

# Municipal Separate Storm Sewer System (MS4) General Permit

New Mexico

Water Quality Protection Division

US EPA Region 6

# Communities are Facing Many Challenges



Trash and other stormwater pollutants degrade our waters



Excess volume and velocity of stormwater cause flooding & erosion



Drought conditions lead to water scarcity and high runoff rates when it eventually does rain



Development often increases impervious cover and stormwater volumes leading to impacts for downstream impacts

# Major Focus Areas for Stormwater

Focusing on a suite of actions to help communities effectively address their stormwater challenges

**Federal Partnerships**

**Education, Technical Assistance & Engagement with Key Partners**

**Recognition/  
Incentive Programs**

**Strengthening the MS4 Program**

# Strengthening the MS4 Program

► An increasing number of states and communities are relying on post-construction standards to reduce impacts of stormwater from impervious cover

► Retaining stormwater near where it falls reduces:

- Pollutants
- Volume and velocity
- Flooding

► Post-construction standards are cost-effective

- It is more cost-effective to incorporate sustainable controls as development occurs and prevent the need for costly retrofits or restoration
- For new development, these standards can save money because smaller detention ponds and less infrastructure would be used



18 states and DC have standards based on retention of a certain volume of stormwater (as of 2011)

gray

# EXISTING RESOURCES: POST-CONSTRUCTION DESIGN STANDARDS & WATER QUALITY-BASED REQUIREMENTS

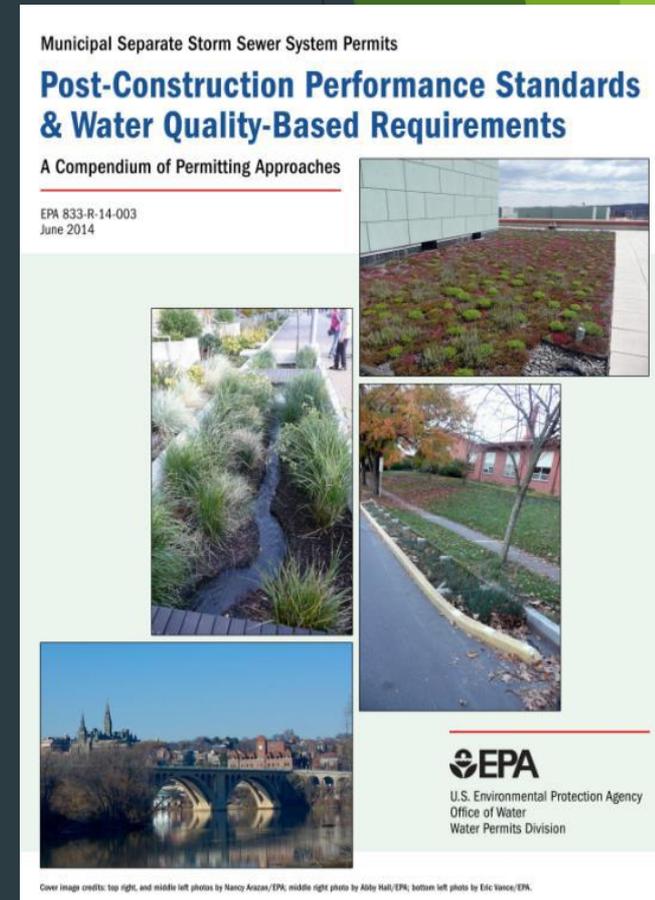
Examples - California:

- 2013 California general permit
- 2013 San Diego Regional MS4 permit

(85th percentile 24-hour storm runoff event)

Available at:

[www.epa.gov/npdes/pubs/sw\\_ms4\\_compendium.pdf](http://www.epa.gov/npdes/pubs/sw_ms4_compendium.pdf)



# Green Infrastructure Approaches

Infiltration ~ Evapotranspiration ~ Capture & Use



- ❑ Reduce impervious cover in parking & street designs
- ❑ Bioretention/rain gardens
- ❑ Permeable pavements
- ❑ Green (leaving) roofs
- ❑ Cisterns & rain barrels
- ❑ Trees & expanded tree boxes
- ❑ Reforestation & restoration

# Background

- ▶ 1987 – Congress added section 402(p) to CWA establishing the NPDES Storm Water Program
- ▶ 1990 – Phase I regulations for large and medium MS4s
- ▶ 1999 – Phase II regulations for small MS4sn
- ▶ 2003 – Individual permit for large MS4s - Albuquerque area

Current 2012 permit expires 2017 or when proposed MRG MS4 permit becomes effective

- ▶ 2007 – 1<sup>st</sup> small MS4 general permit for NM issued  
Expired June 2012 - Requires NOIs and SWMP submittals by municipalities - Covers all urbanized areas in the state
- ▶ 2013 MRG MS4 Permit – Proposal  
Combines Phase I (large MS4s) and Phase II (small MS4s) into one General Permit for the Albuquerque UA

# Urbanized Areas (UA) in NM

- ▶ Albuquerque
- ▶ Los Lunas
- ▶ Santa Fe
- ▶ Las Cruces
- ▶ El Paso
- ▶ Farmington



MS4: Conveyance or system of conveyances owned by a state, city, town, federal agency, special district, tribe, or other public entity that discharges to waters of the U.S. and is:

- designed or used for collecting or conveying storm water
- not a combined sewer
- not part of a Publicly Owned Treatment Works (POTW)

# Albuquerque Urbanized Area

City of Albuquerque

AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority )

UNM (University of New Mexico)

NMDOT (New Mexico Department of Transportation District 3)

Bernalillo County

Sandoval County

Village of Corrales

City of Rio Rancho

Los Ranchos de Albuquerque

KAFB (Kirtland Air Force Base)

Town of Bernalillo

EXPO (State Fairgrounds/Expo NM)

SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)

NMDOT (New Mexico Department of Transportation Dist. 3)

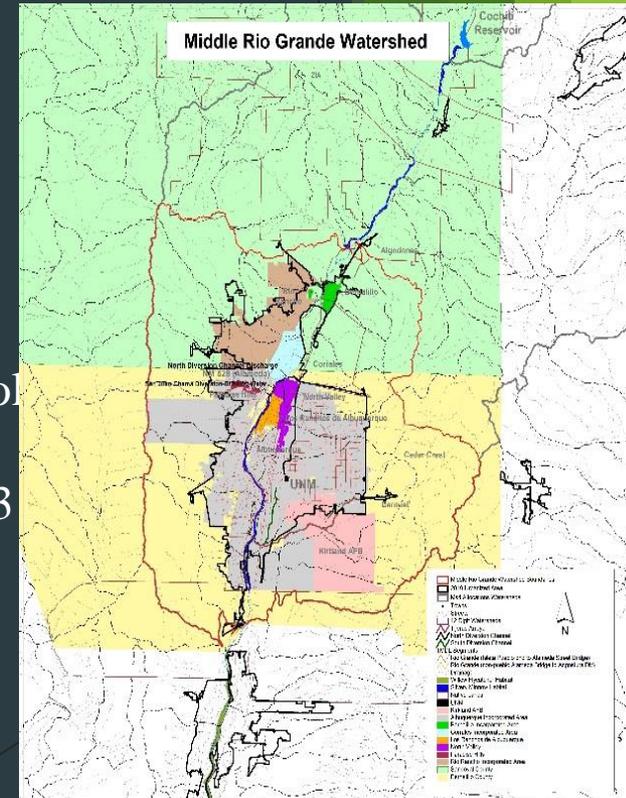
ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)

Sandia Labs (DOE)

Pueblo of Sandia

Pueblo of Isleta

Pueblo of Santa Ana





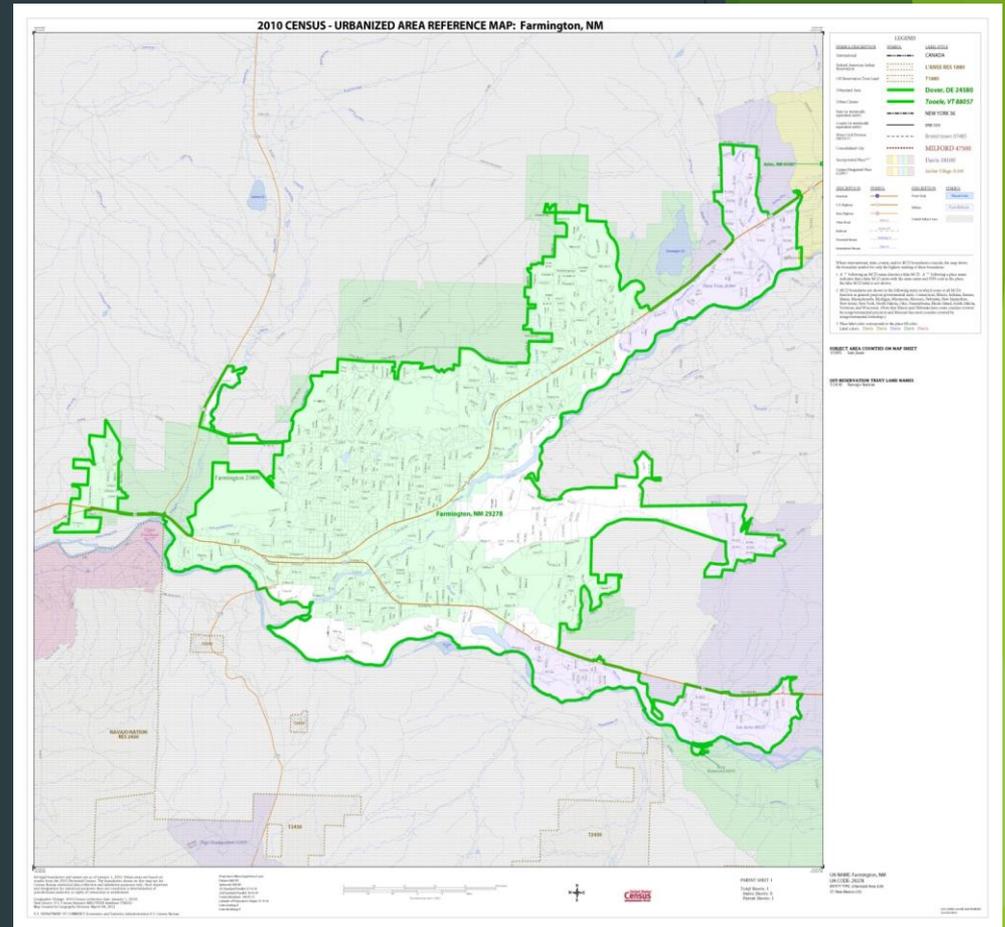




# Farmington Urbanized Area

- ▶ City of Farmington
- ▶ San Juan County
- Flora Vista \*
- Lee Acres \*
- Spencerville \*
- West Hammond \*
- ▶ City of Aztec
- ▶ NMDOT - District 5

\*CDP: Census designated place



# Water Quality Challenges

**CWA 303(d) list of impaired waters (NMED)**

## **Los Lunas UA**

Rio Grande is not meeting water quality standards: E. Coli, T  
(Rio Puerco to Isleta Pueblo boundary) NM-  
2105\_40 (formerly NM-MRG3-20000)

## **Santa Fe UA**

Santa Fe River is not meeting water quality standards: Nutrients  
Sedimentation/Siltation  
(Paseo del canon to Santa Fe WWTP) NM-2110\_00

# Water Quality Challenges

CWA 303(d) list of impaired waters (NMED)

## El Paso/Las Cruces UAs

Rio Grande is not meeting water quality standards: *E. Coli*

TMDLs: 2007 *E. Coli*

Aluminum at Burn lake

## Farmington UA

San Juan River : *E. coli*, Sedimentation/Siltation, Turbidity

La Plata River : *E. coli*, Dissolved Oxygen, sedimentation/Siltation, Turbidity

The Animas River: *E. coli*, Nutrients, Temperature, Turbidity

TMDLs: *E. coli* , Temperature, Total Phosphate,

# Water Quality Challenges in the MRG Basin

## **CWA 303(d) list of impaired waters (NMED)**

The Rio Grande, Las Huertas, and Tijeras Arroyo not meeting water quality standards.

**TMDLs:** *E. Coli*

## **Common stressors or pollutants of concern**

E. Coli, Dissolved oxygen (DO), temperature, Nutrients, legacy pollutants (PCBs)

## **Aquatic Endangered Species**

Silvery minnow (with designated critical habitat)

# Concept of Permit for Rest of State— Modeled on MRG MS4 Permit

- ▶ Based on 6 Minimum Measures, Protection of Water Quality and Endangered Species in the area
- ▶ Requirements by class of permittee:
  - ▶ A – Phase I MS4s
  - ▶ B – 2000 Census small MS4s
  - ▶ C – 2010 Census or other “new” MS4s - (other MS4s could be designated in the future)
  - ▶ D – Tribal MS4s
- ▶ Permittees may participate in cooperative programs to implement one or more program elements

# NOI Deadlines

- Class A and B MS4s with individual program elements: 90 days from permit issuance
- Class C and D MS4s with individual program elements: 180 days from permit issuance
- Permittees with cooperative programs: 180 days from permit issuance. Each partnering MS4 must submit separate NOIs with their own SWMP, which may incorporate jointly developed program elements

# Highlights of the MS4 Permits

- ▶ Public has opportunity to comment on each Notice of Intent (NOI) before EPA grants coverage
- ▶ Encourages alternative monitoring approaches to assess effectiveness of controls and identify problem areas
- ▶ The post construction standards in the permits are vital to protect water quality and endangered species

# Cont...

- ▶ Protection of Water Quality Standards (WQS):
  - Targeted Pollutant of Concern (POC) controls for discharge to impaired waters with or without TMDLs
  - ESA Requirements (Rio Grande Silvery Minnow)

# Cont...

## Discharges subject to TMDL WLA:

- Implement targeted BMPs to reduce discharge of POC
- Assess progress with measurable goals for the BMPs
- Adopt WLA as a measurable goal (target)
- Evaluate and report progress

## Discharges directly to impaired water bodies w/out TMDL:

- Determine if the MS4 is a source of 303(d) list pollutant)
- Implement targeted BMPs to reduce discharge of POC
- Assess progress with measurable goals for the BMPs (no WLA to adopt as target)
- Bacteria program development and implementation schedules

# Cont...

## ► Control Measures (Program Basic Requirements, Flexibility Elements, and Implementation Schedules Tables)

- Construction Site Stormwater Control
- Post-Construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operators
- Illicit Discharges and Improper Disposal
- Control of Floatable Discharges
- Public Education, Outreach, Involvement and Participation

# Post Construction Requirements – MRG MS4 Permit

The permit continues the requirements included in the 2012 Phase I permit to mimic the predevelopment hydrology managing the 90<sup>th</sup> percentile storm event discharge volume. The MRG MS4 Permit is keeping the 90<sup>th</sup> percentile for new development sites, but revising the 80<sup>th</sup> percentile for redevelopment sites

Using EPA's recommended methodology, permittees will be able to

Option A: calculate a site specific storm event discharge volume

Option B: calculate a site specific pre-development hydrology and associated storm event discharge volume

Flexibilities are included for consistency with water law requirements of the State or a Tribe

# Example of Measurable Goals - Public Education and Outreach

<u>Target</u>	<u>Activity</u>
1 year	Brochures developed and distributed in water utility bills; a storm water hotline in place; volunteer educators trained.
2 years	A web site created; school curricula developed; storm drains stenciled.
3 years	A certain percentage of restaurants no longer dumping grease and other pollutants down storm sewer drains.
4 years	A certain percentage reduction in litter or animal waste detected in discharges.

# Monitoring, Assessment, and Reporting Requirements

## 1. Wet Weather Monitoring of Storm Water Discharges

### Option A: Individual Monitoring

- ▶ Upstream and downstream locations for that MS4
- ▶ POCs (e.g. E. Coli) and indicators (TSS, TDS, COD, BOD5, oil and grease, pH, TKN, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, and total phosphorus)

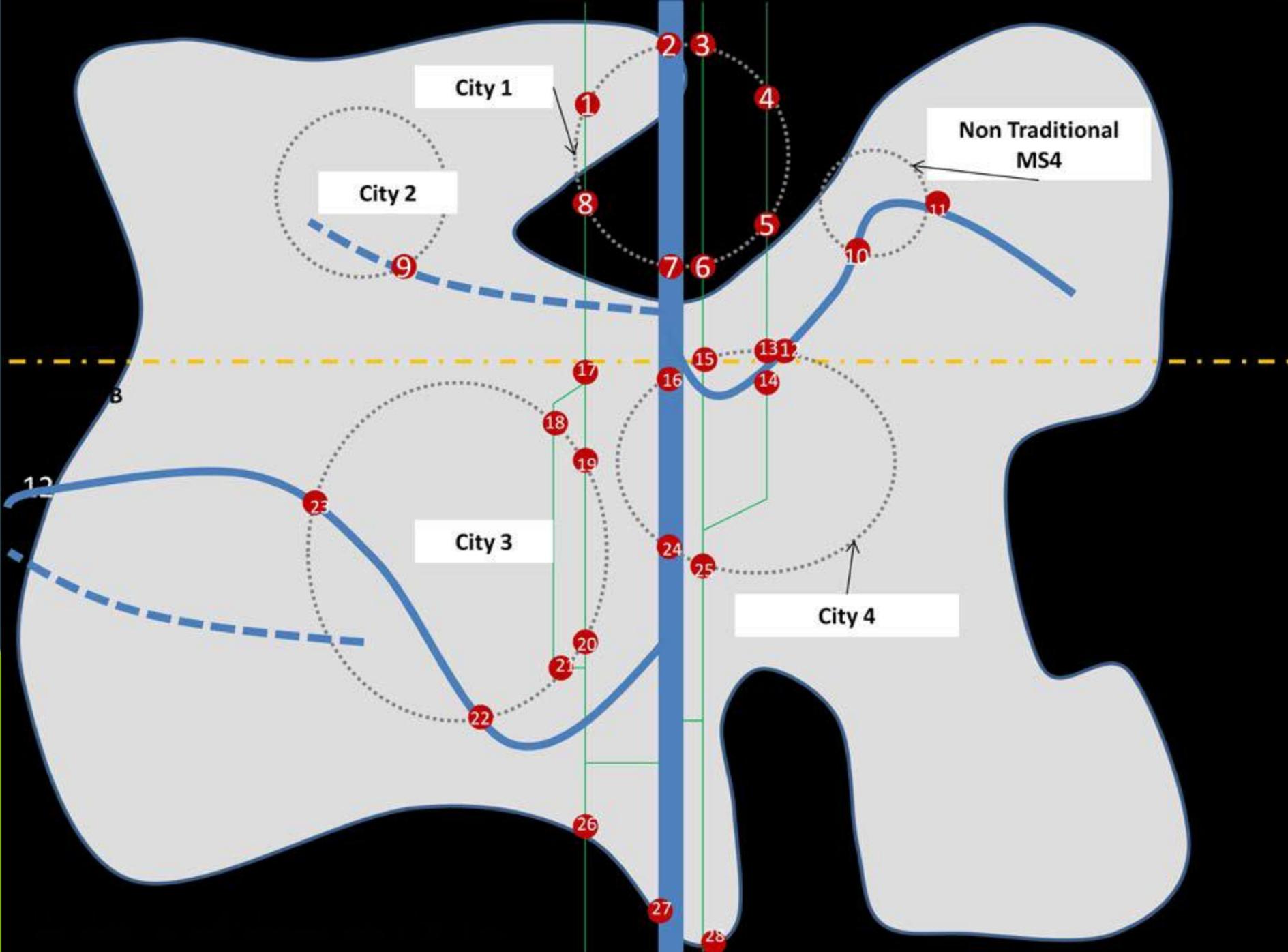
### Option B: Cooperative Monitoring

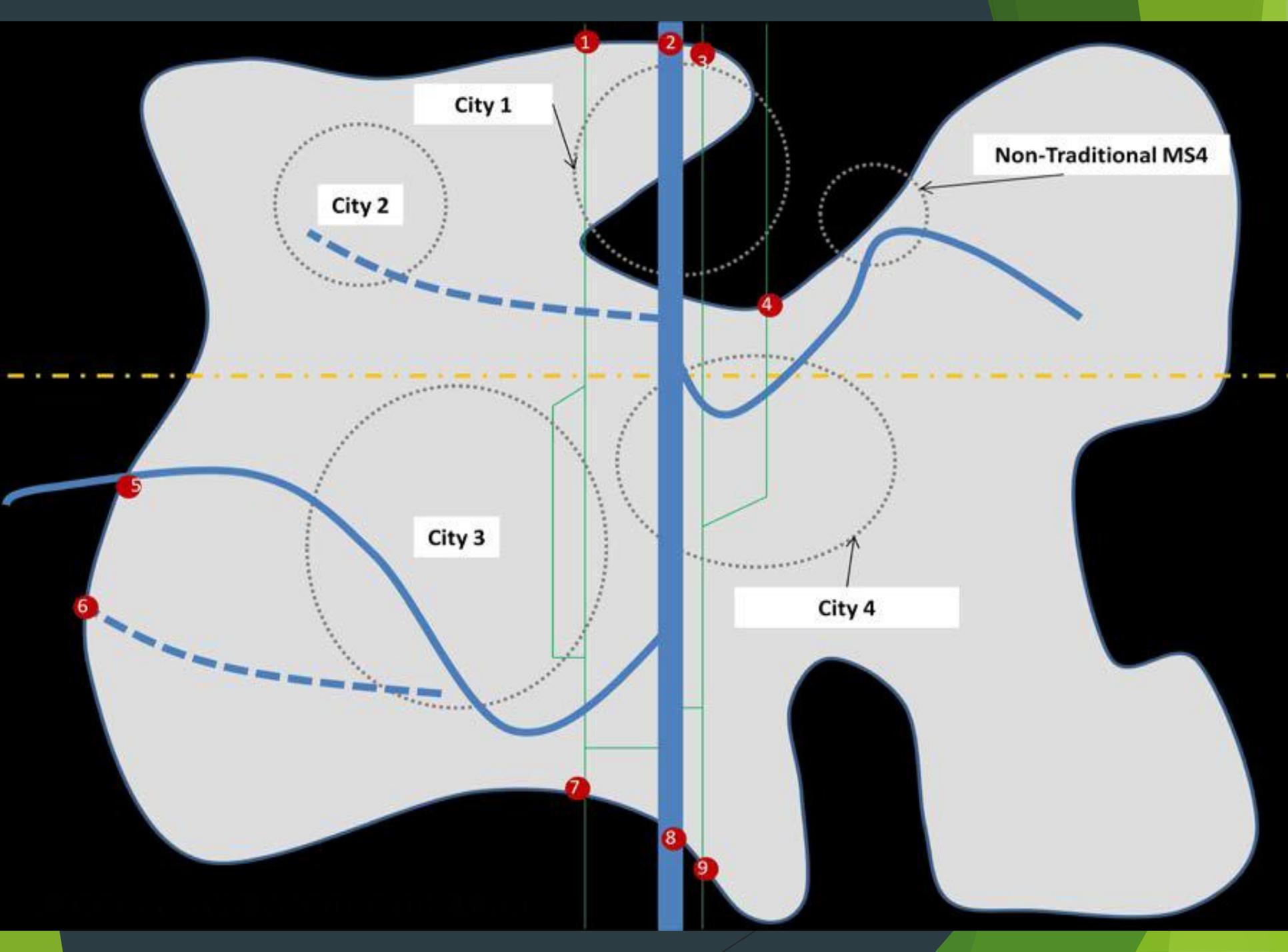
- ▶ Same as Individual, except could use locations upstream/downstream of a group of MS4s rather than at each border.
- ▶ Can share monitoring costs

\*Note: Follow-up monitoring may be required to address issues found.

## Wet Weather Monitoring (cont)

- ▶ Submit wet weather monitoring preference w/ NOI
- ▶ Submit proposed monitoring program for State and EPA approval
- ▶ Submit certification once monitoring sites are operational





# Wet Weather Monitoring Program Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census (**))	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Submit wet weather monitoring preference to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals	Three (3) months from effective date of permit	Three (3) months from effective date of permit	Six (6) months from effective date of permit	Six (6) months from effective date of permit	Six (6) months from effective date of permit
Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites	Six (6) months from effective date of permit	Six (6) months from effective date of permit	Nine (9) months from effective date of permit	Nine (9) months from effective date of permit	Nine (9) months from effective date of permit
Submit certification that all wet weather monitoring sites are operational and begin sampling	Seven (7) months from effective date of permit	Seven (7) months from effective date of permit	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit
Update SWMP document and submit annual reports	Annually	Annually	Annually	Annually	Annually

**(\*\*) or MS4s designated by the Director**

## **2. Dry Weather Discharge Screening of MS4**

- ▶ Screen for indicators during dry weather
- ▶ Identify high priority areas:
  - ✓ ongoing evidence of illicit discharges or dumping,
  - ✓ citizen complaints on more than five (5) separate events within twelve (12) months
- ▶ Screen entire system once / five years
- ▶ Screen high priority areas once / year

## **3. Floatable Monitoring**

Monitor twice per year at priority locations - minimum two stations.

# Annual Report

- ▶ Submit an annual report no later than December 1<sup>st</sup> covering the previous year from July 1<sup>st</sup> to June 30<sup>st</sup>.
- ▶ Year 1 and 4 include complete updated SWMP
- ▶ Provide local public notice and make available for public review and comment
- ▶ Preparation of a system-wide report for cooperative program elements may be coordinated among cooperating MS4s and then used as part of their individual Annual Reports

# Timeline for Permit

## MRG MS4 Permit

Final Permit December 2014

## Statewide MS4 Permit

Statewide MS4 Permit proposal: January 2015

60 Day Comment Period from permit proposal

Final permit Spring 2015

**QUESTIONS?**