by the county. In August 2014 we constructed 12 stormwater retention basins upstream of existing catch basins through the Valley Boulevard Project. Street flows infiltrate in the retention basins without reaching the existing catch basins. And

Staff went out during the rain events and observed all of these projects.

The next project was done by the City of Baldwin Park. It's in its final stages of designing the Main Avenue Complete Streets Project. Complete Streets is the in thing for today's roadways. They're designed for people of all ages and physical abilities and accommodate all travel modes. This project will included rain gardens, all filtration systems, drought tolerant landscape medians and catch basin modifications to facility infiltration. The construction is scheduled to begin in May next year.

This a project whose original purpose was to repave a senior center parking lot. The City of Glendora saw an opportunity with pervious soil and converted and existing concrete drain into an infiltration strip.

The City of West Covina is currently renovating the Orangewood Park. The city will construct an infiltration trench, six dry wells and permeable pavement to treat onsite runoff. The completion of the project is expected in July 2016.

As part of the Walnut Creek and Nature Park Renovation Park, Baldwin Park is expanding the bioswales at the park (inaudible) runoff on 21 acres of tributary area into the bioswale basins for infiltration. Phase one is to expand the bioswales and will be advertised this November.

Phase two is to construct the diversion system. It's anticipated to be advertised in Fall 2016.

This next one is a very large development of mixed used, commercial, industrial and retail business in the City of Industry. The city is putting in three biofiltration basins totaling about 80 acre feet of a capacity to treat flows from 600 acres. The biofiltration basins will have (inaudible) media to remove the pollutants. The treated flow will be discharged rather than infiltrated due to the underlying clay layer. The project will start in January 2016 and complete by the end of 2017.

So various agencies throughout the group will be implementing a number of institutional controls in the next couple of years. We'll be incorporating the regenerative sweepers. We are tripling in catch basins in high traction -- high traction (inaudible) areas at a higher pace than what's required by the state, developing a Nutrients Reduction Program for areas streaming to the Puddingstone Reservoir, and developing incentive programs such as a Rain Barrel Rebate Program.

And lastly, on our regional projects proposed in the EWMP we begin planning and developing these projects with the goal of meeting the deadline of 2020 and 2023. The preliminary storm investigation was already completed in March of this year. And the City of Glendora will be

applying for Prop 1 Grant this year for their regional projects. For the City of La Puente, City Council will be meeting with the Bassett School -- Unified School District Board on November 17th to discuss a collaboration project of the Bassett School -- High School.

This concludes my presentation. Thank you.

CHAIR STRINGER: Great. Thank you very much. Appreciate it.

Next up is a group of four, Upper Los Angeles River, Ballona Creek, Dominguez Channel and Santa Monica Bay Group. The City of L.A. is presenting. Thank you.

MR. COX: Good afternoon, Chairman Stringer, Members of the Board. My name is Hubertus Cox. I'm a Senior Environmental Engineering in the City of Los Angeles Watershed Protection Program, also known as the Stormwater Program. And I'm here on behalf of four watersheds, Upper Los Angeles River, Ballona Creek, Dominguez Channel and Santa Monica Bay Jurisdictions 2 and 3. So we have a little bit more time because this is four watersheds.

And what we will do is we'll start with a short overview of those four watersheds. Then we'll start discussing a few of the comments that we received on our four EWMP plans. And then we conclude the presentation with providing you some updates on the specific projects that the folks in our watersheds are now working on.

So here you have a map of the four watersheds, Upper Los Angeles River to the northeast, Ballona Creek is in the center, along the coast you have Santa Monica Bay Jurisdictions 2 and 3, and in the south you have Dominguez Channel Watersheds. And collectively those four watersheds are roughly about one-third of the county of Los Angeles.

The City of L.A. is the largest agency in these four watersheds. And we're the lead agency in the development of those E plans, but we're doing that in close coordination with our partner agencies, in total 30 partner agencies of co-permittees within our watersheds, and you see the numbers over there. Three of these watersheds, they use WMSS as the modeling system discussed by Dustin a little -- a little while back ago. And the Santa Monica Bay Watersheds, they use the SBPAT modeling system as was discussed by Ken Susilo.

Our EWMPs, they heavily rely on the implementation of green infrastructure or distributed Green Street projects on the one hand, as well as the implementation of Regional BMPs on the other hand. And that's more for stormwater diversion, capture and infiltration.

And on the left side of this slide you see the ratio of distributed versus regional projects within the four watersheds. And you see differences between those watersheds because each watershed is different.

And just to take one example, the Dominguez Channel Watershed is highly industrial. It doesn't have much open space and infiltration rates are not that great. And that is the reason why for the Dominguez Channel Watershed you don't see too many regional projects, but it really focuses more on the distributed Green Streets infrastructure.

On the right of this slide you see the total BMP capacity or the volume of all the BMPs collectively in each watershed. That's what we need to build. And not surprisingly, the larger the watershed the more BMPs you need. If you put those numbers on the right, if you put them together that is slightly over 9,000 acre feet of BMPs collectively in four watersheds. And that is pretty much equivalent to having 35 Rose Bowls put together.

Those EWMPs are large plans and they contain hundreds, if not thousands of projects. And, of course, we cannot work on them all at the same time.

So what the City of L.A. is doing right now, and I believe also some other cities, is trying to convert those EWMPs into capital improvement programs, stormwater CIPs. And the purpose of the stormwater CIPs is twofold.

First of all, it's a prioritization of projects. We prioritize the projects based on TMDL milestones, EWMP milestones, but we also look at other factors like project

readiness or the benefit for flood control.

The second reason for the -- preparing those CIPs is that it is an estimation of the cost, specific costs for specific projects, but also the cost for -- the cost by fiscal year. And that is information that we need in order to be successful to ask for additional funding sources for the implementation of the EWMPs.

Going back a little bit to the Green Street implementation. Here you have an example of the Upper Los Angeles River Watersheds. Of the total volume of stormwater that they have to capture, about 40 percent of it needs to be done by Green Streets. And that is -- that's just a number that's coming out of the RAA. If they don't use Green Streets, then they have to find other types of BMPs to make sure that they can still capture the same volume of stormwater.

Adaptive management, so we received some questions on our adaptive management process. And, of course, adaptive management, it will start in 2017, but we're already looking in ways of doing that adaptive management because it represents such a large capital improvement program. And we realize the tracking and reporting, project implementation will be very critical. In addition, the implemented projects will vary in size, location and design.

We will need the tools to allow us to substitute

projects within an EWMP. For example, implementing a larger regional project in lieu of a few (inaudible) streets or vice versa, the other way around.

Therefore, we are considering the development of a tool that will transparently and quantitatively track BMP implementation and perform the types of calculation that we need to demonstrate equivalency among projects. Shown on this slide here is an example of a screen shot of the tracking and reporting system that once have finalized it we hope to use it for adaptive management, as well -- as well as for annual reporting. Okay.

Going over now to some of the projects that folks in the watersheds are working on. This is starting with the Upper Los Angeles River. And our EWMPs, they put a lot of focus on stormwater management. But we're also looking at dry weather runoff.

And here you have an example of a dry weather runoff project. These are called removal and reuse urban flow systems. The abbreviation is RRUFS. And this concept has been developed by my colleague, Alfredo Margallanes, the manager from the -- for the Upper Los Angeles River Watershed.

And what you see on this schematic, it's a low flow diversion. And what they do is they defer dry weather runoff from the storm drain into the sewer system. It's a

traditional design, but the new thing about it is that on the right-hand side you see that the low flow diversion is connected to a local Green Street. And what the plan is, is to take the water, the diverted water, a portion of it and bump it up and bring it onto the Green Street, use it for irrigation, and thereby offsetting potable water use.

Here's an example of a project by La Canada/Flintridge. And I apologize, this slide came in last night. I don't have much more information than what is on the slide right now. But it looks like a multi-benefit Green Street project. It has transportation elements. They also bring in stormwater capture elements. And they hope to schedule the project in the year 2019.

So at this point I would like to give it over to Jolene Guerrero from the County of Los Angeles for the next projects.

MS. GUERRERO: Hi. My name is Jolene Guerrero and I'm with L.A. County.

And this is one of the first projects we're working on. It's the Franklin D. Roosevelt Park. It's located in the unincorporated area of Florence-Firestone. For this project we are going to be constructing three underground infiltration galleries. These will capture the 85th percentile runoff from 203 acres which will help to improve the water quality of Compton Creek which is a

tributary to the Los Angeles River.

Other benefits of this project include groundwater recharge to the Central Basin. And we're proposing to replace the existing grass in the soccer field with artificial turf, add a healthy court with ADA accessible exercise equipment which is lacking at the park, and an educational garden with interpretive signs to explain the stormwater BMPs.

We've completed 30 percent design plans and have applied for the drought round of the Prop 84 Grant. The construction is slated to begin in the fall of 2017, and expect completion in spring of 2018. This -- the value or the cost of this project is estimated at $7.5 million.

MR. KRAUSS: Hi. My name is Doug Krauss with the City of Hawthorne.

We just recently finished a major street reconstruction project. And Hawthorne Boulevard has these incredibly wide medians where -- that were used for parking. We were able in the reconstruction process to install infiltration chambers all throughout there, so that will be draining an area of 45 acres, 400,000 cubic feet of storage. We're currently working on design and funding to do another mile stretch of Hawthorne Boulevard with similar infiltration chambers. And currently out to bid on a catch basin retrofit project that will retrofit 500 catch basins.

Thank you.

MR. COX: Okay. Another example of a project in -- that's right now happening in the Dominguez Channel Watershed is the Century Boulevard Green Street Project which is in the City of Inglewood. And this is a good example of a multi-benefit Green Street project. It's a very large project. The total cost, I believe, is about $20 million, but it brings many benefits. And it's a transportation project where they are trying to reduce the number of the traffic lanes. They're looking at the walkability and the connectivity in the neighborhood, but at the same time they're bringing those -- those stormwater components into the project. And so this is a good example of -- of leveraging your resources.

Going to the next watershed, Santa Monica Bay Jurisdictions 2 and 3, with two examples. And this is a project that has been mentioned a few times before this workshop. This is the Riviera Country Club Project which is a good example of a potential P3 project or a private -- public-private partnership. And the concept here is to take -- it's a large subwatershed. And there's the Santa Monica Canyon Channel. And the idea is here to divert dry weather and wet weather runoff out of this channel. And next to the channel is this Riviera Country Club, and they are actually in need of water. They need to water to -- to

irrigate their golf course.

And what they have is -- right now on their property they have a tank of 350,000 gallons, and right now they're filling it with groundwater. So here the plan is that we take water from the channel and put it in their tank. And then after treatment of that water they can use that water for irrigation of the golf course.

This is another project example we're looking at. This is the Santa Ynez Canyon Watershed of Santa Monica Bay. And this would be typical example of a multiagency project. Here we are going to collect the water flow in the Las Liones draining area which right now goes into a debris basin. And currently that water goes from the debris basin into the flood control -- the storm drain system. What we're planning to do is take the water out of the debris basin and bring it to a nearby park and have a natural stream in that park to clean the water.

This project is located in the City of L.A. It is water of the City of L.A. The debris basin is the County of Los Angeles. And the park is owned by the State of California. So in order to make this project happen it means that we have three different government entities that need to sit together and essentially make things happen.

Ballona Creek Watershed, two project examples. The first one is Burton Way median from Beverly Hills. On

the -- on the map you'll see an area at is red, circled. In the middle of it you'll see some street medians, and they're quite large. And because of the drought regulations, irrigation with potable water of those street medians is not allowed anymore, so that's good news for the local water supply but it's bad news for the street medians.

So what they're trying to do is convert this street into a Green Street. And they would like to collect stormwater and urban runoff from the street and use that to irrigate or provide an alternative source of water for the street medians. In addition, they would like to improve their flood management. And they're also looking at increased walkability and public access.

And this is the last project. And I'm quite excited about this project because this is an example of trying to make use of existing infrastructure with the goal of using it for stormwater. This is in the Hollywood Hills area. And on the map you'll see that double red line. That is an abandoned sewer line. It has been disconnected from the sewer system but that line is still there. And the goal of our project here is to use this for a stormwater project.

And phase one of that project is to go in to build some Green Streets in the upstream portion of that area. And water from those Green Streets will be conveyed into that sewer line. That sewer line will then be used as part

of the conveyance system for stormwater. But because that line is a few miles long and is quite wide, total volume of the sewer line is about 300,000. That is our detention basin at the same time.

The in phase two of this project what we hope to do is to connect the downstream end of the sewer line to two regional projects that have been identified in our EWMP for the Ballona Creek Watershed. And one of those regional projects is located in the City of West Hollywood. And the other one is located in the City of Los Angeles. Okay.

So these are our -- some examples of the projects that folks in the various watersheds are working on.

So coming to the closing remarks, we believe that these EWMPs, they represent a major leap in stormwater planning. These are the best plans that we have ever developed. The projects in the EWMPs, they will require large stormwater capital improvement plans. But communities will be transformed as widespread green infrastructure is being implemented. And then lastly, what we hope that we have shown here today is that many projects are underway and we're trying to use innovative approaches as much as we can.

With that, thank you.

CHAIR STRINGER: Thank you very much. We love hearing about projects and seeing projects. No offense to the Reasonable Assurance Analysis folks. They're

concrete -- not concrete, hopefully. Broken concrete.

So next up is Culver City.

MR. YOUNG: Good afternoon, Chair Stringer, Board Members. My name is Kaden Young. I'm the Associate Engineer with Culver City, Stormwater Manager. I'm here to update you guys on the city's EWMP implementation since we submitted in June.

We're in two watersheds, Marina del Rey, as well as Ballona Creek.

The first one is Marina del Rey. We have the Costco Regional Infiltration System Project that everyone is kind of looking at right now. It's a private-public partnership that we're working with Costco on. Like Renee had referred to earlier, it's going to be designed to capture the entire 42 acres of the city's portion in the watershed management area.

We've had an early estimate cost of $4 million. And we -- we received a grant of $776,136 from the L.A. County Regional Park and Open Space. That was unanimously approved a couple days ago. So we have that. And then we're working with Costco on a formal agreement, we're negotiating with them right now, so the -- the remainder of the amount will be cost shared with them.

The -- we did the geotech report in the parking lot. That's where we thought we would infiltrate all of

this water, but we're reviewing all of that. We did issue an RFP for a design in June. We received proposals in August. We did soil borings in the parking lot, it looked great, but now we're doing a few more borings on the side where we're actually looking to install these systems. So if you see the green lines on both the east and west, those are the areas we're proposing. The area within the red, that's where they're redeveloping.

What wanted to do by pushing it to the side is so we would disturb less of their business. That's one of the factors working with the private industry is we have to take into consideration their needs and their wants, as well. So we're looking at more of a joint project that will straddle both their property, as well as our right of way.

The next step in this project is the pre-design. And we're hoping that we can move forward on that within the next couple of weeks.

Ballona Creek, we have the Culver Boulevard Median Realignment Infiltration System. In that picture right there you can see it, that little sliver of red at the bottom. The green, that's City of Culver City. Purple is City of L.A. The entire thing is about 829 acres that we're looking to capture. It's really huge.

The RAA ran -- when we ran the RAA, of course, it showed that the project may not be able to capture the

entire drainage area. So what we've done is we're looking at -- we're doing more soil sampling to see if we can expand the area, the footprint. Because the borings have shown that groundwater is 50 feet below, so we know we have capacity, we know how low we can go. Now we're just looking to see if we can expand the area a bit more to be able to capture the entire drainage area.

We already have some money set aside for that. We received a grant to do the realignment portion for this project for about $6.5 million. But we asked for an extension on these grants so that we can incorporate this stormwater aspect, and we have received that extension. So now our focus is to make sure that we can design it and then do it all at once, the realignment, as well as the infiltration.

The geotech report, like I was saying, we are looking to extend the area. So that report should be done sometime this week. We're meeting with the City of L.A. Monday morning to discuss a partnership on this. And then we're also looking to apply for SMBRC's Prop 84 Grant which will be utilized to fund projects that are identified in EWMPs.

Citywide efforts regarding funding, our CFO and city managers are looking at developing a stormwater fee, and it's pretty aggressive. We're looking to have it done

and place it on the November 16 ballot. Very aggressive. We don't have a stormwater funding mechanism at the moment, so we understand how hard it's going to be. But luckily we are going to utilize, you know, existing data so -- such as the county's previous efforts and all of that. We're -- we have money funded for developing a Green Street Master Plan.

Once we know where we can place projects on Green Streets we can also develop an in-lieu fee program for our (inaudible) and LID. And we, again, we are using existing data such as the water quality equivalency that the San Diego Regional Board has published. We're going to apply for a Prop 84 Grant again, Prop -- I mean Prop 1 when it comes out in January.

And then we're working with our school district, our parks, and the L.A. County Flood Control, Inglewood. We just received email from our school district giving us some numbers that they crunched. We're working with them to see if we can replace their field to utilize our stormwater capture, as well as renewing their fields, as well as providing them with irrigation since they can't irrigate as much as they used to.

Thank you.

CHAIR STRINGER: Great. Thank you very much.

Mr. Ray Tahir?

MR. TAHIR: Good afternoon, Mr. Chair, Board

Members. It's been much -- much too long since the last time we've seen each other.

There are a number of concerns my clients have about the EWMPs. To begin with the costs are burdensome. The implementation costs are in the millions of dollars range, as you know. And as you also know, the funding sources are insufficient. Prop 1 funding is limited to grants. There's not enough to cover the shared EWMP costs -- implementation costs. For example, the City of San Fernando has to come up with $1 million in 2017 in order to meet the 31 percent milestone for metals. The stormwater fee is not feasible because of voter anti-tax sentiment.

The EWMP is actually based on faulty modeling data, not the model itself. The model is okay. But like any other model, garbage in, garbage out. The high EWMP costs are based on TMDLs derived from wet weather standards. Okay. But TMDLs and other water quality standards are not wet weather standards, but instead they are ambient or dry weather standards. And this is per the California Toxics Rule. This is not a guidance document, this is a federal regulation that has to be followed that hasn't been followed.

An ambient standard, by the way, is easier to meet than a wet weather standard. And note, the State Board has ruled that nothing in State of Federal Law requires

compliance with wet weather water quality standards. This is per Water Quality Order 2001-15.

The model needs to be recalibrated. It needs to be accuratized based on outfall monitoring, data measured against ambient conditions in receiving waters. I believe that Dr. Eric Booth who is a consultant for NRDC made that point during the WMP presentations. The model needs to go -- needs to go back to the drawing board and the EWMPs really should be put on hold.

The EWMP is based on invalid TMDLs, by the way. Many cities are subject to TMDLs that are really not valid ones. Permittees located in the Upper San Gabriel River, that’s Reach 3 and above, must comply with Metals TMDL, even though these reaches are not identified on the State’s 303(d) TMDL list as being impaired. The same as in Reach 2 of the Rio Hondo and Arroyo Seco reaches are listed incorrectly in the MS4 permit as being subject to the Metals TMDL. Again, none of these reaches on the 303(d) list reflect any of these metals as being impairing to those regions.

The cities in the Dominguez Channel are also subject to TMDLs for downstream harbors, even though they do not share the same TMDLs. The explanation for the extension of downstream reaches to upstream reaches is that upstream reaches contribute to downstream impairment. However,

there's never been any outfall monitoring data to validate this.

If the effected cities were relieved of having to comply with the (inaudible) TMDLS compliance costs would be significantly reduced and there would be no need for the EWMPs or the WMPs in many cases.

The EWMP focuses on infiltration projects, as we all know, regional, and for municipal, primarily green streets, but there's no data. No data has been provided to show that EWMP infiltration materials which must meet the 85th percentile design storm requirement will meet TMDLs at the outfall of any receiving water. This is an issue raised by the environmentalists and, by the way, the USEPA in a letter from David Smith of Region 9 to the State Board in January. And John Klemmer, as you recall, during the MS4 permit adoption hearing in November of 2012,

> "The data must show that infiltrating a certain volume of runoff into the ground will also certain -- which will reduce a certain amount of pollutant discharged from the outfall to receiving water."

The EWMP, by the way, could expose to cities to things like lawsuits. There's no safe harbor (inaudible) against violations. There's been no data provided to show how the EWMP infiltration controls which must meet the design storm requirement will meet TMDLs and other water

quality standards at the outfall of the receiving water. This issue was raised by environmentalists and USEPA in a letter from David Smith -- I'm sorry, let me look it up.

In any case, the bottom -- the bottom line, the recommendation is to allow permittees to switch from EWMPs to the Stormwater Management Program option which is covered under the iterative process. The iterative process involves BMPs in this WMP and evaluating them through monitoring and adjusting them, if necessary, over time until the TMDL or the water quality standard is met. The MS4 permit specifies this iterative process in part 5(a) which is based on State Board Order 9905 and -- and 2000-15. The iterative process, by the way, is a federal requirement under the statutes referenced there.

Here's an excerpt from the USEPA fact sheet evaluating municipal stormwater programs.

Before I -- before I get out of here I need to mention to you, the reason why the iterative process did not work is that there were no benchmarks to evaluate the municipal for the 2001 permit per USEPA guidance. I mean, there is actually no reference to the term iterative process in the 2001 MS4 Permit. You have to have those benchmarks in order for the iterative process to work. It didn't work because nobody wanted it to work.

Thank you very much for your time. I appreciate

it.

CHAIR STRINGER: Mr. Tahir, before you leave, were you -- are you speaking on behalf of anyone today?

MR. TAHIR: Yes, I'm here for City of San Fernando. There are -- there are some city council folks who are my clients who are out here who --

CHAIR STRINGER: Okay.

MR. TAHIR: -- who will speak individually.

CHAIR STRINGER: Great. I just wanted to have that on the record. Thank you very much.

MR. TAHIR: You got it. Thank you, sir, for your time.

CHAIR STRINGER: Thanks.

MR. TAHIR: Appreciate it.

CHAIR STRINGER: Mayor Margaret Clark from City of City of Rosemead.

So we're going to -- I'm running through the -- the cards now. These are people who have asked to speak today. We've got three minutes for each speaker. And what I'm going to do is call a couple names at a time so you

can -- the next person can be prepared.

So next up is Dan Medina -- Medina --

BOARD MEMBER DIAMOND: Medina.

CHAIR STRINGER: -- Medina from City of Gardena.

MAYOR CLARK: Okay.

CHAIR STRINGER: Hello.

MAYOR CLARK: I'm Margaret Clark. I'm speaking on behalf of myself. I have some concerns. We are a member of the Upper Los Angeles River EWMP Group. And when we joined we were basically told that we'd be sued if we didn't. And we didn't really know how much it was going to cost.

Now that we know, they've come down with $6 billion for the entire EWMP group. And -- and really, I -- when I heard the environmental groups saying that we have to come up with a funding plan, there's no way we're going to come up with that kind of money. And in fact, just Tuesday one of the cities in the San Gabriel Valley had a bond for their police department, and it failed two to one. Now what's more sexy than -- than police, you know, to get -- to protect you? How are the people going to vote for stormwater when they don't even know what it means. So I do know there's -- I agree that there's an education process that needs to happen, but there is no way we can come up with this kind of money.

And so I would much rather -- and I happen to serve on environmental committees at the -- at the federal, state, regional and subregional level, and I want to do what's best for the environment. We really want to clean up the water but it has to be done right. We have to know

we're doing the right thing, that the money is going to go for -- where it needs to, and that we won't be sued at the end of the day.

So please help us. I would really beg you to allow us to do the watershed management plan and work -- work it out so that we don't have to spend this huge amount of money.

So I'll -- we -- one of the things with Rosemead that kind of bothers me, we're in Reach 2 of the Rio Hondo, and yet we are in the EWMP with San Fernando, for example, that has different TMDLs than we do, and that doesn't make sense to me.

So I hope that you will listen to us and give us some slack. So thank you very much.

CHAIR STRINGER: Thank you.

Mr. Medina from Gardena. Sorry, I couldn't resist.

MR. MEDINA: Well, you can say it's Medina from Gardina, but, no. Only if you're in Ohio is it Medina.

My name -- good afternoon, Board Members. My name is Dan Medina. I city on the Gardena City Council, and I'm here to share with you my -- my city's concerns regarding the EWMP.

The Regional Board staff and the City of L.A. have been urging us to participate in the EWMP. And we had to --

we had to decline the invitation. The decision is based on the following.

Number one, it's far too costly, several millions of dollars per year for the next 20 to 25 years. No.

Second, there's no reliable funding source to pay for the EWMP implementation, as you've heard prior. Proposition 1 funding doesn't cut the mustard either. And it's also doubtful that property owners in L.A. County would vote for a stormwater fee. Anytime you ask the voters to reach in their pocketbooks you know what their answer is going to be. And support of another water measure, I doubt it very much.

Thirdly, there is no guarantee that the EWMP would place Gardena in compliance with the TMDLS.

We understand that the environmental community has also filed a lawsuit challenging all EWMPs on several grounds.

One of them is that nothing in the administrative record shows that diverting runoff to regional infiltration -- infiltration basins will meet the TMDLS.

Also, there's a concern by the USEPA that -- the USEPA has raised a letter -- sent a letter to the State Board a few months ago regarding their concerns.

Also, if Gardena commits to an EWMP there's no funding to build regional infiltration controls and it would

be out of compliance and subject to litigation from third parties.

And fourth, the EWMP involves excessive monitoring requirements, including to have to comply with TMDLs based on wet weather standards instead of ambient standards which comply -- which apply only to dry weather conditions. It is more difficult to comply with wet weather TMDLs than ambient TMDLs. And in any case, Federal Stormwater Regulations only require compliance with ambient TMDLs.

As for the reasons that Gardena has chosen –– as -- these four reasons are why Gardena chose -- has chosen the Stormwater Management Program option which is governed by the iterative process. And this option is clearly specified in the MS4 permit and provides a shield against violations resulting from not meeting TMDLs.

However, the Regional Board staff does not agree. So please advise Staff that the iterative process allows ongoing evaluation and adjustment of the Stormwater Management Program cannot be denied. It is --

(Timer rings.)

MR. MEDINA: Well, thank you.

It is the USEPA policy supported by State and Federal Law. And thank you for granting me time and granting me the time to address this issue.

CHAIR STRINGER: Thank you.

MS. NELSON: Good afternoon, Chair Springer, and Board and Staff. Thank you very much for giving us this opportunity to speak with you. I'm Judy Nelson. I'm a Councilmember from the City of Glendora. Our city, as all other cities, I believe, at least most other cities are very concerned about how we are going to be able to comply with this permit.

We support the concept of having clean water and clean beaches. And for a decade, at least, we have worked beyond the requirements of the 2001 permit to make sure that we are putting in measures to capture water and to clean our -- clean our water. Additionally, 90 percent of our water is captured within our regional basins. Only ten percent goes to the ocean.

Glendora is a city of 50,000 with a general fund budget of $28 million per year. Our estimated EWMP costs are one-third of that general fund budget. Those costs are estimated to be approximately $500 per household per year. If we knew where our funding was going to come from we would have put it in our plan. We don't know where we will be getting that money.

Thank you all for acknowledging the staggering costs to the cities for complying with this permit and for all of the work that you and other reporters today have talked about ways to fund. It's clearly an unfunded mandate

that comes from no -- comes with no funding stream from the state or the federal government. The burden of the costs are on the cities. And much of the conversation now is directed to putting the burden on our citizens. This will require approval of the voters who are at the same time being asked for more money for transportation, healthcare, air quality improvement, and much more.

At the federal level there's an increasing interest in requiring that EPA mandates are affordable and have reasonable timeframes for compliance. Under the clean water act the EPA has indexed 4.5 percent of median household income as the affordability criteria for water costs to residents.

A recent study conducted by the U.S. Conference of Mayors shows that water costs in many areas of L.A. County, especially in disadvantaged communities, already exceeds that 4.5 percent. This is before any stormwater costs are considered.

The EPA has employed the Financial Capability Act since 1997. This process does not waive the requirement to comply, but it looks at the affordability and the timeframe for compliance with mandates.

And in June of this year a lawsuit between the EPA and the State of Michigan, the Supreme Court determined that when implementing regulations for mercury the EPA failed to

consider the crippling costs of the regulations, the short time period for implementation, and the relationship of the cost to potential benefits.

If I could have just another minute, I have a few other comments I'd like to make.

The Glendora City Council and Staff ask that the Board begin implementation of financial guidelines similar to the federal financial capability assessment that I mentioned earlier. Consider making changes to the permit requirements that would reduce the costs and extend the time period for compliance with that permit.

Implement a method for cities to partner with Caltrans in areas where our jurisdictions abut such as for our city along the 210 Freeway, just as we're currently partnering with L.A. County Department of Public Works. This would increase the efficiency of our work and lower the costs.

Implement a method to speed up the current process of approvals from other agencies. For example, we're now ready to set up monitoring along the river but we're waiting at a standstill for approval from the Army Corps of Engineers. This delays us in being able to move forward with our timeline.

Lastly, the speaker from Heal the Bay talked about the effectiveness of working collaboratively to achieve

success with cleaning our water. And I believe that is the best approach that we can take.

I would appreciate the opportunity for the City of Glendora and any other interested cities to be an active participant in a collaborative process which the environmental groups and the L.A. Regional Board. Together I believe we could come up with some plans that we -- that would work for us.

Thank you very much.

CHAIR STRINGER: Great. Thank you very much.

John Capoccia. And next up after Mr. Capoccia is Joyce Dillard.

MR. CAPOCCIA: Good afternoon, Chair Springer, Members of the Board and Staff. My name is John Capoccia and I'm the Mayor of Sierra Madre, a small town of 11,000 citizens in the San Gabriel Valley.

We fully support the goals of the Clean Water Act, and are also supportive of the Regional Board's bold vision of a comprehensive approach to achieving clean waterways. I'm very encouraged from what I've heard today that the funding challenges associated with EWMPs are starting to be recognized.

However, I want to emphasize that these challenges must not be underestimated. Despite a long list of possible grant sources that have been identified, these will at best

provide only a fraction of the needed funding, as you've seen from the City of Los Angeles's presentation. The rest will have to come from taxpayers and it will be a tough sell to convince voters, and that challenge will vary by municipality for a variety of reasons, among which are affordability and tax fatigue.

The long lead time that is necessary to implement a parcel tax must also be taken into consideration, which will make it extremely challenging for cities like Sierra Madre to meet a very aggressive timeline.

I don't mean to bore you with mundane details but like many cities, Sierra Madre has financial problems. We have a general fund budget of approximately $8 million per year, and we are projecting a $1 million deficit for the upcoming 2016 Fiscal Year. Our EWMP capital costs are approximately $25 million, not including the O&M costs. Like most cities, we simply can't fund even a fraction of the EWMP costs from our general fund as we're already struggling to fund our police, fire, public works and other community programs that our citizens value.

Much has been said about the beneficial use of additional stormwater capture to augment potable water supplies. But I want to caution you that the financial contribution will be minimal. For example, full implementation of the Rio Hondo-San Gabriel River EWMP will

capture only 700 acre feet per year, which is about 1.5 percent of the water consumed by its member cities. If the captured stormwater is valued at $1,000 per acre foot, which we heard earlier, and that's significantly higher than what members pay today for replenishment water, it would still subsidize less than 2.5 percent of our EWMP costs.

I do agree with what I heard earlier, that public education is the key. I believe the environmental community needs to play a key role with this. It would be very helpful for them to make the case to our citizens that they will receive a tangible benefit for the incremental taxes they are being asked to pay. I disagree with the earlier request that the EWMPs should be rejected unless they provide a comprehensive funding plan. You are all aware of the substantial hurdles that must be overcome to oppose additional taxes and fees.

So with that, thank you for your time.

CHAIR STRINGER: Thank you very much.

Joyce Dillard, followed by Bill Johnson.

MS. DILLARD: The City of L.A. has had probably more experience in this for a while because we had Prop O. But I can tell you that a lot of things have been avoided in the financing of these issues.

It started, I think, back in the '84 Olympics when they -- when the City of L.A. had MICLA, Municipal

Improvement Corporation of Los Angeles. It's a nonprofit. It's a member. If one leaves, another member approves, but the city council can reject. Their meetings are Brown Act noted. Three places it's posted, not online, no website. The last meeting I asked them to go public a little more, create a website, create an electronic as the rest of the city has.

So if you're going to educate the public on capital improvements -- we've been trying to get a infrastructure report card out of the City of L.A. for a long time. They're supposed to do it as part of their general plan mitigation monitoring. They don't. They get away with it because they say they have no money.

We're used to DWP as being our water supplier. We're not used to the Regional Board being our water supplier. Our water supplier has limitations and limitations on what they can charge now to their -- their customers after the San Juan Capistrano case. I don't think you'll pull -- going to pull the eyes over that group that watches DWP. I talk to them. They don't follow it because they're following DWP. But when the hear these high costs coming they're going to scream because they scream now about DWP issues.

I think you need to address the asset management plan. It's in the comments. We're having it already based

on the mayor -- Shahram Kharaghani knows nothing about it. If he does he doesn't -- didn't talk about it -- hired a consultant to do asset management. Why? They're going to pull the equity out of our assets. Right now the financial statement doesn't even list them accurately.

And I had this talk with Ron Galperin when I said, "Are you going to translate what comes out of the asset management plan onto the -- the financial statements now?"

And he goes, "What asset management plan?"

He didn't even know.

So it's done to create these public-private partnerships to take the taxpayer funding, the low level of investment in land, pull the equity out, create more jobs for consultants, more contracts, more stock increases. It's nothing to do with the public and it's really nothing to do with water quality, because who is in receipt of this water quality? It is not clear to me who is receipt of it now the way it is. Nothing is clear. It's all on modeling ten years, not drought to drought, not El Nino to El Nino. Ten years is nothing in the life of this. And our watersheds have to -- we're in an urban watershed. You want to put us in a natural watershed, stop this density because it's ridiculous.

We who watch the money and the cities are tired of this. We want elected officials over this. I mean, you are

appointed. It's nice you take your time to be appointed, but this isn't coming in the proper order for people to discuss it, to know about it. It's put outside that public realm. And the more that I see this and attend meetings, I attended one last week with the USEPA that Congressman Napolitano had, it's all being done outside the public process and I think we're all tired of it.

We just want things done right. We want things to work. We want our streets to be streets, not green. We know our issues from the environmental, from the CEQA process. This is not even in there ever, only SUSMPs.

Thank you.

CHAIR STRINGER: Thank you.

Mr. Johnson, Bill Johnson.

MR. JOHNSON: (Off mike.) I must have been mistaken. I've already spoken.

CHAIR STRINGER: Oh, okay.

Rex Frankel. And after Mr. Frankel, Glen Kau, probably mispronounced, K-A-U.

MR. FRANKEL: Thank you all very much. Again, my name is Rex Frankel. I'm wondering -- you may wonder, why are the EWMPs such a hard sell to taxpayers? Well, what they -- actually, parts of the EWMPs are dried up creeks, dug up parks, dug up streets, no new creek and river parks. Only some of the beach closures will be reduced. So instead

of trying to make it easier to push an unpopular project passed the voters, give the voters a project they want to pay for. And currently the ones, at least in the City of Los Angeles that I'm dealing with, are not them.

The current L.A. City EWMPs are short on true natural water treatment, creek and river restoration. Instead they feature heavy reliance on concrete under-street reservoirs, not the multi-benefit projects L.A. voters were promised in the first funding bond measure that was called Proposition O in 2004. We want the river parks and habitat creation we were promised. Without them there will not be voter approval of a Prop O number two.

I am here, however, to support unburying Upper Ballona Creek, the underground ten miles between Griffith Park's Ferndale Canyon and where the creek reappears at Cochran Avenue and Venice Boulevard. The Ballona Creek Watershed is the most paved over in Los Angeles. Ballona Creek now is like a dead-end street. That is why the Ballona Creek EWMP requires the highest percentage of private land usage in it at 52 percent of the total job, higher than all other EWMPs as public land is in short supply in the Ballona Valley. This 52 percent of private land use in the plan is all developed.

We fear the agencies will make deals to turn supermarket parking lots into underground reservoirs and

filtration sites that will stay parking lots afterwards. Instead, our dollars should buy a centralized recreated Upper Ballona Creek approximately 150 feet wide by 10 miles around 200 acres of land. Such a project would naturally and via gravity catch and clean around one-third of the watershed's area of runoff, but it would also be a true multi-benefit project, creating a 50-mile loop park -- from Griffith Park to the beach, then to the Browdy Beach Park (phonetic) -- Beach bike path lot, to Pacific Palisades, then to dirt and paved Mulholland Drive to Griffith Park.

Connecting communities of all incomes to our regional park system and the rim of the valley parks would be -- this project would accomplish. It would create wildlife habitat, economic opportunities for the surrounding areas, much needed green space and water percolation to enhance our groundwater supply. But mainly, unburying Ballona Creek provides a real selling point to taxpayers and voters who so far as the neglected link in making these EWMPs a reality.

Again, if you want voter and taxpayer support, give us a project we're willing to support. Thank you.

CHAIR STRINGER: Thank you. Last up is Glen Kau from the City of Compton.

MR. TAHIR: He had to leave.

CHAIR STRINGER: Oh, okay. So that concludes the

public comment portion of the workshop.

We will now go into sort of question/discussion mode. I think Renee and other staff members, I think you guys should probably be prepared to engage with us all.

I was thinking as we're -- as I'm listening to all this that it might be most helpful to divide the discussion questions into categories. And so maybe process is the first -- the first one, questions, comments, discussion about process. I've got one thing I just wanted to flag. I don't know if anyone else has anything before that.

So my only -- the only thing that I wanted to address is that the, you know, the MS4 permit obviously gives the option of -- of Sam making decisions and the Board making decisions on the individual permits. And on the -- on the WMPs, Sam made the decisions, and I think we've all experienced that. And I wanted to just, you know, for the benefit of -- of Staff just make clear now that we're all comfortable with that same process.

I'm mindful of the fact that some of the Board Members may want to talk about things that came up last time that we want to make sure we avoid this time. We have a Board subcommittee in place to -- to make sure there's continuity between Sam and the Board. And there's question -- if there's question that come up, Sam can get some guidance, being mindful of the fact that the decision

is Sam's.

But I just wanted to make sure that that was -- that Staff had clear direction on that because that is, you know, kind of an open question. And I think it would be helpful to get that resolved now as opposed to waiting.

BOARD MEMBER DIAMOND: May I ask --

CHAIR STRINGER: Well, yeah.

BOARD MEMBER DIAMOND: Well, it's a different question.

CHAIR STRINGER: Sure.

BOARD MEMBER DIAMOND: Is it okay?

CHAIR STRINGER: So -- well, just -- let's just pause on that one.

Are there any questions on that?

BOARD MEMBER GLICKFELD: I have -- I have --

CHAIR STRINGER: Yeah.

BOARD MEMBER GLICKFELD: -- on that. I really think I -- I think we should have a discussion on that very issue with the staff.

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: I did not think that everything worked out really well last time. I think the staff new that there were some problems in terms of access. So I do -- I don't think the Board should be making these decisions. These are very, very technical plans. We really

need the staff to do that.

On the other hand, I want to make sure that the -- that all of the stakeholders are afforded the same benefits of notice, time to comment, getting their comments taken into account, maybe having meetings between the environmental groups and the -- and the EWMPs so that they can come to some kind of meeting of minds. I really don't want to see us come to a hearing and then have an appeal and have these people's comment, but they didn't see these comments. I know that you didn't love that, either.

And I'm asking you to make sure that that doesn't happen again, that the process is one that everyone feels that they've gotten a fair shake in, that everybody's gotten notice, they've seen your comments, they've seen what -- they have time to see the responses before you make any final decisions, that if you have -- and I don't think we're going to give you guidance on whether or not you can make conditional approvals or not. I think that's something that you have to decide. But certainly if you're going to do that there should be a lot of notice to people that you're doing it. That would be -- those are the issues that I'm concerned about.

The bigger issue, as well, is more substantive. And I'll let somebody else talk first. But the biggest issue is, okay, we have these EWMPs. You -- I read about a

million comments last year, suggestives. You have a very, very good template for every single EWMP, how you address changes. I can't tell which ones can be done in three months, which ones can't, where the serious defects are. Where they're all -- are they all fine? I just think that there needs to be another level.

Now that you've done this huge amount of work, maybe you need to step back a little bit and at least let us know and let yourselves know, okay, this EWMP, the changes that we're asking you to do are mainly editorial changes or -- or change -- run another model that they can do in 90 days.

But are all of the changes that you're asking for that way, or some of them requiring major redos that they don't have time to do? How are -- how -- how can you let us know and let yourselves know in an early warning system whether you've got a real problem in terms of schedule or not? I think that's -- I think that's a big issue in terms of the process. Because I couldn't tell, and I read this a lot, I couldn't tell what was easy to resolve, what was hard to resolve, whether they could all be resolved within the timeframe that we discussed today or not. And I don't have any sense of which -- which are the strongest EWMPs, which are the weaker ones, what kind of help they need, or are they all just fine? Are you ready to sign off on them as

soon as they make these editorial changes?

So I'd like to get a sense of what you're thinking. I mean, give us a grade of some type.

MS. PURDY: So shall I go ahead and respond to that --

CHAIR STRINGER: Yes. Yeah, why don't we --

MS. PURDY: -- at least to a certain --

CHAIR STRINGER: I'm sorry. Hang on one second.

MS. PURDY: Okay.

BOARD MEMBER MEHRANIAN: I think I'd like -- you know, at the same time that I -- that I hear, you know, this discussion, at the same time I have a, you know, huge trust in the staff. And for me to stay that there was lack of transparency or there was lack of -- or there was delay or lack of action, it really -- I really get concerned. And I don't want to -- I don't want to just take it as it was a given. And I want -- and I want to believe that it wasn't and -- and the process was fair and everything.

And that's why I want to hear your explanations, we heard everybody else's or the ones who thought that they don't have access. And it concerns me and it bothers me in the back of my head that that could be true or what percent of it is or all that, and it's important for me to hear you guys.

MS. PURDY: Okay. So shall I start on that? I'll

start, and then if you guys want to chime in --

CHAIR STRINGER: Please.

MS. PURDY: Let me start with sort of one -- because I heard two things. And I think I'll -- maybe I'll start first with the questions about the types of comments that -- you know, kind of stepping back from all the detailed comments and maybe trying to give you a bigger picture view of our comments and -- and the EWMPs and how -- whether they're going to be able to address our comments within the three-month timeframe that they're allotted to address them.

BOARD MEMBER GLICKFELD: If you can't answer them now, you don't have to.

MS. PURDY: Well, I think I'm going to give you a very high-level answer.

BOARD MEMBER GLICKFELD: Okay.

MS. PURDY: So we feel as though the comments will be able to be addressed within the three-month period. That's not to say that they're just editorial. I mean, you've seen the comments that we gave them. And the majority of the comments are substantive comments. But in some cases the comments are asking for clarification of approaches or clarification of modeling results which we believe they will be able to address because they have the data, they have the model runs and results. They'll be able

to clarify those things for us.

Another type of comment that we had, which I talked about in my presentation, is on the compliance schedules. And in some cases we did say we don't feel like you've provided enough justification for some of the schedules you proposed. And you need to go back and either give us more justification or, in some cases, shorten the schedules that you've proposed to achieve certain things.

So that I think, I mean, it's going to take them going back and thinking about it and, you know, trying to figure out what they can do in a shorter period of time or giving us more justification.

So I would say that all the comments really are ones that they can address. I mean, in some cases there was -- there were some errors that will be fairly easy for them to fix. There is -- there is nothing that we're seeing in the EWMPs that is looking as though they need to redo all of their modeling, which could take much longer than -- than three months.

BOARD MEMBER GLICKFELD: Well, would you say that most of the comments are in the scheduling, compliance scheduling or financing area?

MS. PURDY: I would say, I mean, they were -- it's hard to say they were all because we did have comments, as you saw, in many different -- on many different elements of

their EWMPs. But many of them were about the scheduling, were about the detail, the level of detail in terms of the milestones, were about clarifications on the analysis that they did. Some of them were regarding who -- more clarification on who's responsible for which things so that we can more easily track the implementation of the EWMPS. So I think that the -- the types of comments we had I feel like can be addressed within the timeframe we've given them to make the revisions.

And I would be reluctant to give our grades, so I'm not going to do that today because I do think that, I mean, when you look at the EWMPs you will see quite a bit of variability. There are certain requirements that they all had to meet. But geographically L.A. County is very diverse. And so the EWMPs are going to look different. And so it's -- you know, you might see one that looks like it's not proposing quite as much in terms of regional projects, but that may be appropriate for the water quality requirements that they need to achieve. They may not need to do quite as much because they have very large amounts of open space, and they don't have as severe water quality problems. So I think that you have to look at each one individually and evaluate them, which is, of course, what we did, against the permit requirements.

So that's -- hopefully that is the -- that's my

high-level response to -- to that for now. We can certainly have an ongoing discussion about it.

But did you want to say something?

EXECUTIVE OFFICER UNGER: (Off mike.) (Inaudible.)

MS. PURDY: I think I covered that.

EXECUTIVE OFFICER UNGER: Oh, you did?

MS. PURDY: Yeah. Yeah, I think so.

EXECUTIVE OFFICER UNGER: Well --

MS. PURDY: But do you want to add?

EXECUTIVE OFFICER UNGER: Well, I was just -- maybe Renee did cover it. But in my view, in terms of the -- our comments that went out, I think in addition to what Renee has said I think there's -- often times we were directing greater clarification and commitments, specifically with schedules and things like that and tying to those issues. I think the commitments were all very clear when TMDLs and pollutants were in place because the TMDLs have implementation plans that you know. But in case for other pollutants that do not have TMDLs, we were definitely looking for clarification of the commitments and timeframe as to when those targets would be met.

And I think Ivar --

MR. RIDGEWAY: Yeah. Yeah. And there's -- there's one other thing I want to point out that's actually

part of this workshop. I think one of our immediate concerns with the RAA approaches that you heard on both exceedance volume and that translates into exceedance days until volume, I mean, Staff immediately had concerns with both approaches. And we heard from the groups early on and we wanted to actually bring that to the Board so you're aware of our approach. We started off very uncomfortable with it. But once it was fully explained we became very comfortable.

So I think the remaining comments in there are things that can be addressed within the time period.

BOARD MEMBER GLICKFELD: I just want to say that I think our staff has done a fantastic today with this. It's literally heroic what all of you have done, what the -- what the EWMP participants have done and what our staff has done and what the stakeholders have done. I don't think we would have ever deliberately put you through this kind of a training exercise. I don't think anybody could -- this has been more like a decathlon going through this.

So I really want to let you know I appreciate it. I think the staff has done in the past the best that they could. But we're doing something brand new here, so things go wrong when they're -- when they're -- when they're -- it's brand new, not because anybody meant it to go wrong.

So I think that at this point we just want to be

really careful that as we delegate this decision to Sam, and why he wants it I don't particularly know, but that -- that he feels like he can set up a process where there's an adequate public -- adequate time for people to absorb what his proposed decisions are and have some time to think about it, have some time to react to it so that you can take into account all perspectives at the same time.

EXECUTIVE OFFICER UNGER: Yes. And I'd like to just respond to that question because I think it ties quite a bit to the issue that Board Member Mehranian brought up, which is essentially transparency and access to our process inside the Board as Staff is going through the -- their review and as they're generating responses, and we're going to be looking at the revised EWMPs that will be coming in, and that is that we reached out and we had, I think from my mind, a very productive meeting. Renee, Deb and I met with the members of the environmental communities who are here today and we are -- we're going to be working with them. They certainly have an open door to us. If they're not feeling that they have process, we've committed to them that we'll try to give them as much process and transparency as -- as is possible during this.

And right now, I think now that the letters have gone out, if you will, requesting the changes, it's time to live up to that. And I certainly hope that we can continue

that dialogue with the NGOs because they have some very good perspectives on this.

CHAIR STRINGER: Great. Thank you.

MS. PURDY: And --

BOARD MEMBER GLICKFELD: Oh, I'm sorry.

MS. PURDY: Sorry.

BOARD MEMBER GLICKFELD: Go ahead.

MS. PURDY: Could I -- I did want to just add a little bit to what said with regard to the process moving forward and just build on some of that. Because in addition to the meeting that he just mentioned that we had, we had a subsequent meeting that did not include Sam to talk about the substance of the draft Enhanced Watershed Management Programs with the -- with Heal the Bay, L.A. Waterkeeper and NRDC.

And you heard the -- the gentleman, Arthur Pugsley from L.A. Waterkeeper, thank us for the binder. We made sure that we produced binders of all of our comments for each one of the organizations. Of course, they're posted on our website. Our comments are posted on the website as well. But we made sure that we had those available to them and we took that meeting as an opportunity to talk through both our comments on the draft Enhanced Watershed Management Programs, as well as their comments on the draft Enhanced Watershed Management Programs.

And during that meeting we also committed to having another meeting with them later on this month to continue that discussion, and additionally to ensure that we have a meeting with them shortly after receiving the revised Enhanced Watershed Management Programs in mid to late January.

So while I -- we -- with the Watershed Management Programs we did follow the procedures that were outlined in the permit, these are extremely complicated documents, very detailed, hundreds if not thousands of pages long. And I think that while there was a process set forth in the permit, it does take a lot of time and a lot of discussion to really absorb everything that's in each one of these Enhanced Watershed Management Programs.

And so we're -- we're making a commitment to go above and beyond what is in the permit in terms of required process to make sure that -- that this time around with the Enhanced Watershed Management Programs, hopefully, the environmental community can feel more comfortable with what is happening in terms of our review and consideration of their comments, and then how the revised Enhanced Watershed Management Programs address those things.

BOARD MEMBER DIAMOND: I just -- I want to say right at the outset that I completely admire and respect the amount of work that you do and the way you've conducted

this. I mean, it's just quite amazing.

I will say that the one thing that I really, really missed in reading this was the response to the environmental community's comments. They had a very detailed letter of August 31st. And I looked and looked and looked. I knew we, you know, we didn't have it here with the -- the WMPs. But it -- it was something that I felt, you know, I don't know why we didn't have it. Maybe there wasn't enough time or maybe it wasn't something that you felt would have been appropriate for a workshop.

But I would just say as a Board Member the questions that were posed were very specific, very detailed, and there were about 15 or 16 at least. And at least some of those would have -- I was yearning to hear your response. I wasn't, you know, I wasn't making a judgment about what those statements -- whether they were accurate. They were certainly good questions. But the responses were something that I really, really would have liked to have seen from Staff. And I hate to ever ask you to do more work than you already do. But I did find that missing.

And I think that the environmental community is a very important stakeholder. They are important stakeholders in that they're very, very lengthy and intelligent questions deserved a response. So that would be the only thing that I would have to say, in addition to everything else that has

been said so far in terms of what a great process you -- you are conducting and how valuable this workshop is, except for that omission.

MS. PURDY: Uh-huh. And if I could respond to that because I think this is -- I tried to kind of cover this but probably not as clearly as I could have in my presentation, that it is -- it is very true, you're accustomed to seeing -- if there's a comment letter, seeing responses from Staff --

BOARD MEMBER DIAMOND: Right.

MS. PURDY: -- to that comment letter. The -- the interesting situation we find ourselves in here is it was a comment letter regarding draft documents that were provided by the permittees rather than, for example, a comment letter on Basin Plan amendment that we're proposing to use.

So in a sense it was -- we felt it was premature for us to try to respond to that letter because in many ways the comments that the environmental organizations had in their comment letter were similar to the comments that then we provided, also, to the permittees on their draft EWMPs. And so we just felt as though at this stage we weren't in a position and we didn't feel it was appropriate for us to respond to comments that the environmental organizations were making on the permittees' draft Enhanced Watershed Management Programs.

Now when the revised programs come in mid-January to late January we will be looking to see that our comments were addressed, and also that the comments of the environmental organizations were addressed in those revised Enhanced Watershed Management Programs.

So it's a little bit of an unusual --

BOARD MEMBER DIAMOND: Right.

MS. PURDY: -- and different situation than the type of comment letter that we're usually receiving which is a comment on work that Staff has produced.

BOARD MEMBER DIAMOND: Right.

MS. PURDY: And then, of course, we are obligated to and always do respond --

BOARD MEMBER DIAMOND: Right.

MS. PURDY: -- to all those comments.

But in this case we solicited comments on documents that the permittees produced. And then we also gave our own comments to the permittees on those documents. And now we're, you know, we're in that period --

BOARD MEMBER DIAMOND: Right.

MS. PURDY: -- where they will be considering and addressing those comments.

But we will make sure that we are looking at the environmental organizations' comment letter when the revised EWMPs come back in to see that the EWMPs did address those

comments as appropriate.

BOARD MEMBER DIAMOND: Okay. That -- thank you for that.

I just also wanted to say that I thought that I was very impressed with the -- the responses that you got, and maybe this is not -- or that we got today from many of the permittees. But I particularly wanted to call out the City of Culver City, because he did have a specific funding plan which we've all -- you know, we've talked about, many people have commented about it. And the fact that they're going to be having something on their ballot in 2016, I wanted to say that the City of Culver City, thank you for that. You're setting a great example.

I know one of my big disappointments is when we had the -- the initial discussions and hearings, and then the passage of our -- this permit, 2012 permit, was the hope that we would have a funding fee from the County of Los Angeles. And that, of course, was such a great -- you know, big disappointment when that didn't happen because so much of what we're talking about today would be different if it had happened.

So to begin with some of the cities doing this, and yours being the first one that we're seeing right now, I just wanted to thank you and thank your city for -- for beginning that process.

That's all I have right now.

MS. PURDY: Okay.

CHAIR STRINGER: Great. Thank you.

Do you have anything more? Again, we're on the topic of process now, I guess.

BOARD MEMBER GLICKFELD: I have another question about the subcommittee --

CHAIR STRINGER: Sure.

BOARD MEMBER GLICKFELD: -- which is that, you know, I hope that you will be meeting during the holidays and in January with our staff as they get their responses back in January and get a report from them in terms of the adequacy of the responses and what the next steps are going to be so that you can follow the process for us in that way.

BOARD MEMBER DIAMOND: We will be doing that, but probably not during the holidays.

CHAIR STRINGER: So that is -- that's the expectation. And I'm really happy to hear this discussion about sort of lessons learned, kind of a glance back, look forward kind of thing as we go through this, and that's extraordinarily helpful and comforting. And obviously you know and I hope everyone else knows that I personally just really appreciate the extraordinary and expert work that you're all doing. You know, as -- because of my current role I'm probably closest to it. You know, Sam, we talk all

the time.

So -- but I just -- you know, maybe for the benefit of those here, it is -- I don't -- I've been in public service for almost 30 years and I have never worked with a more dedicated and talented group of people in my entire professional life. So --

EXECUTIVE OFFICER UNGER: Thank you so much for saying that.

CHAIR STRINGER: -- that kind of goes without saying, I hope.

So is there any more --

EXECUTIVE OFFICER UNGER: Chair Stringer --

CHAIR STRINGER: Yes?

EXECUTIVE OFFICER UNGER: -- can I just say one thing to try to clarify one thing that was said on the record --

CHAIR STRINGER: Yeah.

EXECUTIVE OFFICER UNGER: -- which was City of Gardena? And they indicated that Staff was pushing them towards joining an EWMP rather than sticking with the previous permit.

CHAIR STRINGER: Yeah.

EXECUTIVE OFFICER UNGER: I just want to clarify that when we reached out to them we were looking for their intent, the intent date very early on in the process as

to -- a year into the process as to whether they planned to develop an EWMP or not. Once they made their decision we really didn't have any input into that decision whatsoever.

So I just wanted to clarify that, you know, Staff was not out there essentially trying to influence city decisions as to whether they should join a WMP or an EWMP.

CHAIR STRINGER: Thank you.

Yes?

BOARD MEMBER GLICKFELD: Some other substantive issues, which is in terms of the last set of -- the testimony we had councilmembers from the cities, individual cities. I assume all of those cities are doing the baseline plan or their own watershed plans; is that correct, the ones that testified late today?

MS. PURDY: No, that's not -- that's not the case for all of them. They -- the only one that is on, you know, what we've in shorthand referred to as the baseline program but has chosen not to do a Watershed Management Program or Enhanced Watershed Management Program that spoke today was the councilmember from the City of Gardena.

BOARD MEMBER GLICKFELD: Okay. And the others are all part of some larger program?

MS. PURDY: That's correct.

CHAIR STRINGER: That spoke today?

MS. PURDY: Yes, that spoke today.

BOARD MEMBER GLICKFELD: And so it just --

MS. PURDY: Yes.

BOARD MEMBER GLICKFELD: -- it appeared to me that the council people either were really concerned about how they were going to come up with their share of this money. And I thought that the basic advantage of being in an EWMP is that they weren't alone in figuring this out, that they had in many cases much large cities that would, you know, would help them strategize.

So I, again, wonder whether or not this is -- there's enough communication between the people that are actually engaging in EWMPs and the elected officials. And I'm hoping that -- that we have -- take this opportunity as opportunity for again reaching out to elected officials so that -- because we can't get anywhere if they aren't onboard. If they're -- and I think there were some legitimate concerns raised.

I do think that we're doing this at an incredibly opportune time. This drought has been incredible for stormwater. I've been the -- I've been the spokesperson at UCLA on the drought. And when we had our rain two years -- two -- two -- we had one of our first rains, I got a call from radio reporters asking me how they would find out how much stormwater was captured in that one-day rain. We would have never, ever gotten a media question like that before.

So I think that people are really getting this idea in a recent poll by -- the USC Dornslife Poll with the L.A. Times, responses of the respondents which come from all over Southern California said that -- a great majority of respondents said that they would prefer to see stormwater capture, recycled water and conservation be our main future water strategies rather than building more dams.

So I think there is a receptive attitude out there. And I think that we just need to make sure that we exploit it before it rains too much.

So -- and -- but I think that it would be great if the county reported every time that it rained and how much water -- how much water they could capture, how much water the are capturing. So I think if we start to make that, just like beach report, part of the conversation that's happening in the public it will help a lot.

But we're further along than we -- than we were three years ago when people didn't understand why they had to pay a fee because it rained on their property. So I think that's something we -- we can all take advantage of.

CHAIR STRINGER: Great. Thanks.

We're doing this by topic. We started with process. Are there any other questions/comments on process?

If not, we can move into the other topics that we discussed today or, frankly, anything else anyone wants to

consider or discuss, ask of Staff while we have everybody here.

I'm looking your way, Madelyn.

BOARD MEMBER GLICKFELD: I just -- the only thing I'm concerned about is something I've talked about with the staff before is that we at least, if we don't have a full financial strategy for each EWMP, we need to have something short term. We need to know that they can get through they can get through their first set of deadlines through this permit cycle, through -- through 2017. You know, when -- when Sam comes back to report to us what he's done I want to make sure that that's something he can say and, yes, all of them have financial specific plans identified for how they're going to finance their -- their responsibilities through the term of this plan, and then how they get to the next stage after that.

CHAIR STRINGER: That's -- well, the only other thing that I'd like to add is education is such a key component to all of this. I think that's a common theme. And it may be helpful to -- to us all to at some point in the relatively near future perhaps have an information item on the efforts that are ongoing out there right now, who's, I mean, who's kind of leading the effort in thinking about this.

BOARD MEMBER GLICKFELD: Financing?

CHAIR STRINGER: Education.

BOARD MEMBER GLICKFELD: Oh.

CHAIR STRINGER: And my impression is that it's sort of scattershot a bit. And it may be -- maybe we can be a bit of a convener, you know, around how to talk about this stuff, how to communicate it and how to get the message out.

So just think about whether it makes sense to maybe spend half-an-hour or so at a meeting coming up and, you know, you guys doing a bit of research and informing us on what your findings are, and we can take it from there. Hopefully it will show that -- that things are actually happening. I certainly haven't seen much as a consumer of information.

MS. PURDY: Uh-huh.

BOARD MEMBER CAMACHO: Right. And it sounded like, I think at one point of our discussion, I think it was AQUA who is doing like a big education campaign. And they're kind of leading the charge, I thought, as well.

CHAIR STRINGER: That was --

BOARD MEMBER DIAMOND: That's Michael Lauffer --

BOARD MEMBER CAMACHO: Somebody --

CHAIR STRINGER: That's what --

BOARD MEMBER DIAMOND: -- said that.

CHAIR STRINGER: That's what -- that's what Michael said.

BOARD MEMBER CAMACHO: But --

CHAIR STRINGER: I get AQUA's emails and I go to their meetings.

BOARD MEMBER CAMACHO: Yes. And --

CHAIR STRINGER: And I haven't heard anything.

BOARD MEMBER CAMACHO: Yeah. So I don't know if it's a discussion with AQUA that we have and -- or I don't know.

MS. PURDY: Yeah.

BOARD MEMBER CAMACHO: But part of the campaign effort -- and if they're -- what does it say (inaudible), or I don't know. But then what I'm trying to say, is there a way to kind of go into the stormwater discussion and into the other side of the equation (inaudible)? I don't know.

MS. PURDY: Yeah. I think that's -- I think it's a really good point, and I heard it from so many people today. And actually, I had a side conversation with a few of the permittees on one of our breaks saying, you know, let's get together and talk about how do we start messaging this and educating elected officials, local elected officials, as well as citizens throughout the county with regard to what stormwater is, why is it important to -- to address it. And I've had some -- some discussions with Susana Lagudis, our Public Information Officer, about how can we start helping to message this across the county.

And so I think we have a little bit of legwork to do ourselves first, both, you know, Staff at the Regional Board, and also coordinating with some of the permittees in the various WMP and EWMP groups to start thinking about how can we begin to use all the great information that are in the Watershed Management Programs and the Enhanced Watershed Management Programs that show community benefits and multiple benefits and start to get that message out there.

So I do think it's the next thing that we -- I mean, we probably should have been working it on already. But, you know, at least now we should definitely start making a concerted effort. We have either approved Watershed Management Programs or draft EWMPs in hand with a lot of projects that you've heard about today. And so I think that that is -- is a very good point that we will start having conversations to find out what's happening so far and to start strategizing about how we can all work together to get that message out --

CHAIR STRINGER: Yes.

MS. PURDY: -- not just with the permittees, but also with Heal the Bay and NRDC and L.A. Waterkeeper, to really figure out how we can collectively be sending the same message.

CHAIR STRINGER: And think, you know, think carefully about what our role is in all that, you know --

MS. PURDY: Uh-huh. Uh-huh.

CHAIR STRINGER: -- narrowly in terms of the Board and what --

MS. PURDY: Right.

CHAIR STRINGER: -- we can do to help, you know, given our resources.

MS. PURDY: Uh-huh.

CHAIR STRINGER: And maybe there's an opportunity to -- to get some additional resources around this particular issue. And maybe we're the right entity for those resources, maybe not, I don't know. But just something to think about.

MS. PURDY: Yeah. I think that I'm sure we'll -- we'll talk about what our appropriate role is.

And again, just to make another linkage with what's going on at State Board, this is definitely not something that's just unique to L.A. County and the L.A. County MS4. We've talked about, through that strategic initiative, the need to really educate people about stormwater as an issue and the need for -- for more investment in stormwater infrastructure and improvements in stormwater quality.

So it could be there's a way to dovetail with one of the projects that State Board is thinking about with regard to this as well.

CHAIR STRINGER: Great. Thank you.

So I think that -- that concludes the day, unless anyone has anything else? No?

EXECUTIVE OFFICER UNGER: Thank you very much.

CHAIR STRINGER: Your direction has been very helpful today. Yeah. But the direction has been very helpful. We appreciate it.

CHAIR STRINGER: Great. Thank you.

EXECUTIVE OFFICER UNGER: And we'll move forward. Thank you.

CHAIR STRINGER: Thanks everybody. Meeting adjourned.

(The meeting of the Los Angeles Regional Water Quality Control Board adjourned at 5:14 p.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 28th day of December, 2015..

MARTHA L. NELSON

CERTIFICATE OF TRANSCRIBER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

MARTHA L. NELSON, CERT**367

July 3, 2015

Los Angeles Water Board Meeting Minutes
November 5, 2015
The Metropolitan Water District of Southern California
(Board Room)
700 North Alameda Street
Los Angeles, California

The meeting was called to Order by acting Chair Charles Stringer at 9:12 a.m.

1. Roll Call.

Board Members Present: Maria Camacho, Fran Diamond, Madelyn Glickfeld, Maria Mehranian, and Charles Stringer.

Board Members Absent: Irma Muñoz, and Lawrence Yee.

Staff Present: Samuel Unger, Deborah Smith, Paula Rasmussen, Jennifer Fordyce, Frances McChesney, David Coupe, Ronji Moffett, Gerardo Rabelo, Renee Purdy, Dr. Celine Gallon, Dr. Ginachi Amah, Hugh Marley, David Hung, Cassandra Owens, Man Voong, Theresa Rodgers, Dr. C.P. Lai, Shana Rapoport, Dr. Arthur Heath, Ivar Ridgeway, Erum Razzak, Dr. Kangshi Wang, Dr. Jun Zhu

Individuals whose Names Appear on the Sign-In Sheet and/or Speaker Cards

Ms. Tracy Egoscue, Egoscue Law	Mr. Shawn Warren, FOLAR
Ms. Angela George, L.A. County DPW	Mr. Matt Margener City of West Hollywood
Mr. Dave Jones, CH2M Hill	Ms. Zora Baharian, City of Los Angeles
Mr. Bruce Reznik, L.A. Waterkeeper	Mr. Ian Mc Aleese, City of South El Monte
Mr. Shannon Bishop, L.A. County Sanitation Districts	Mr. Arne Anselm, Ventura County Water Replenishment District
Mr. Ken Susilo, GeoSyntec	Ms. Cynthia Gabaldon, CGRME
Ms. Grace Hyde, L.A. County Sanitation Districts	Mr. Richard Watson, California Contract City Association
Ms. Becky Hayat, Nation Resources Defense Council	Mr. Rex Frankel, Friends of LA Clean Connected Creek to Peak Parks
Ms. Rita Kampalath, Heal the Bay	Mr. Kaden Young, City of Culver City
Mr. Ken Farfsing, City of Carson	Mr. Paul Alva, L.A. County Public Works
Ms. Linda Lee Miller, Los Angeles County	Mr. Arthur Pugsley, L.A. Waterkeeper
Mr. Ray Tahir, TECS Environmental	Mr. Shahram Kharaghani, City of Los Angeles
Mr. Hubertus Cox, City of Los Angeles	Mr. Glen Kau, City of Compton
Mr. Bill Johnson, L.A. County	Mr. Dustin Bambic, Paradigm Environmental
Ms. Joyce Dillard, Representing self	Mr. John Capoccia, City of Sierra Madre
Ms. Judy Nelson, City of Glendora	Mr. Dan Medina, City of Gardena

Ms. Joyce Dillard, Representing self	Mr. John Capoccia, City of Sierra Madre
Ms. Judy Nelson, City of Glendora	Mr. Dan Medina, City of Gardena
Ms. Margaret Clark, City of Rosemead Mayor	

2. Order of Agenda.

   Executive Officer (EO) requested item 9 to be continued to a future meeting.

3. Approval of draft meeting Minutes for the October 8, 2015.

   MOTION: Board member Fran Diamond to approve the October 8, 2015 draft Board meeting minutes.

   Seconded by: Board member Maria Mehranian
   Motion Carried: Approved unanimously by roll call vote.

   Maria Camacho – Yea
   Francine Diamond – Yea
   Madelyn Glickfeld – Yea
   Maria Mehranian – Yea
   Irma Muñoz – Absent
   Charles Stringer – Abstained (due to absence from October 8th meeting)
   Lawrence Yee – Absent

4. Nominating Committee for 2016 Chair and vice Chair.

   Board members Maria Mehranian and Fran Diamond volunteered to be committee members.

5. Board Member Communications.

   None.

6. Executive Officer's Report. *(Presented by Executive Officer, Samuel Unger)*

   Report and Addendum Report was given to the Board. The Report was posted on the Board's website:

   http://www.waterboards.ca.gov/losangeles

7. Update by State Board. *(There was no report during this meeting.)*

8. Public Forum.
   - Ms. Grace Hyde, Los Angeles County Sanitation Districts
   - Mr. Bruce Reznik, Los Angeles Waterkeeper

10. Consideration of the 2014-2016 Triennial Review Selection of Basin Planning Projects.

    Staff Report was made by Ms. Celine Gallon, Sr. Environmental Scientist.

Speaker cards:

- Mr. Arne Anselm, Ventura County Watershed Protection

MOTION: Board member Maria Mehranian to adopt the tentative Resolution approving the Triennial Review selection for 2014-2016.

Seconded by: Board member Fran Diamond
Motion carried: Approved unanimously by roll call vote.

Maria Camacho – Yea
Francine Diamond - Yea
Madelyn Glickfeld – Yea
Maria Mehranian – Yea
Irma Muñoz – Absent
Charles Stringer – Yea
Lawrence Yee - Absent

11. 2nd Public Workshop on the draft Enhanced Watershed Management Programs (EWMPs) submitted pursuant to Part VI.C of the Los Angeles County Municipal Separate Storm Sewer System (MS4) NPDES Permit (Order No. R4-2012-0175).

(Staff gave a presentation on the EWMP review process. Interested persons and panels made comments that were subject to time limits. The Board gave feedback, however, no voting took place during this workshop.)

Staff report was presented by Ms. Renee Purdy, Regional Programs Section Chief, and Ivar Ridgeway, and Samuel Unger, Executive Officer made comments on the purpose and foundation.

Speaker cards:

Funding Strategies Panel

Update on Stormwater Funding Options

- Mr. Ken Farfsing, City of Carson
- Mr. Richard Watson, California Contract City Association

City of L.A. Funding Strategies

- Dr. Shahram Kharaghani, City of Los Angeles

Environmental Organizations' Roll & Perspective

- Dr. Rita Kampalath

State Board Office of Chief Counsel Updates on Prop 218 and Other Legislative Actions

- Chief Counsel Michael Lauffer

Reasonable Assurance Analysis (RAA) Panel

Purpose and foundations of RAA

- Mr. Samuel Unger, LA Water Board Executive Officer

- Mr. Ivar Ridgeway, Unit chief Stormwater Unit

WMMS Development and Updates
- Mr. TJ Moon, Los Angeles County

RAA Approach for Beach Exceedance Days
- Mr. Ken Susilo, Principal, GeoSyntec

RAA Exceedance "Volume" Approach
- Mr. Dustin Bambic, Director, Paradigm Environmental

General Comments on and Discussion of Draft EWMPs

- Ms. Becky Hayat, National Resources Defense Council
- Mr. Arthur Pugsley, L.A. Waterkeeper
- Dr. Rita Kampalath, Heal the Bay
- Mr. John Dettle, City of Torrance
- Mr. Andy Winjui, Palos Verdes Peninsula Group EWMP
- Mr. William Johnson, Palos Verdes Peninsula Group EWMP
- Mr. Paul Alva, Los Angeles County
- Ms. Linda Lee Miller, USGR EWMP, Los Angeles County
- Mr. Hubertus Cox, City of Los Angeles
- Mr. Kaden Young, City of Culver City
- Mr. Ray Tahir, TECS Environmental
- Mayor Margaret Clark, City of Rosemead
- Mr. Dan Medina, City of Gardena
- Ms. Judy Nelson, City of Glendora
- Mr. John Capoccia, City of Sierra Madre
- Ms. Joyce Dillard, Representing self
- Mr. Rex Frankel, Friends of LA Clean Connected Creek to Peak Parks

There was some discussion by the Board.

The meeting adjourned at 5:14 pm. (For more detailed information on any matter at our meetings, you may contact Ronji Moffett at (213) 576-6612 or email at: ronji.moffett@waterboards.ca.gov, and she may provide an Electronic copy of the transcript or audio, if available.)

Written and submitted by: _____, then finalized on 12/11/15.
Ronji R. Moffett