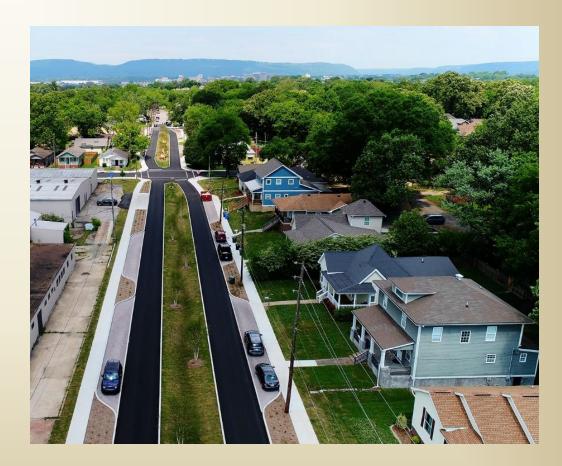
IMPLEMENTING CHATTANOOGA STORMWATER CREDIT PROGRAM

Mo Minkara, Ph.D., P.E., CPSWQ
Water Quality Manager
City of Chattanooga
mminkara@chattanooga.gov
Chattanooga.gov/WaterQuality





Chattanooga MS4 Program

2015

Credits & Incentives

Program:

Volume Credits

1993

SW Fee





















1994

MS4 **Permit** issued

2010

New MS4 **Permit**



Runoff Reduction Volume Requirement

- Keeping 1st 1.0 inch on-site (Stay-on-Volume: SOV)
- 1.0 acre or more
- SOV reduction for redevelopment
 0.1 0.5 inch
- Hardship Management

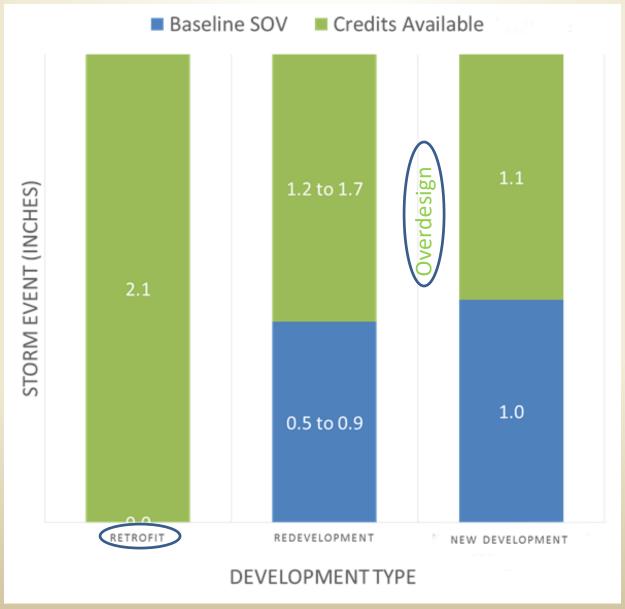
How to Achieve Unmet Stay-On-Volume (SOV)?

- Option 1: Off-Site Mitigation
- Option 2: Pay Mitigation Fee (In-lieu-Fee)
- Option 3: Use SOV Credit Coupon
- Option 4: Filter 2.1 inch through a Modified Green Infrastructure (GI) Device to remove 80% TSS
- Option 5: Filter 3.1 inch (1-year storm)
 through an Extended Detention or
 Proprietary Device to remove 80% TSS

Credit Coupons (Banking)



Earning SOV Credits (Banking)



Credit Coupons (Banking)

- Overdesigning
 - Earned in CF of SOV > Baseline
- 2.1" Overdesign cap
- SOV Earned: SOV Captured Ratio
 - Captured on new development sites
 - » Coupon CF (Earned) = 66% of Captured CF
 - Captured on redevelopment or retrofit sites
 - » Coupon CF (Earned) = 100% of Captured CF
- Issued as hard copy Coupon
- No expiration date



CREDIT COUPON

DATE: [CLICK TO SELECT DATE]

COUPON # [NO.]

City of Chattanooga

1250 Market St, Chattanooga, TN 37421

ISSUED TO [Contact Name]

[Company Name] [Street Address]

[City, ST ZIP Code]

[phone]

CATEGORY New Development ___ (1.5:1 ratio)

Redevelopment ___

Retrofit ____

Off-Site Mitigation ____

SITE	Site Name (if applicable):			
NEODMATION	/··	100000000000000000000000000000000000000	 	 1000

Address:

Watershed: _____

Baseline SOV: ______ CF

Installed SOV: _____ CF

Date of approved As-Built: [Click to Select Date]

AMOUNT OF SOV CREDIT	COUPON:	(CF
AMOUNT OF SOT CITEDIT	COO! O!!.		

Coupon particulars:

- Coupons are earned on new development sites at a ratio of 1.5:1 (installed:earned).
- Coupons earned on new development are limited to use within the watershed where they were earned.
- Use of coupons is not applicable within the CSS or on retrofit sites.
- Coupons earned on redevelopments, retrofits, and off-site mitigation sites* are eligible to be used within any City watershed.
 - *Off-site mitigation sites must be redevelopments or retrofits.

Approved Applicant Signature:	Date:		
City Representative Signature:	Date:		

Chattanooga thanks you for supporting water quality!

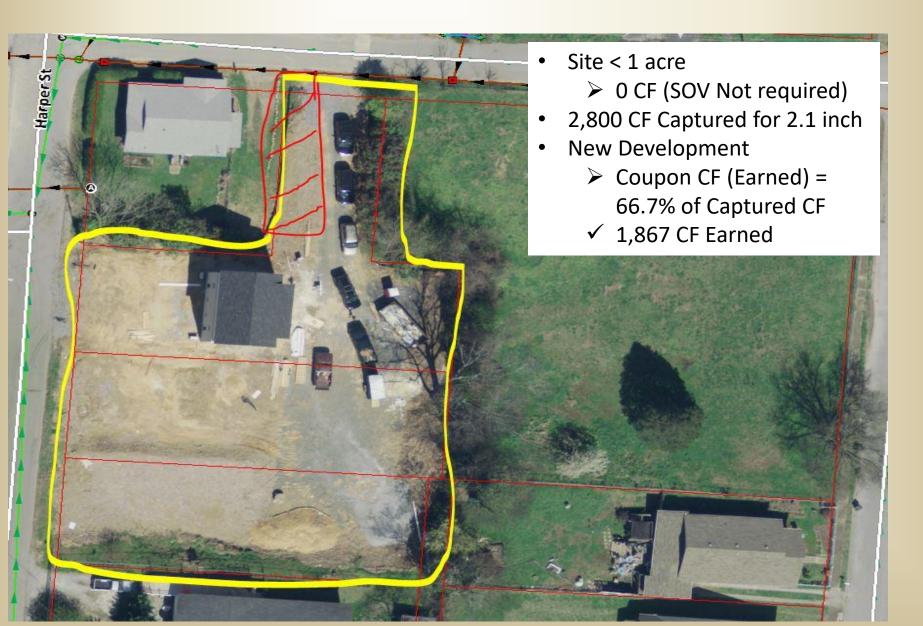
Unique ID

Watershed
Development Type
Permit #
Volume (CF)

Pressed Seal

Original Signatures

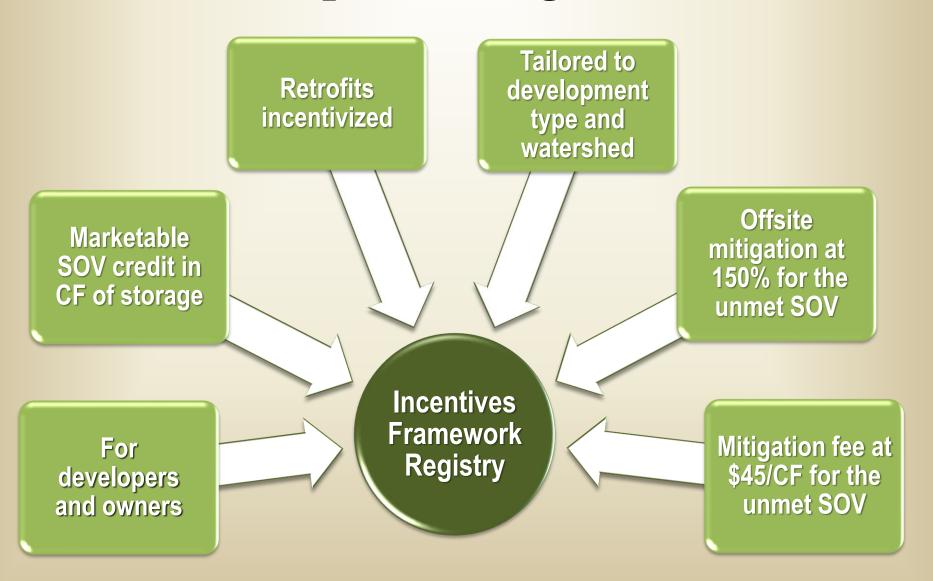
(earned) SOV Coupon Site #1



Credit Coupons Usage/Trading

- Watershed Usage
 - New Development = <u>same</u> watershed (changing)
 - Redevelopment = any watershed
- Demonstration of hardship needed (changing)
- City doesn't track trades
 - Only issues and receives coupons
- City doesn't purchase/sell coupons

Credit Coupons Program Drivers



Credit Coupon Drivers

- Incentive to overdesign (water quality benefits)
- Competitive to
 - In-Lieu-Fee and Off-site Mitigation
- No Expiration
- Can be applied/used by same developer (at other sites with hardship) or
- Traded with other entities (that may or may not have hardship) for Ca\$h
- The developer can earn it and exchange it for professional services (Engineers, LAs, Contractors, etc.)
- Can be split when traded

Credit Coupon Challenges

- Attempting to design for minimum requirements
- Lack of knowledge (how to trade, benefits, etc.)
- Takes time to establish a Market
- Availability of other Options to achieve Unmet SOV



Thank You



Mo Minkara, Ph.D., P.E., CPSWQ Water Quality Manager City of Chattanooga mminkara@chattanooga.gov

For more information please visit:

http://chattanooga.gov/waterQuality