# MCM 4: Public Education and Participation

Green Country Stormwater Alliance
Employee Training Workshop
September 10, 2013
Tulsa Technology Center, Broken Arrow

#### MCM 1 & 2: "Minimum Control Measures"

- 1. Public <u>Education</u> and Outreach
- 2. Public <u>Participation</u> and Involvement
- 3. Illicit Discharge Detection and Elimination
- 4. Construction Site Runoff Control
- 5. Post-Construction Runoff Control
- 6. Pollution Prevention and Good Housekeeping

## OKR04 – Requirements for all MCMs

## PART IV. STORM WATER MANAGEMENT PROGRAM PART IV.A REQUIREMENTS

You must develop, implement, and enforce a <u>storm water</u> <u>management program</u> [SWMP] designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. ... Your storm water management program <u>must include the following</u> information for each of the six minimum control measures...

#### OKR04 – Requirements for all MCMs

PART IV.A REQUIREMENTS (cont.)

#### 1. Best Management Practices (BMPs)

List and define the BMPs that you or another entity will implement <u>for each</u> of the storm water minimum control measures listed in PART IV.C.

#### 2. Measurable Goals For Each BMP

Include, as appropriate, the <u>months and years</u> in which you will undertake required actions, including interim <u>milestones</u> and the <u>frequency</u> of the action. ... Credible <u>interim progress</u> in developing and implementing program elements <u>must be made</u> over the term of the permit.

#### OKR04 - Education and Outreach Text

#### PART IV.C MINIMUM CONTROL MEASURES

- 1. Public Education and Outreach Program
- a. Permit Requirements

You must <u>develop and implement</u> a public education and outreach <u>program</u> to distribute information and educational materials <u>to the community</u> or conduct equivalent outreach activities about the <u>impacts</u> of storm water discharges on water bodies and the <u>steps that the public can take</u> to reduce pollutants in storm water runoff.

(1) Traditional municipalities such as cities, counties, etc. must address the general public being served by the MS4.

#### Other OKR04 Education Considerations

- (1) ...inform individuals and households about the steps ... to reduce storm water pollution;
- (2) ...inform individuals and groups on how to become involved in the storm water program with activities such as local stream and beach restoration activities;
- (3) The <u>target audiences</u> ...that are likely to have significant storm water impacts (including commercial, industrial and institutional entities) ...;
- (4) The target pollutant sources your ...program is designed to address;

#### Other OKR04 Education Considerations

- (5) Your <u>outreach strategy</u>...mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) ..., and <u>how many people</u> <u>you expect to reach</u> by your outreach strategy over the permit term;
- (6) Identify who is responsible for overall management and implementation of your storm water public education and outreach program and, if different, who is responsible for each of the BMPs identified for this program;
- (7) How you will evaluate the success of this minimum measure, including how you selected the measurable goals and target dates for each of the BMPs.

#### OKR04 – Public Participation Text

- 2. Public Participation and Involvement
- a. Permit requirement
- (1) Develop and implement a <u>plan to encourage public</u> involvement and <u>participation</u> in the development and implementation of the SWMP.
- (2) Develop and implement a <u>process by which public comments</u> on the SWMP are received and reviewed by the person(s) responsible for the SWMP.
- (3) Make the SWMP and NOI available to the public.
- (4) You must <u>comply with State and local public notice</u> <u>requirements</u> when implementing your public involvement / participation program.

## Other OKR04 Participation Considerations

- (1) How you will <u>receive and review public comments</u> on your SWMP ...;
- (2) How you will involve the public in the development and submittal of your NOI and [SWMP]. How the public can access your NOI and SWMP;
- (3) ...actively involve the public in the development and implementation of your program;
- (4) The <u>target audiences</u> for your public involvement program, including ...<u>ethnic and economic groups</u> engaged. You are encouraged to actively involve ... <u>commercial and industrial businesses</u>, <u>trade associations</u>, <u>environmental groups</u>, <u>homeowners associations</u>, and <u>educational organizations</u>...;

#### Other OKR04 Participation Considerations

- (5) The types of public involvement activities included in your program. Where appropriate, consider the following ...:
- (a) Citizen representatives on a storm water management panel,
- (b) Public hearings and public meetings,
- (c) Working with citizen volunteers willing to educate others ...,
- (d) Volunteer monitoring or stream clean-up activities,
- (6) Identify who is responsible for the overall management and implementation of your storm water public involvement / participation program ...;
- (7) How you will evaluate the success of this minimum measure, including how you selected the measurable goals and target dates for each of the BMPs.

## How Oklahoma Agencies Organized

## Statewide Strategy Workgroup

**INCOG** 

ODEQ

ACOG

OML

## ODEQ Stormwater Workshop

November 2003

Presentations by Phase IIs

## ODEQ General Permit Forums

December 2004

Presentations by Phase IIs

## **ACOG Stormwater Steering Committee**

Planning and Public Education

#### **INCOG Stormwater Steering Committee**

Green Country
Stormwater Alliance
(regional technical
support)



#### **INCOG** Regional Stormwater Assistance

- Goal combine resources to address those Phase II activities that are suited to a <u>regional approach</u>.
  - <u>Public Education and Participation</u> Materials and Activities
  - Regional <u>Mapping and Data</u> Management
  - Assistance with MS4 Inspection Programs
  - Regional stormwater <u>website</u> and <u>ordinances</u>
  - Assist with Annual Reports and SWMP Amendments
  - Employee <u>Training Programs</u>
  - Numerous <u>Technical and Legal Issues</u>
- Provide a <u>Forum</u> for continuing Phase II education and information sharing.



#### Sought Resources – Public Sector

- Substate Planning Agencies. . INCOG, ACOG
- Universities. . . . . . . . . . OSU, OU, NSU, TU, etc.
- County Extension Offices . . . OSU Extension Service
- Conservation Districts....OCC in each county
- State Agencies. . . . . . . . . OCC, ODWC, OWRB, ODEQ
- Federal Agencies ....... USACE, FWS, NRCS, EPA
- Other Phase II Cities
- Phase I Cities...........Tulsa, Oklahoma City

#### Sought Resources – Private Sector

- Non-Profit Organizations..... APWA, CWP, etc.
- Professional Organizations . . . . . . OSPE, OWEA, etc.
- Consulting firms
- Engineering firms
- Private laboratories
- Instrument companies..... HACH, YSI, LaMotte
- Chemical supply companies. . . . . . Fisher, Thomas, etc.
- Software vendors
- Structural BMP supply companies

#### Sought Federal Grants and Loans

CWA Section 319(h) (nonpoint source)

CWA Section 604(b) (planning)

CWA Section 106 (Implementation and TMDLs)

CWA Section 104(b)(3) (Implementation and research)

CWA Section 314 (Clean Lakes)

SDWA SWP Loans (Source water protection)

CWSRF Loans (Clean Water State Revolving Fund)

CDBG (Block grants)

## Funding Sources – Local and Municipal

- Bonds General Obligation and Revenue
- <u>Utility (User) Fees</u> MS4 as a Utility
- Inter-fund Transfers from other municipal funds
- Utility and Improvement <u>Districts</u>
- General fund
- Service fees (inspections, development permits)
- Substate and regional planning resources
- State Revolving Fund loans and grants

## Funding of INCOG's Stormwater Program

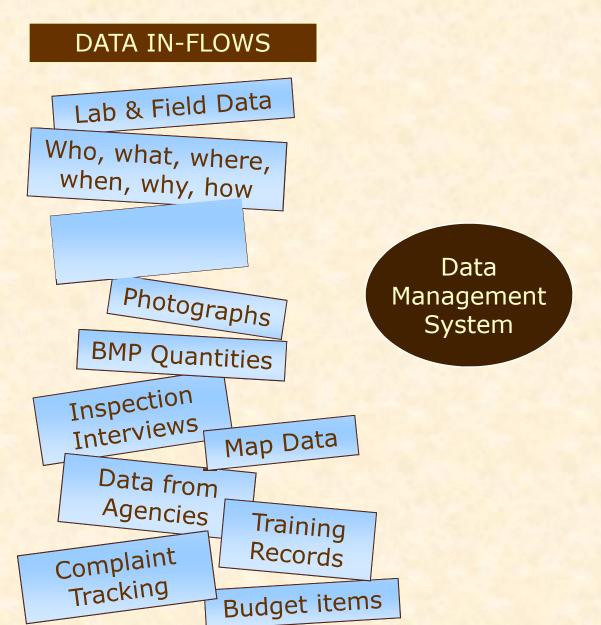
- 1998 INCOG members sought help with understanding Phase II regulations and how they might affect cities.
- 2000 Evolved into considering regional assistance.
- <u>FY-98 104(b)(3)</u>: research draft Phase II regulations and educate potential future permittees.
- <u>FY-01 104(b)(3)</u>: Develop model SWMP, BMPs, begin education program.
- <u>FY-02 319(h)</u>: 2004 contract with OCC to develop regional stormwater education program.
- <u>FY-02 104(b)(3)</u>: Polecat Creek 303(d) study and stormwater related instream data for Sapulpa and Jenks.
- <u>FY-03 604(b)</u>: Develop quality assurance and data management resources for municipal stormwater programs.
- Local Funds: GCSA now 100% funded by members.

## **SWMP Best Management Practices**

	CONTROL MEASURE ADDRESSED							
BMP DESCRIPTION	PUBLIC EDUCATION	PUBLIC PARTICIPATION	ILLICIT DISCHARGE	CONSTRUCTION	POST- CONSTRUCTION	GOOD HOUSEKEEPING		
BROCHURES								
Water quality impacts from urban stormwater	X							
Household chemical disposal options	Χ	X	Χ					
Proper on-site sewage disposal system maint.	X		Х					
Chemical storage and disposal at businesses	X		Χ			X		
Construction / erosion control BMPs			ij	X	X			
Post-construction / erosion control BMPs					X			
City good house-keeping options						X		
How to become involved in stormwater program	X							
Recycling and re-use benefits	Χ	X	X					
Chemical storage and disposal at city facilities	X							
TRAINING MODULES								
Storage and disposal of chemicals						X		
Water quality impacts and regulations	X					X		
Data quality and data management			Х			X		
How to conduct inspections effectively			X					
Stormwater and city activities						X		
MS4 MAPPING								
Regional MS4 system maps			X					
Regional GIS databases / set priority areas			X					

	CONTROL MEASURE ADDRESSED							
BMP DESCRIPTION	PUBLIC EDUCATION	PUBLIC PARTICIPATION	ILLICIT DISCHARGE	CONSTRUCTION	POST- CONSTRUCTION	GOOD HOUSEKEEPING		
ADMINISTRATIVE	!	<del>.</del>		•				
Adopt illicit discharge ordinance			Χ					
Adopt construction ordinance				Х				
Adopt post-construction ordinance					Х			
Comply with state and local public notification				Х	Х			
Program to receive information from the public			Х	X	Х	X		
Site Plan review to include water quality	Х	X	Χ	X	Х	X		
Support regional agency-sponsored seminars	Х	X	Х	Х	Х	Х		
Discuss Phase II in city council meetings	Х							
Collect local and regional pollution data			Χ					
Develop regional stormwater web site	Χ	X						
COMMUNITY INVOLVEMENT								
Sponsor local clean-up events	Х	X	Х			X		
Create display board for public meetings	Х							
Create signs for community education	Х							
Create signs for city work areas						Х		
Blue Thumb school presentations	Х	X						
Blue Thumb volunteer stream monitoring	Х	X	Х					
Blue Thumb stormdrain marking	Х	X	Х					
Promote household pollutant collection events	Χ	X	Х					
Promote use of recycling centers	Х	X	Х					
Distribute items with water quality logos	Х							
INSPECTIONS								
Complaint investigations for MS4 system			Χ					
Source tracking of pollutants in MS4 system			Х					
Inspection of construction sites and activities				Х	X			
Good housekeeping inspections of city property						X		

## Phase II Data Management



#### DATA OUT-FLOWS

Information to Media

Data for Court

**Enforcement Data** 

Reports to Councils

Management Reports

Reports to City Staff

Reports to Citizens

Data to Agencies

Annual Report to DEQ

**Program Audits** 

December   Color   C	PHASE 2 STORMWATER SPREADS					Note:
The control of the		ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	TOTAL TOTAL
Comparison		NUMBER	COST	COST	20 \$800	MANHOURS COST
Comparison	Coordinate Stormdrain Marking Coordinate Volunteer Monitoring				40 \$1.600	
Color	Coordinate Local Public Meetings	1			40 \$1,600	SAMPLE
COUNTY NUMBER   CANADA   CAN	Host Public Water Quality Meetings				40 \$1,600 40 \$1,600	
COUNTY NUMBER   CANADA   CAN	Cost: Newspaper Ads / Articles Cost: Radio / TV Announcements	2	\$300 \$500	\$600 \$1,000		
Comparison   Com	Cost: Print Education Materials Cost: Display Board / Table Cost: Graphic Art Work Contract	1000	\$800	\$250 \$800 \$700		340 \$15.35
County   C						
Description of the part of t	CONSTRUCTION INSPECTIONS					OAMBI E
Columber   Columber	Closeout of Episodes				80 \$3,200 80 \$3,200	
Description	Coordinate Events with ODEQ BMP Record-keeping				20 \$800 40 \$1,600	300 \$13,600
Description	DOVINE AT LED SIELD CODEFUND	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	
BOURDEST TRACKINGS HORSECTIONS		NUMBER	COST	COST	150 \$6,000	SAMPLE
COUNTED TRACKIONS INSPECTIONS	Map Preparation / Updates BMP Record-keeping					370 \$14,800
FORT   100   1100   1000   1	Unitial Inspections	NUMBER	COST		MANHOURS TOTAL COST	
Tender   T	Enforcement Actions Followup Inspections	1			100 \$4,000 100 \$4,000	SAMPLE
Column   C					20 \$800	500 \$20.000
Dest 100   Control   Con						
Colument   Colument			COST	ANNUAL COST	MANHOURS TOTAL COST	
DOGS   TRANSPORT FROM	Park and Recreation Areas				4 \$160	SAMPLE
COURT   Float   Tree   Tree	Storage Areas Wastewater Treatment Plant				4 \$160	
SAMPLE   S	Water Treatment Plant BMP Record-keeping				4 \$160 20 \$800	44 \$1,760
SAMPLE   S	FOLIPMENT (Items over \$500)	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	
Col.   Col.   Ann.		NUMBER 4	\$600	\$2,400	MANHOURS TOTAL COST	
Colin   Delical Annual (Special Services   1   1   1   1   1   1   1   1   1	Cost: Field Test Instruments (probes)  Cost: Computer Ungrades / Supplies	1 1	\$1,000 \$1,500	\$2,000 \$1,500 \$500		SAMPLE
Control   Cont	Cost: GPS Unit and Supplies Cost: Vehicle (annual)	1	\$1,200	\$1,500 \$1,200		
Cook   Final Test (Disp.   Cook   C	Cost: Stormwater Software Cost: GIS or Other Map Software	1	\$3,000	\$3,000 \$2,000		0 \$14,100
Cook   Final Test (Disp.   Cook   C		ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	
Cont.   Section   Sectio	Cost: Field Test Kits	NUMBER 4	\$200	SS00	MANHOURS TOTAL COST	
Cost	Cost: Sampling Devices  Cost: Set of Sample Bottles  Cost: Set of Chemicals for Test Kits	3	\$50	\$400 \$150 \$200		SAMPLE
Cost	Cost: Sample Preservatives Cost: Field Safety Supplies	1		\$50 \$100		
Cost   Manufacturing Teal (Name   1   3600	Cost: Purchase Documents Cost: Office Supplies	5	\$20 \$500	\$500		
Code	Cost: Volunteer Monitoring Test Kits	1	\$600			0 \$3,300
Code	HAZMAT CLEANUP COSTS	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	
HOUSEHOLD POLLUTANT COLLECTIONS   NAMEER	Employee Involvement				80 \$3,200	SAMPLE
HOUSEHOLD POLLUTANT COLLECTIONS   NAMEER	Cost: Minor spill cleanup costs Cost: Materials and Supplies on Hand	3 5	\$200 \$200	\$600 \$1,000		
SAMPLE   COST   COST	Cost: HAZWOPER Training		\$800	\$800		80   \$6,000
TRASH PICKUP DAYS	HOUSEHOLD POLLUTANT COLLECTIONS	ITEM NUMBER			ANNUAL MANHOUR MANHOURS TOTAL COST	
TRASH PICKUP DAYS	Employee Participation Cost: MET Annual Fee Cost: Local Events Space Lease	1		\$2,000	20 \$800	SAMPLE
Costs   Cost	Cost: Disposal for Local Events	1	\$2,000	\$2,000	1	20 \$5,300
STREET SWEEPING	TRASH PICKUP DAYS	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	0.44515
STREET SWEEPING		1	\$500	\$500		
SAMPLE   SWEEPING	Cost: Disposal for Local Events	1	\$2,000	\$2,000		20 \$3,300
SAMPLE   Cost	STREET SWEEPING	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR MANHOURS TOTAL COST	
STORM SYSTEM MAINTENANCE	Employee Participation Cost: Trucks and Equipment (annual)	1	\$5,000	\$5,000	100 \$4,000	SAMPLE
SAMPLE   S	Cost: Dispose of Debris Cost: Maintenance of Equipment	1	\$1,000		1	100 \$12,000
SAMPLE   S	STORM SYSTEM MAINTENANCE	ITEM	UNIT	ANNUAL	ANNUAL MANHOUR	
Cost	Employee Participation	NUMBER	COST	COST	MANHOURS TOTAL COST 100 \$4,000	SAMPLE
LADORATORY SERVICES	Cost: Dispose of Debris	1	\$500	\$500		100 \$8,500
Employace Nacodistions with Lab					I ANNUAL J	
Cost		NUMBER	COST	COST		
Cost		10		\$200 \$400		SAMPLE
Cost. Minarata   S.   S20   S100   S200				\$200 \$500		
ENGINEERING / CONSULTING SERVICES   ITEM   LINIT   ANNUAL   ANNUAL   ANNUAL   MANHOUR   SAMPLE   SAM		5	\$20 \$20	\$100 \$200		40 \$3,700
SAMPLE   COST   COST		I ITTA	1000	A NIB " 101	L ANNUAL J. MANNUAL III	1
Contract of Centraci / Processes   1   56,000   56,000   20   \$600   40   \$6,600	RFP Preparation / Bids	NUMBER		COST	MANHOURS TOTAL COST  20 \$800	SAMPLE
ADMINISTRATIVE		1	\$5,000	\$5.000	20 \$800	40 \$6.600
Astend Stormoster Meetings		ITEM	UNIT	ANNIIAI	ANNUAL MANHOUR	
Rescord   Response	Attend Stormwater Meetings	NUMBER	COST	COST	20 \$800	
Seports to Management   Sepo	Record-Keeping				20 \$800 80 \$3,200	
According susciles Adata	Audit Reports to Management				80 \$3,200 40 \$1,600	SAMPLE
According susciles Adata	Reports to Citizens / Media Research Issues				40 \$1,600 80 \$3,200	
Code Date Code Code Code Code Code Code Code Cod					40 \$1,600	
Code Date Code Code Code Code Code Code Code Cod	Software Training Create / Update Forms		0.5		20 \$800 20 \$800	
	Cost: Employee Travel Expenses Cost: Employee Certifications Cost: Dues to Green Co. Stw. Alliance	2	\$500 \$100 \$3,500	\$500 \$200 \$3.500		600 \$28.20
PROGRAM TOTAL: 2,554 \$156,51 manhours cost	The same and the s					
					PROGRAM TOTAL:	2,554 \$156,51 manhours cost

# Developed Program Cost Estimator

Covered manpower, printing, consultants, waste disposal, supplies, lab, admin. and annualized major purchases (e.g., trucks).

#### GCSA Work Groups and Issues

- Ordinance Work Group
- Inspection Work Group
- Researched numerous <u>technical issues</u>:
  - Power washing of parking lots and service bays;
  - Commercial <u>lawn care</u> (fertilizers and pesticides);
  - Community charity <u>car washes</u>;
  - Implementing <u>Smart Growth</u> and <u>LID</u>;
  - Fire-fighting impacts on water quality;
  - Sand and salt winter application impacts on water quality;
  - Swimming pool draining;
  - Developing manpower and <u>program costs</u> for local stormwater programs;
  - How local <u>TMDLs</u> and stream <u>impairment listings</u> will affect stormwater program structure and local efforts;

#### GCSA Issues (cont.)

- Optimizing a dry weather <u>field screen monitoring</u> program and inspection program;
- How to conduct <u>water quality monitoring</u>;
- <u>Construction</u> site BMPs;
- Options on developing <u>map features</u> and selecting the best <u>mapping</u> tools;
- Potential <u>legal issues</u> and liabilities with starting a municipal stormwater program;
- Data management, <u>quality assurance</u> and <u>communication</u> issues;
- <u>Safety</u> concerns regarding chemical exposure in the field and at industrial sites, and physical aspects of field work;
- <u>Mosquito spraying</u> by cities through neighborhoods and on standing water;
- Grass and leaf yard waste water quality impacts and proper disposal;
- Pet waste management and bacteria pollution in urban areas;
- Pollution from <u>vehicle maintenance</u> (private and commercial).

## Educating Staff, Management, Councils and Commissions on Fundamentals



#### **Point Sources**

Treated wastewater - have NPDES discharge permits with penalty provisions and enforcement.

<u>Technology-driven</u> pollution reduction.



#### **Nonpoint Sources**

<u>Untreated</u> runoff - have no discharge permits and no penalty provisions.

Exceptions are CAFOs and certain urban stormwater systems.

#### **Getting the Word Out...**

Presentations to organizations about the Phase II requirements, especially about construction site impacts.





Conferences

Workshops and seminars

**Associations** 

**Organizations** 

**Councils and Commissions** 

#### GCSA Website for Citizens & Permittees



#### Purchase of Education Materials



Display board, light bar, signs and case

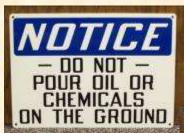








Watershed signs



Signs for city facilities





Give-away items

with logos





#### Blue Thumb Program

(Public Education and Participation)





Watershed and School Education
Volunteer Monitoring of Streams
Stormdrain marking





## **Public Education and Participation**



Booths at local festivals and events
Stormdrain marking
Volunteer stream monitoring
Brochures, newsletters
Balloons, pens, ball-caps, T-shirts

Adopt a watershed

Adopt a stream



**Household Pollutant Collections** 

Scouts, Camp Fire, etc.

Local school clubs & classes



## Brochures, Flyers, Posters, Fact Sheets



#### Community Events: Education and Clean-up



Semi-Annual Household
Pollutant Collection Events

Held at Tulsa Fair Grounds





