



# Understanding Stormwater Exceedances and Level 2

Presented by





# INTRO

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Founder of Mapistry



EAT. SLEEP. BREATH. STORMWATER

# WHAT MAPISTRY **DOES**

## EDUCATION

- ✓ Staff training
- ✓ Online learning
- ✓ Exec workshops

## SOFTWARE

- ✓ Easy-to-use maps
- ✓ Storm alerts
- ✓ Rain logs
- ✓ Mobile inspections

## SERVICES

- ✓ Exceedance (ERA) Level 1 and 2
- ✓ BMP design
- ✓ SWPPP
- ✓ Litigation support



GUEST

**Laurel Warddrip**

CA Water Board

# GUEST



**Rebecca Greenwood**

CA Water Board



# AGENDA

- ✓ Level 1 recap
- ✓ Level 2 process
- ✓ Level 2 timeline
- ✓ Questions

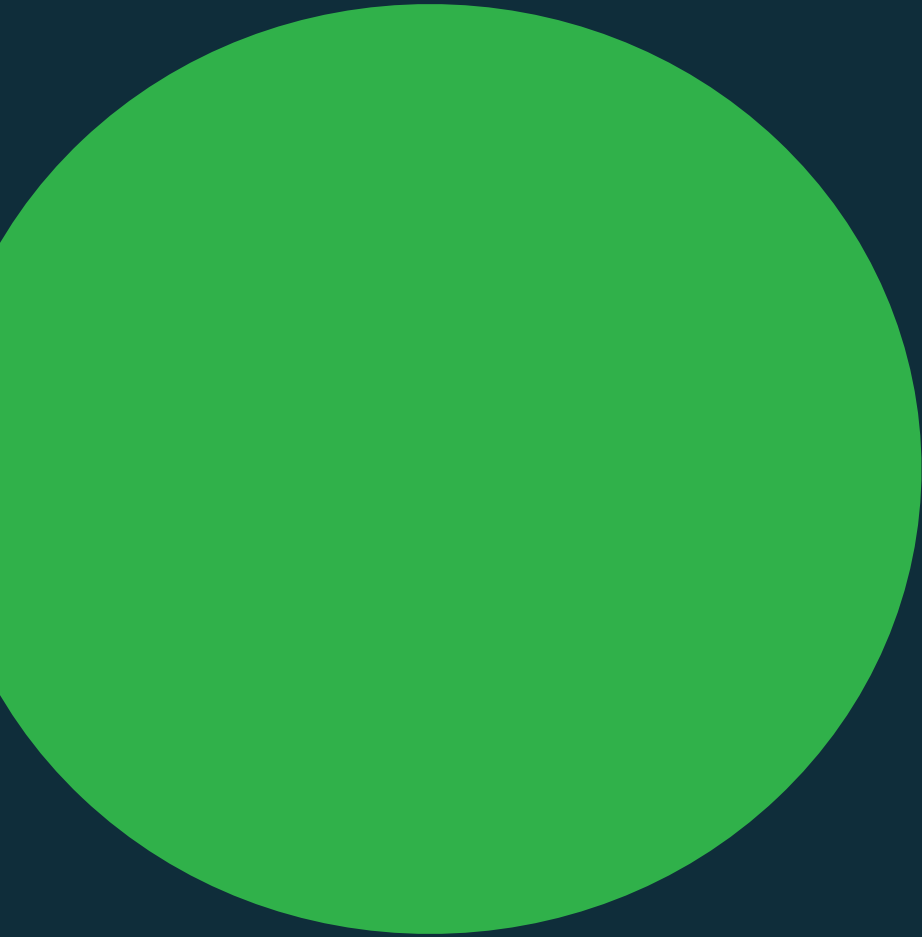


# EXCEEDANCE RESPONSE



# NUMERIC ACTION LEVELS (NALs)

- ✓ Exceedance for 1 parameter possible
- ✓ Average annual NAL
  - all sampling results (QSE) for the reporting year
- ✓ Instantaneous maximum NAL
  - two+ sampling results in reporting year




# ERA LEVEL 1

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- ✓ Site evaluation
- ✓ Level 1 report
- ✓ Updated SWPPP
- ✓ Additional BMPs
- ✓ Team training





# ERA LEVEL 2 PROCESS

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NAL exceedance

for the same parameter as Level 1

(starts July 1 following year)

# EXAMPLE

2015 - 2016 Reporting Year = TSS was 120 mg/L

July 1, 2016 (move to Level 1 for TSS)

2016 - 2017 Reporting Year = TSS was 107 mg/L

July 1, 2017 (move to Level 2 for TSS)

# COMPLIANCE GROUPS

Consolidated for Level 1

Individual for Level 2

# ERA LEVEL 2 ROLES

QISP required

Action Plan and Technical Report

Professional Engineer (PE) required

Advanced BMP design



# THREE OPTIONS

## Demonstrations

1. Industrial **BMP Demonstration**
2. **Non-Industrial Source**
3. **Natural Background Source**



# ERA ACTION PLAN

- ✓ Demonstrations/Option selected
- ✓ Drainage areas with Level 2 NAL exceedances
- ✓ **Schedule** and detailed description of **tasks**
- ✓ Due by January 1 (certify and submit in SMARTS)

# ERA TECHNICAL REPORT

Due by January 1 of reporting year,  
following Action Plan submittal  
(certify and submit in SMARTS)

# ERA TECHNICAL REPORT

## Three Options

- ✓ Industrial Activity BMP Demonstration
  - ✓ Demonstrate BMPs effective and can meet NALs
  - ✓ Demonstrate BMPs meet effluent limitations in IGP, but not expected to meet NALs in future
- ✓ Non-Industrial Pollutant Source ID
  - ✓ Run-on, aerial deposition, on-site non-industrial
- ✓ Natural Background Pollutant Source ID

# BMP Demonstration

Demonstrate BMPs **are effective**

or

Demonstrate BMPs **will not** meet NALs in future  
(technology or economic limits)



BMPS



LIKELY NOT ENOUGH

# STRUCTURAL BMPs (AKA ADVANCED)

Some options:

- ✓ Minimize exposure  
(e.g. coverage)
- ✓ Treatment
- ✓ Containment

Design storm events in CA





# TREATMENT SYSTEM DESIGN

## Example Flow Rate Calculation

✓ 1 acre (43,560 SF)

✓ rainfall intensity = 0.2 in/hour (CA IGP design storm)

$$43,560 \text{ ft}^2 \times 0.2 \text{ in/hr} \times \text{ft}/12 \text{ in} \times \text{hr}/60 \text{ min} \times 7.48 \text{ gal/ft}^3 = 90.5 \text{ gal/min}$$



# BMP DEMONSTRATION

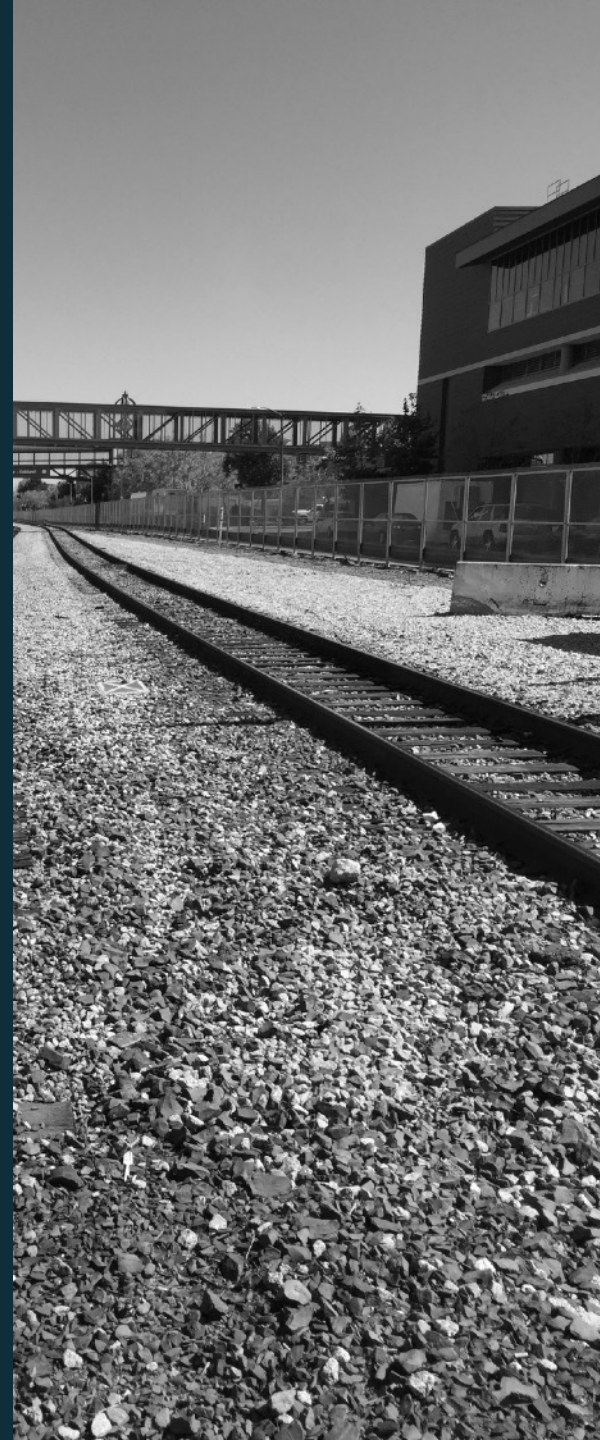
- ✓ Achieve compliance, but not future NALs
  - ✓ Evaluation of additional BMPs
  - ✓ Estimated costs
  - ✓ Analysis of BMPs in lieu of additional BMPs evaluated, but not implemented

# NON-INDUSTRIAL POLLUTANT SOURCE

Run-On

Aerial Deposition

On-Site Non-Industrial





# Non-Industrial Pollutant Source

- ✓ Explanation of exceedance due to non-industrial source
- ✓ May be in industrial activities, but does not cause exceedance

# Non-Industrial Pollutant Source Demonstration

- ✓ Identify and evaluate **commingling**
- ✓ On-site industrial sources **contributing**
- ✓ **Assessment** of contributions (run-on or aerial)
- ✓ **BMP** summary
- ✓ Evaluate **on-site vs off-site** monitoring data

# NATURAL BACKGROUND DEMONSTRATION

- ✓ NAL exceedance due to natural background (not industrial disturbed)
- ✓ Industrial activities do not cause exceedance



# NATURAL BACKGROUND DEMONSTRATION

- ✓ Summary of data collected for natural background
- ✓ Summary of research/published literature
- ✓ Map showing reference site
- ✓ Reference site and test site elevation
- ✓ **Geology and soil** info
- ✓ Photos of vegetation
- ✓ **Site survey** (roads, outfalls, structures, etc)
- ✓ Records (state/federal) showing no known human activity upstream of reference site

# ERA TECHNICAL REPORT

- ✓ Re-certify **annually**, if no changes
- ✓ If revised, upload new report in SMARTS
- ✓ Run-on or source ID = don't submit in SMARTS



# RETURNING TO BASELINE

- ✓ Four (4) consecutive QSEs below NALs
- ✓ If exceed again, return to Level 2
- ✓ If return to Level 2, need to update ERA Technical Report
- ✓ **Cannot go to baseline, if:**
  - ✓ BMP demonstration submitted that cannot meet future NALs
  - ✓ Non-industrial pollutant source determination
  - ✓ Natural background pollutant source determination



# TIMELINE

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- ✓ ERA Level 1 (July 1, 2016)
- ✓ Enter Level 2 (July 1, 2017)
- ✓ ERA Action Plan (January 1, 2018)
- ✓ Implement BMPs
- ✓ ERA Technical Report (January 1, 2019)

# EXTENSIONS

- ✓ Single time extension for 6 months for Technical Report
- ✓ Submit via SMARTS
  - ✓ Reasons
  - ✓ Revised Level 2 ERA Action Plan with schedule
  - ✓ Description of temporary BMPs
- ✓ RWQCB will review (need written approval)

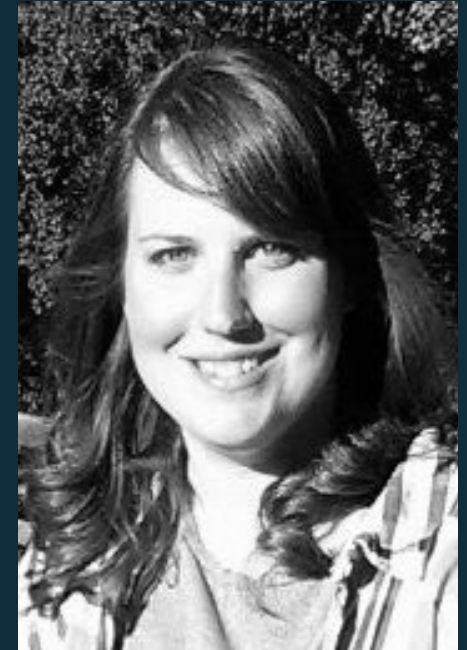
# KEYS TO COMPLIANCE

- ✓ Stay organized
- ✓ Know the deadlines
- ✓ Start planning NOW

# KISS

Get back to baseline

# QUESTIONS



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