



PT 101

An Intro to Pretreatment

Today's Presentation

- History of Pretreatment
- Goals of Pretreatment Program
- Pretreatment in North Carolina
- The Program
 - Major program elements
 - Files
 - Inspections / Guidance / Training
 - Summary and Contacts
- PT Jeopardy!

History of the Pretreatment Program

- 1972 Clean Water Act
- 1978- Federal Pretreatment regulations established
- 1982- EPA approval of the NC Program
- 1983/84 - majority of NC POTW Pretreatment Programs approved
- 1987-90 - major revision to NC and Federal pretreatment regulations
- 2005 – Streamlining of the Pretreatment Program
- 2011 – Revision to NC pretreatment regulations and model SUO

Pretreatment

The Federal and State Pretreatment Program gives regulatory authority for EPA, states, and municipal governments to control the discharge of industrial wastewater into municipal Wastewater Treatment Plants (WWTPs) or Publicly Owned Treatment Works (POTWs). The objectives of the Pretreatment Program are to prevent pass-through, interference, or other adverse impacts to the POTW, its workers or the environment; to promote the beneficial reuse of biosolids; and to assure that all categorical pretreatment standards are met. There are approximately 620 Significant Industrial Users (SIUs) who discharge industrial wastewater to more than 130 POTWs throughout the State of North Carolina.

The Pretreatment, Emergency Response and Collection Systems (PERCS) pretreatment staff periodically present the following workshops as a service to assist POTWs and their consultants.

- Pretreatment Annual Report Workshops
- Headworks Analysis Workshops
- Permit Writing Workshops

See the [Training Page](#) for details, including links to EPA training opportunities.

Sewer Use Ordinance (SUO)

This Model SUO includes many revisions to address the 2011 revisions to NCAC 15A 02H .0900 - Local Pretreatment Programs.

Pretreatment, Emergency Response & Collection Systems Branch

Pretreatment

[Categorical User Information](#)

[Comprehensive Guide](#)

[Headworks Analysis](#)

[Industrial Waste Survey](#)

[Other Downloads](#)

[Mercury Guidance](#)

[Annual Report Guidance](#)

[Permit Writing Guidance](#)

[Training](#)

What's the Purpose of the Pretreatment Program?

- Prevent Pass Through
- Prevent Interference
- Promote the beneficial use of biosolids
- Protect Worker Health and Safety

Cuyahoga River Cleveland 1960s



Cuyahoga River Cleveland 1960s



Cuyahoga 1969



Cuyahoga Recovery after 40 years



Louisville, KY February 1981



Northern Russia 2016



Northern China 2011



CNN Report on China

March 2013



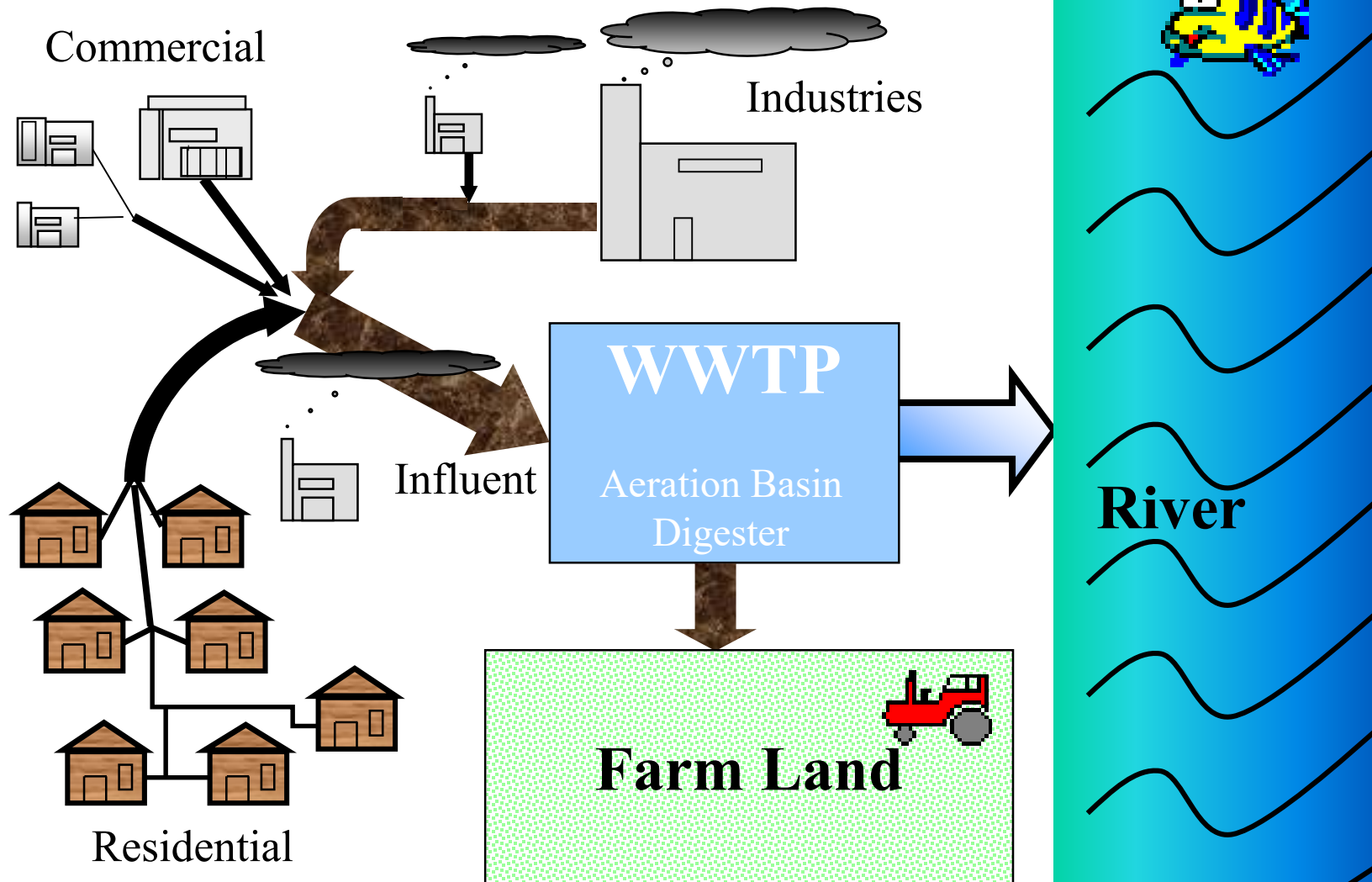
Develop and Implement the “Right” Pretreatment Program

Creating a Pretreatment Program that:

- Protects the POTW
- Is Environmentally sound
- Is Technically feasible
- Is Judicially defensible

There is a delicate balance between these goals and protecting the POTW!

TYPICALVILLE



Pretreatment Regulations

- Federal Clean Water Act
- Federal General Pretreatment Regulations
 - 40 CFR 403
- NC General Statutes
- State Administrative Code - 15A NCAC
 - 2H .0900

Got Pretreatment?

- Publicly Owned Treatment Works (POTWs) required to have a Pretreatment Program if process wastewater from Significant Industrial User (SIU) is accepted
 - POTW = city, town, county, Sanitary District, Sewer Authority

Got Pretreatment?

- What is a SIU?
- To understand this, first learn -
 - What is an IU?
 - What is a Pretreatment Program supposed to do?

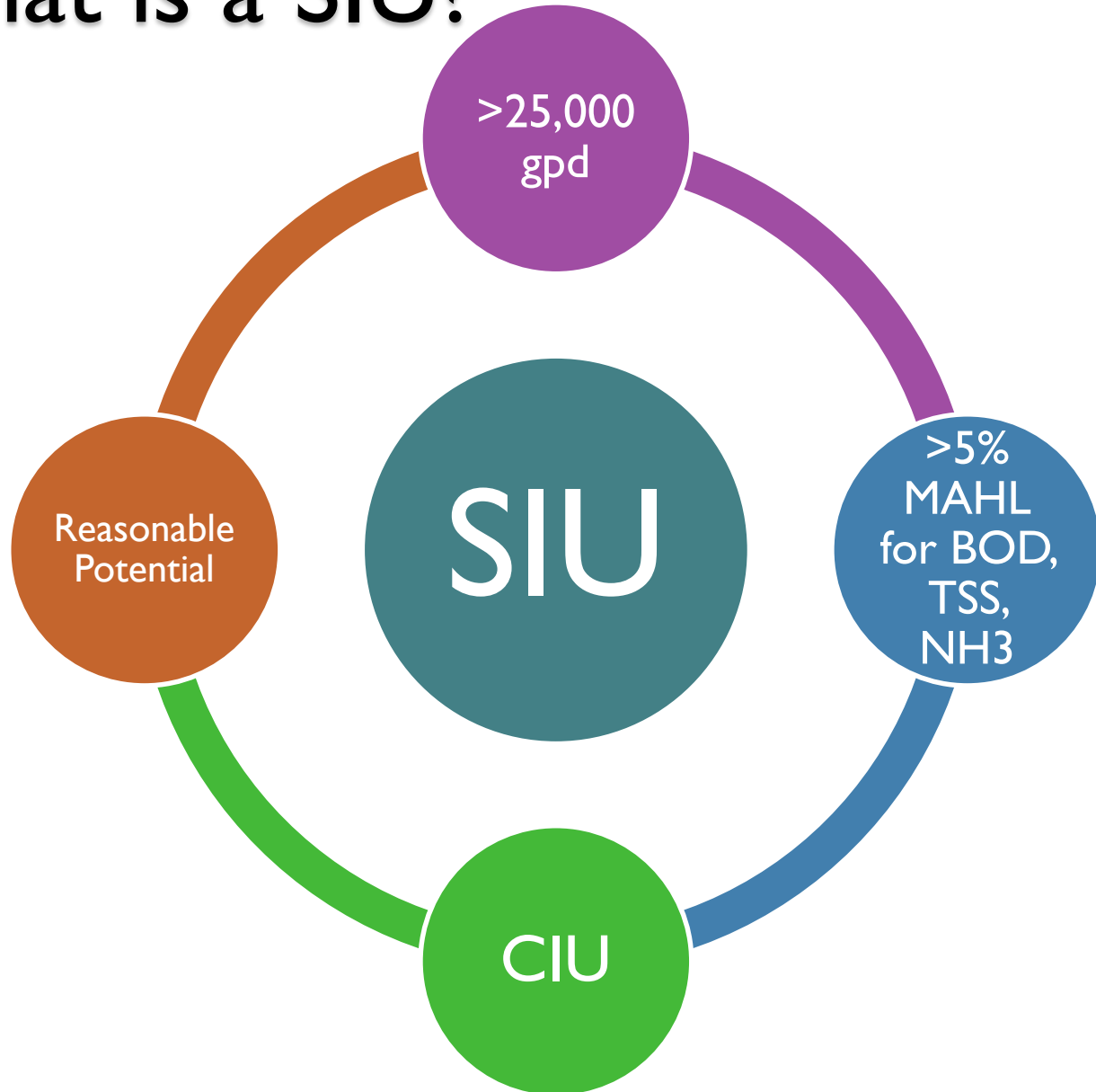
What's an IU?

- User
 - “Person” that discharges wastewater into the collection system
- Industrial User (IU).
 - broadly intended to cover any User of the collection system (and wastewater treatment plant) that is not a house

What is a Significant Industrial User (SIU)?

- An IU with the potential to cause
 - Pass Through (NPDES problems)
 - Interference (collection system problems and inhibition)
 - Bad biosolids
 - Poor Worker Health and Safety

What is a SIU?



What's a CIU?

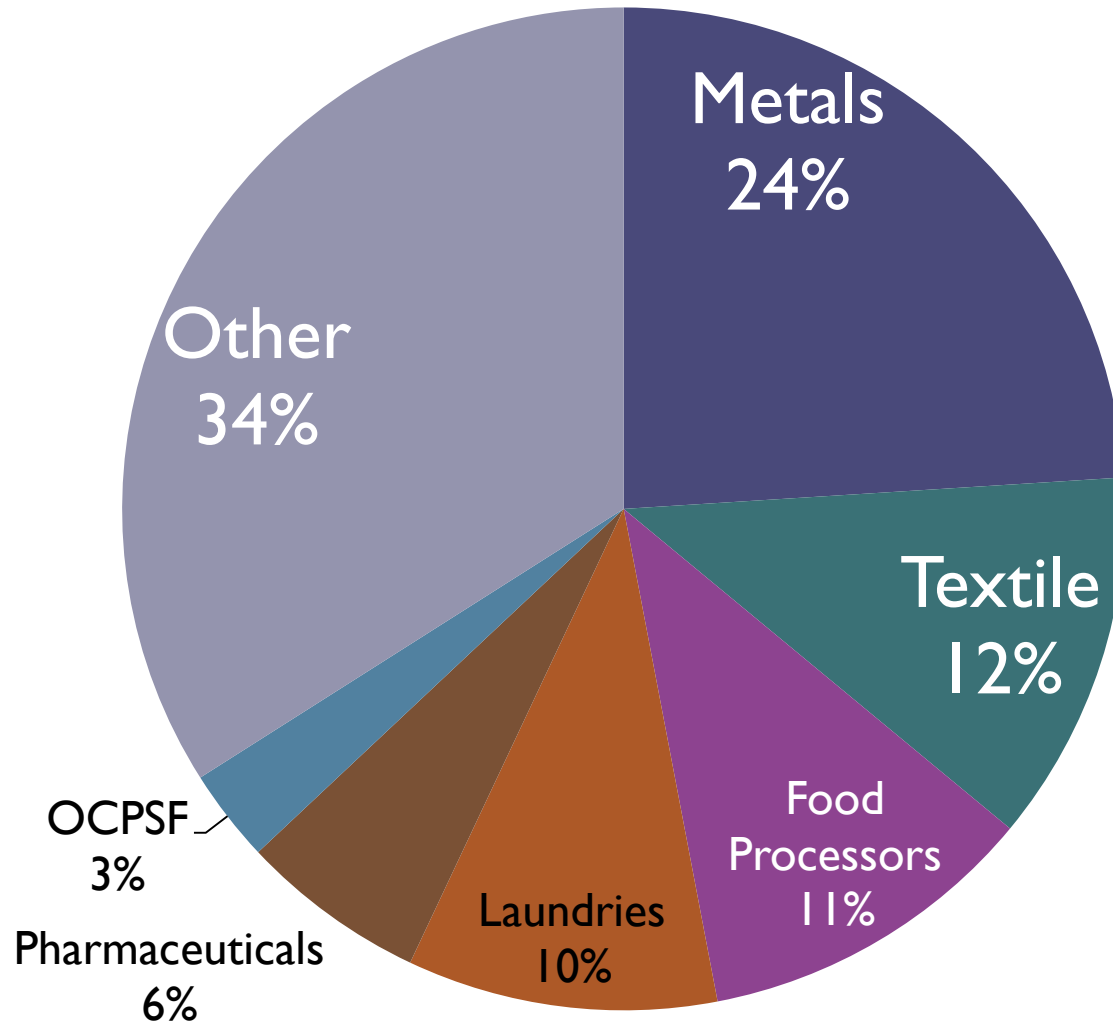
- CIU=Categorical Industrial User
- A subset of SIUs (all CIUs are SIUs with the exception of NSCIUs)
- a SIU that is covered by a specific Federal Categorical Regulation, for example:
 - metal finisher
 - pharmaceutical

What's a non-SIU?

- IU that is not a SIU
- may or may not be issued a local IUP or other individual control mechanism

Pretreatment Program in NC

604 Active SIUs



Pretreatment Program in North Carolina

- 113 Active Pretreatment Programs
- Over 200 local POTW Pretreatment Coordinators and consultants
- DWR/DEQ
 - Pretreatment, Emergency Response, and Collection Systems Unit (PERCS)
 - Regional Staff

Division Responsibility

- DWR is Approval Authority
 - Delegate DWR's responsibilities for Industrial Users under General Statutes to POTW.
 - Approve POTW's Pretreatment Program, including review of each element and IUP.
 - Compliance judgment and enforcement for failure to implement Pretreatment Program
 - Training and Support!

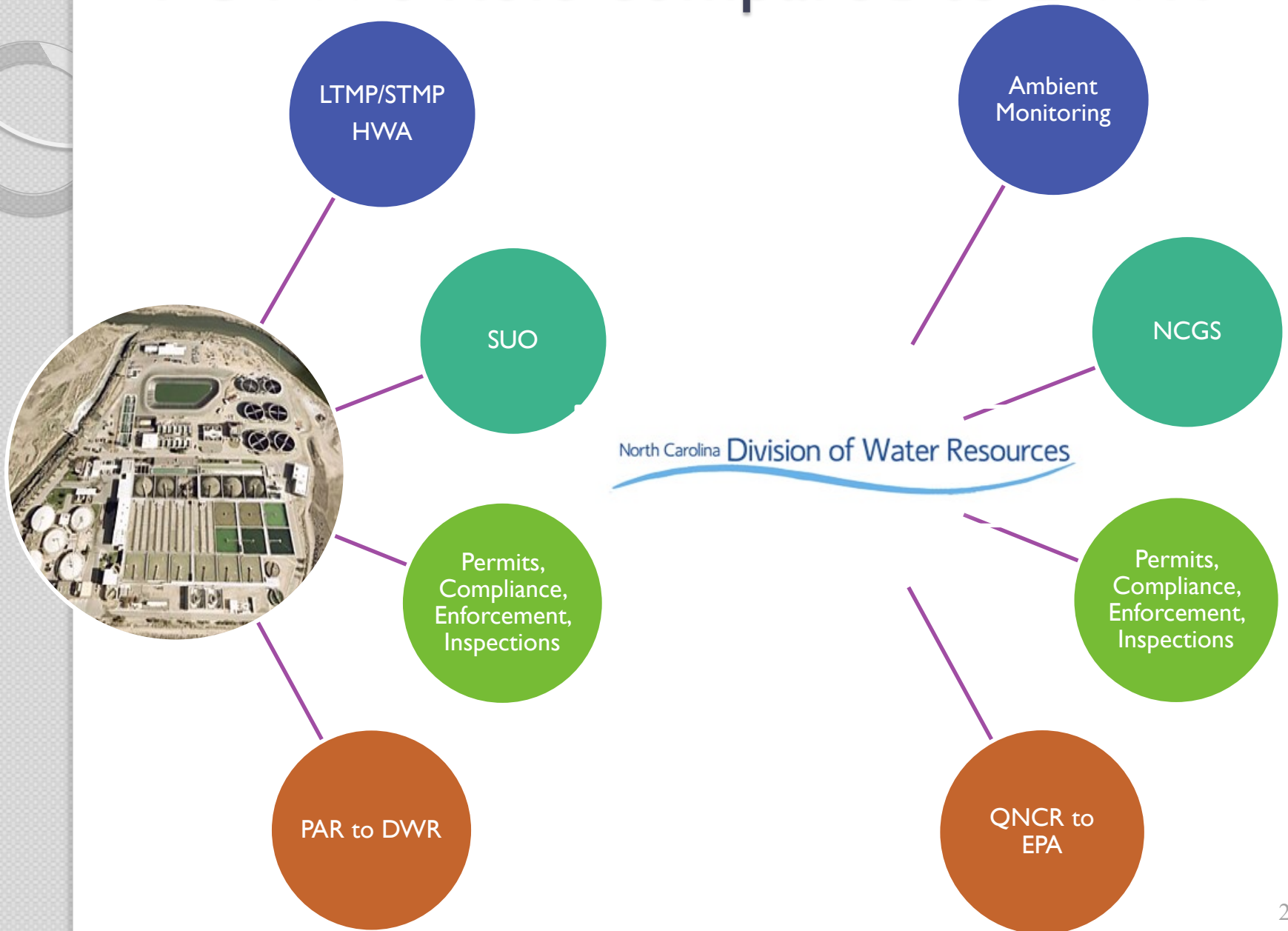
POTW Responsibility

- POTW is Control Authority
 - POTW is permittee of Approval Authority (DWR)
 - Develop and Implement DWR approved Pretreatment Program
 - Control Industrial Users through IUP and SUO
 - Perform compliance judgment and take enforcement against IUs for failure to comply with IUP and SUO

SIU Responsibility

- SIU is Permittee of POTW
 - “Controlled” by POTW
 - Comply with SUO and IUP
 - Keep POTW informed of SIU operations, including notification of changes before they make the change.

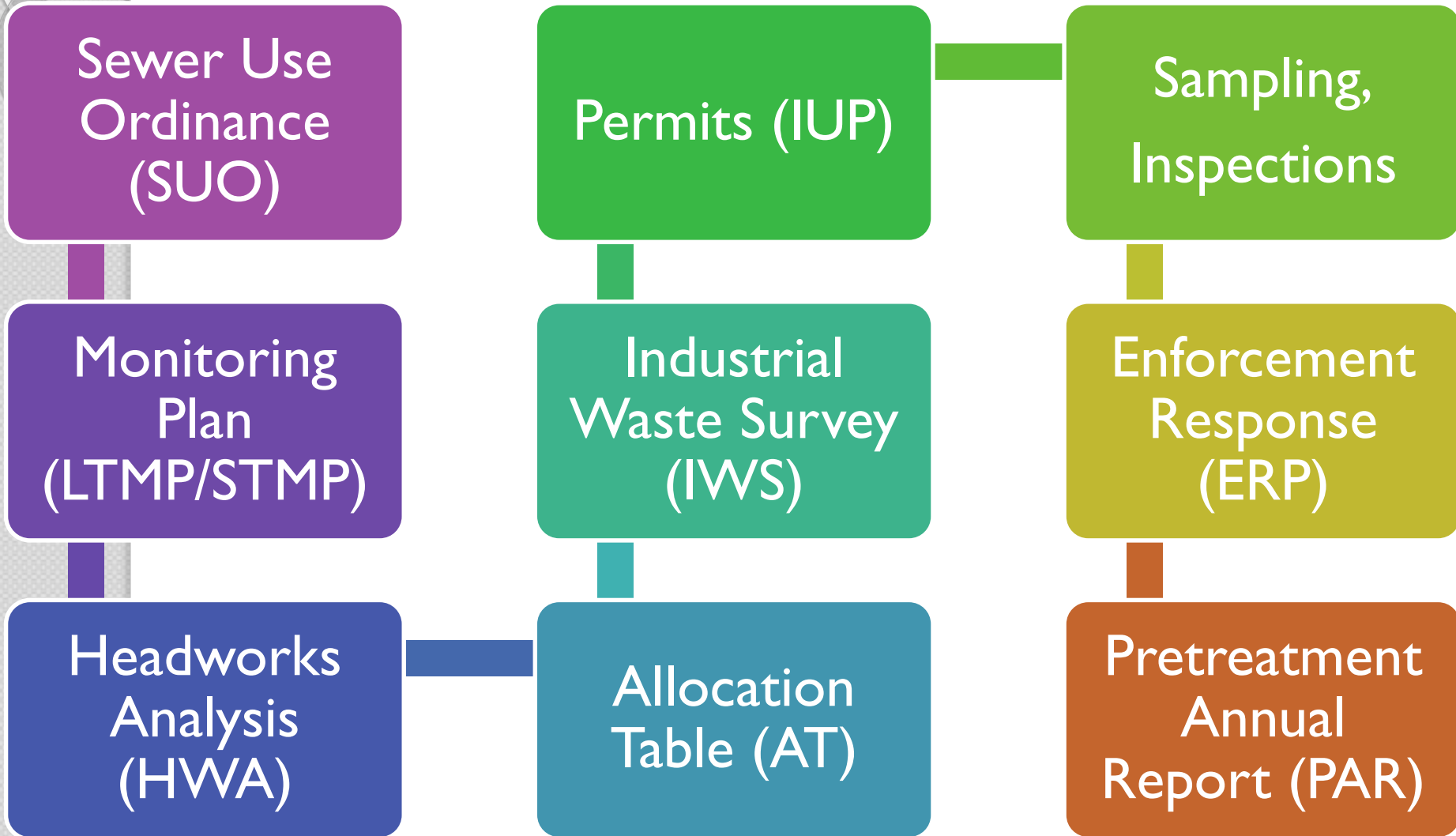
POTW's Role compared to DWR



Full Program versus Modified Program

- Modified Program - 33 Programs
 - POTW combined permitted flow of 2 MGD or less AND have 3 or less SIUs
 - Short Term Monitoring Plan (once per 5 years)
 - submit slightly smaller PAR
- Full Program - 80 Programs
 - Long Term Monitoring Plan (on-going)
 - Full PAR Required

Major Program Elements



Sewer Use Ordinance (SUO)

- Adopted by the POTW's governing board
- Prohibited discharges
- Gives the POTW the authority to Control Users:
 - Deny or Halt discharge
 - Establish Local Limits
 - Issue permits
 - Enforce permits
 - Issue penalties

What is a SIU Permit (IUP)?

IUP= Industrial User Pretreatment Permit

- Like DWR permits, IUPs are issued under NCGS 143-215.1
 - Purpose is to protect POTW and environment.
 - Same format as NPDES permits: Include limits, monitoring, reporting, general and specific conditions.

Pretreatment Permits versus Pretreatment Equipment

- SIU definition not tied to whether Industrial User (IU) has treatment units
 - Not all SIUs have pretreatment equipment, but all SIUs have pretreatment permits (IUPs)
 - Not all IUs (Industrial Users) are SIUs
 - Not all IUs with pretreatment equipment are SIUs
 - non-SIUs can be issued non-SIU (or local) IUPs

Industrial Waste Survey (IWS)

- Survey all industries connected to POTW
 - Satellite communities – who tells who?
- Determine who needs “controlling” or regulating (who is a SIU)
- Do you know when someone new is planning to move to town?
 - Or only find out after already here?!
- Do you know when an IU or SIU makes a change to their process?
 - Or only find out after already made it?!



SIUS vs. ILS?

GREENSBORO—(cont.)

Sales Assoc.—Chris Wood
 SIC—3273; *Ready-mixed concrete*
 Employs—30; Estab.—1967
 Sales—\$5Mil-\$10Mil (est)
 Distrib.—Local
 Privately owned corporation
 Also see: 300 S. Swing Rd. loc.
 Parent co.—Chandler Concrete Co., Inc., Burlington, NC
 Phone—(336) 226-1181
 See Parent Co. Section for full profile.

CHANDLER CONCRETE CO., INC.
 300 S. Swing Rd. (27409)
 Mail addr: P.O. Box 131, Burlington (27216)

Phone—(336) 294-3488
 Fax—(336) 855-9703
 www.chandlerconcrete.com
 Email—sales@chandlerconcrete.com
 Plt. Mgr.—Robert Singh
 SIC—3273; *Ready-mixed concrete*
 Employs—5; Estab.—1997
 Sales—\$500,000-\$1Mil (est)
 Distrib.—National
 Privately owned corporation
 Also see: 1424 Mill St. loc.
 Parent co.—Chandler Concrete Co., Inc., Burlington, NC
 Phone—(336) 226-1181
 See Parent Co. Section for full profile.

CHANDLER FOODS, INC.
 2727 Immanuel Rd. (27407-2598)

Phone—(336) 852-1934
 National—(800) 677-6219
 Fax—(336) 854-1109
 www.chandlerfoods.com
 Pres., CFO—Jeff C. Johnson
 P., Ops.—Dennis Johnson
 SIC—2013; NAICS—20612;
Barbecue & chilli products
 Employs—34; Estab.—1955
 Sales—\$5Mil-\$10Mil
 44,100 sq ft site, Distrib.—Regional
 Privately owned corporation

CHASE LOGEMAN CORP.
 303 Friendship Dr. (27409-9794)

Phone—(336) 665-0754
 Fax—(336) 665-0723
 www.chaselogeman.com
 Email—info@chaselogeman.com
 Pres.—Douglas Logeman
 V-P., Sales & Mktg.—Tom Riley
 Dir., Engrg.—Dave Holtz
 Ops. Mgr.—Lewis Stier
 Cust. Support & Hum. Res. Mgr.—Cindy Woodcock
 SIC—3565; NAICS—333993;
Pharmaceutical packaging equipment; Brand name—ChaseLock®
 Employs—21; Estab.—1961
 Sales—\$1Mil-\$5Mil
 18,000 sq ft site, Distrib.—Intl.
 Privately owned sub-S corp.

CHEAP COPIES

1306 E. Wendover Ave. (27405-6717)
Phone—(336) 273-5524
 www.cheapcopiesgbo.com
 Email—cheapcopiesgbo@aol.com
 Ops. Mgr.—Michael Campbell
 SIC—2759; 3993; NAICS—323110; *Digital color & instant printing & advertising specialties, including books, catalog sheets, postcards, business cards & banners*
 Employs—2; Estab.—1970
 Sales—\$3Mil
 1,600 sq ft site, Distrib.—National
 Sole ownership

CHEMOL CO.
 Div. of Seydel-Woolley Co
 2300 Randolph Ave. (27406)
 Mail addr: P.O. Box 16286, Greensboro (27416)
Phone—(336) 333-3050
 National—(800) 849-3050
 Fax—(336) 274-4286
 www.chemol.com
 CFO—Lynn Rose
 GM—Dave Grillo
 Pur. Mgr.—William Newlin
 SIC—2842; 2869; NAICS—325612; *Oil waxes & esters*
 Employs—35; Estab.—1995
 Distrib.—Intl.
 Privately owned corporation
 ISO rating—9001:2000
 Parent co.—Seydel-Woolley Co., Pendergrass, GA
 Phone—(706) 693-2266
 See Parent Co. Section for full profile.

CHROMA VISION
 606 S. Elm St., P.O. Box 434 (27402)

Phone—(336) 275-0602
 www.chromavision.com
 Owner—Sidney Gray
 SIC—3951; NAICS—339942; *Art supplies*
 Employs—2; Estab.—1977
 Sales—under \$500,000
 Distrib.—National
 Sole ownership

†CIEHL-ABEGG, INC.
 6348 Burnt Poplar Rd. (27407-2740)

Phone—(336) 834-9339
 National—(800) 608-9210
 Fax—(336) 834-9340
 www.ciehl-abegg.us
 Pres.—Duncan Russell
 Administrator—Courtney T. Miller
 SIC—5084; *Wholesaler of industrial fans*
 Employs—7; Estab.—2004
 Distrib.—Intl.
 Privately owned corporation

CLEAR DEFENSE SPORTS

1175 Revolution Mill Dr. (27405)
 Mail addr: P.O. Box 41316, Greensboro (27404)
Phone—(336) 370-1699
 Fax—(336) 370-0503
 www.cleardefense.com
 Email—sales@cleardefense.com
 Mng. Ptnr.—Tonya Cockman
 Cont.—Hugh Jenning
 Off. Mgr.—Juane Wade
 Off. Mgr.—Ashley Andrews
 SIC—3081; 3083; *Film, sheet & laminated plastics*
 Employs—13; Estab.—1996
 Sales—\$1Mil-\$2.5Mil
 Distrib.—Regional
 Privately owned corporation

CLINTON PRESS, INC.
 823 Battleground Ave. (27401)

Mail addr: P.O. Box 9619, Greensboro (27429-9619)
Phone—(336) 275-8491
 Fax—(336) 275-8144
 www.clintonpress.com
 Pres.—W. C. Jackson IV
 Prodn. Mgr.—Jim Fredrick
 Bindery Mgr.—Billy Austin
 Off. Mgr.—Gayle Denney
 SIC—2759; NAICS—323119;
Commercial printing & direct mail, packaging & fulfillment services
 Employs—12; Estab.—1946
 Sales—\$1.5Mil-\$2Mil
 Distrib.—Local
 Privately owned corporation

COLIPLUS NORTH CAROLINA
 Div. of Colplus Holdings
 426 S. Chimney Rock Rd. (27409)
 Mail addr: P.O. Box 18927, Greensboro (27419)
Phone—(336) 855-6300
 National—(800) 992-2192
 Fax—(336) 299-9882
 www.coliplus.com
 GM—Tim Long
 Ops. Mgr.—Brad Bullard
 Pur. Mgr.—Doug Smith
 SIC—3312; NAICS—331111; *Steel slitting*
 Employs—32; Estab.—1990
 Sales—\$25Mil-\$100Mil
 Distrib.—Regional
 Privately owned corporation
 Parent co.—Colplus Holdings, Rosemont, IL
 Phone—(847) 384-3000
 See Parent Co. Section for full profile.

†COLONIAL TIN WORKS, INC.
 7609 Canoe Rd. (27409-8827)

Mail addr: P.O. Box 49909, Greensboro (27419)
Phone—(336) 668-4126
 National—(800) 433-5054
 Fax—(336) 668-7636
 www.colonialtin.com
 Email—info@colonialtin.com
 Pres.—Tom LaRose
 V-P. & Sales & Mktg. Mgr.—Charles Lederer
 Hum. Res. Mgr.—Ray Phillips
 Cust. Serv. Mgr.—Rickie Tucker
 SIC—5099; *Distributor of decorative tin products*
 Employs—40; Estab.—1977
 Sales—\$5Mil-\$10Mil
 2,000 sq ft site, Distrib.—Regional
 Privately owned corporation

THE COLONIAL WORKS, INC.
 Div. of Colplus Holdings, Inc.

3010 Executive Dr. (27406)
Phone—(336) 272-8150
 Fax—(336) 274-8927
 www.thecolonialworksinc.com
 GM—John Bilger
 Cust. Serv. Rep.—Arlene Divens
 SIC—3089; NAICS—334220;
Cellular phone faceplates
 Employs—60
 Sales—\$5Mil-\$10Mil (est)
 Distrib.—Intl.
 Parent co.—Bush Industries, Inc., Jamestown, NY
 Phone—(716) 665-2000
 See Parent Co. Section for full profile.

COLUMBIANA HI-TECH MFG., LLC

1802 Fairfax Rd. (27407)
Phone—(336) 852-5679
 Fax—(336) 852-6149
 www.chtnuclear.com
 Pres.—Don Olson
 V-P.—Bob Hypes
 Cont.—Suprena Fay
 SIC—3599; 3499; NAICS—332710; *Metal fabrication & machining job shop*
 Employs—70; Estab.—1985
 Sales—\$500,000-\$1Mil
 Distrib.—National
 Privately owned corporation

COMPU-SIGNS

3612 S.E. School Rd. (27406-9775)
Phone—(336) 697-9265
 Fax—(336) 697-9265
 Owner—Don Smith
 SIC—3993; NAICS—339950;
Commercial signs
 Employs—2; Estab.—1989
 Sales—under \$500,000
 Distrib.—Regional
 Sole ownership

CONCEPT DEVELOPMENT STUDIOS
 1724 Holbrook St. (27403)
Phone—(336) 274-8300
 Fax—(336) 379-8834
 www.envision-nc.com
 Owner—Jim Grief
 Off. Mgr.—Richard Ward
 Off. Mgr.—Holly Petty
 SIC—3543; NAICS—333514;
Industrial prototypes
 Employs—10; Estab.—1975
 Sales—\$2.5Mil-\$5Mil
 Distrib.—Local
 Sole ownership
 DBA: Envision

CONE DENIM, LLC

Div. of International Textile Group, Inc.
 2420 Fairview St. (27405-4900)
Phone—(336) 230-7001
 Fax—(336) 230-7007
 www.itg-global.com
 Email—info@itg-global.com
 Plt. Mgr.—Brad Johnson
 Hum. Res. Mgr.—Stahle Vincent
 Off. Mgr.—Molly Zimmerman
 Prod. Mgr.—Ed Cox
 SIC—2211; NAICS—313210;
Denim fabric
 Employs—950; Estab.—1905
 Sales—over \$100Mil
 Distrib.—Intl.
 Publicly owned corporation
 ISO rating—9002
 Parent co.—International Textile Group, Inc., Greensboro, NC
 Phone—(336) 379-6220
 See Parent Co. Section for full profile.

CONSOLIDATED CONTAINER CO.

2030 E. Market St. (27401)
Phone—(336) 274-6100
 Fax—(336) 274-6148
 www.ccclic.com
 Email—stacyellis@ccclic.com
 Plt. Mgr.—Stacy Ellis
 SIC—3089; *Blow-molded plastic packaging bottles*
 Employs—30; Estab.—1999
 Sales—\$5Mil-\$10Mil
 Distrib.—Intl.
 Privately owned corporation
 Parent co.—Consolidated Container Co., Atlanta, GA
 Phone—(678) 742-4600
 See Parent Co. Section for full profile.

†CONSOLIDATED PIPE & SUPPLY CO.

Div. of Consolidated Pipe & Supply Co., Inc.
 406 Norwalk St. (27407)
Phone—(336) 294-8577
 National—(800) 294-8577
 Fax—(336) 294-9078
 www.consolidatedpipe.com
 Ops. Mgr.—Troy Smith
 Off. Mgr.—Jaret Ledermann
 Sales Rep.—Stuart Peterson
 SIC—5084; 5051; *Wholesaler of pipe, valves & fittings*
 Employs—10; Estab.—1991
 Sales—\$500,000-\$1Mil
 Distrib.—Local
 Privately owned corporation
 Parent co.—Consolidated Pipe & Supply Co., Inc., Birmingham, AL
 Phone—(205) 323-7261
 See Parent Co. Section for full profile.

CONSUMER SOURCE, INC.

1801 Stanley Rd., Ste. 104 (27407)
Phone—(336) 855-6578
 Fax—(336) 855-7781
 www.apartmentguide.com
 Publisher—Kimberly Foust

GEOGRAPHICAL

Long Term or Short Term Monitoring Plan

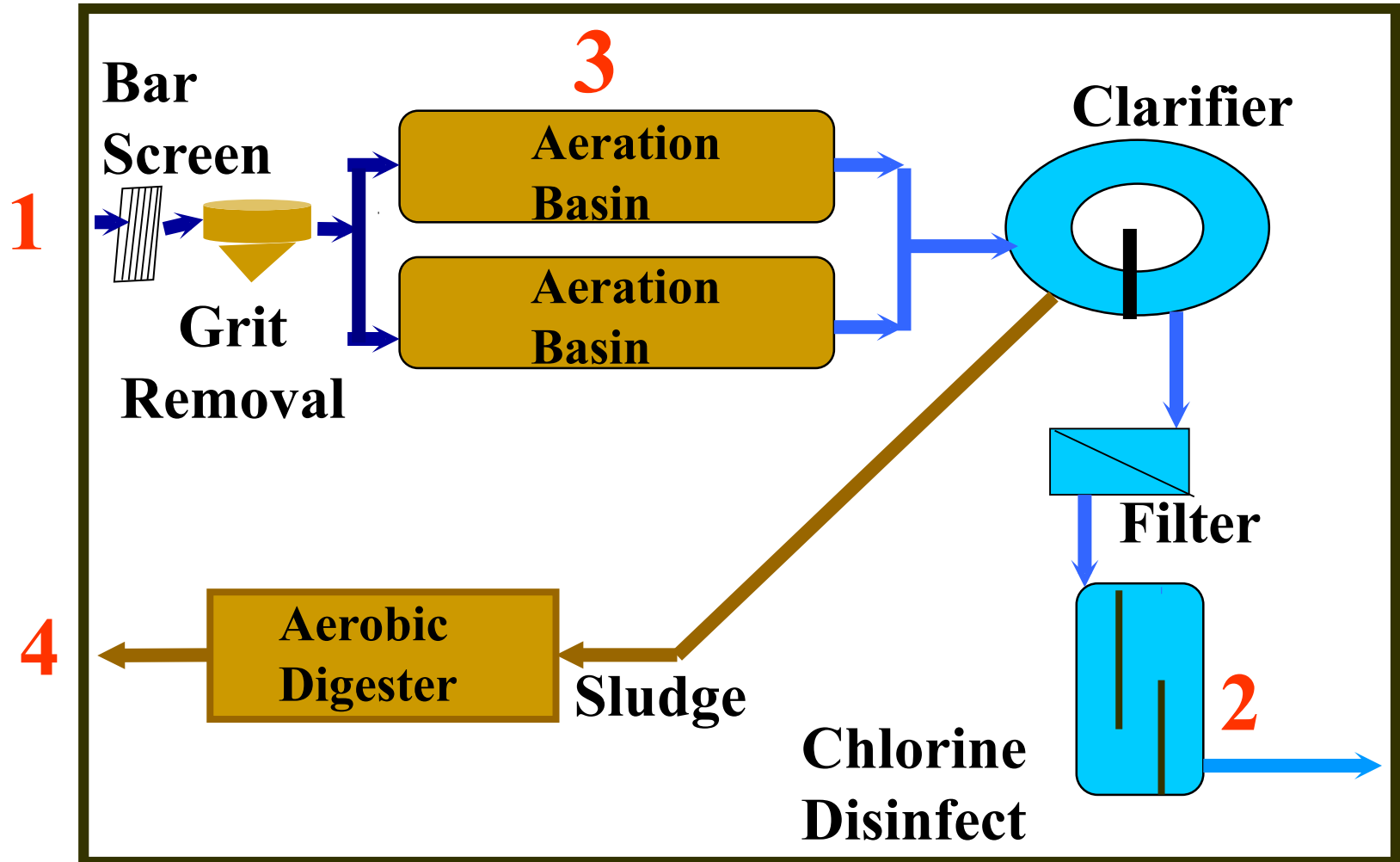
- POTW Site-Specific Sampling Plan
- collects data for use in
 - Headworks Analysis (HWA)
 - WWTP removal rates
 - WWTP inhibition criteria
 - WWTP influent + uncontrollable load
 - Local Limits
 - NPDES/Non-discharge permit
- Full Programs – Long; Modified – Short;
Only difference is the frequency.

LTMP/STMP Pollutants of Concern (POCs)?

- NPDES Permit Limited Pollutants of Concern
- Sludge Regs (40 CFR 503)- As, Cd, Cu, Pb, Hg, Mo, Ni, Se, and Zn
- EPA Required- Cd, Cr, Cu, Pb, Ni, Zn
- SIU IUP Limits- Ag, CN, Chlorides, Fluoride, organics, etc.

- Not all POTWs have the same POCs
- A POTW's POCs can change over time

Typical LTMP/STMP Monitoring Locations at a WWTP



Typical LTMP Monitoring Frequencies

- Full Programs have a LTMP—
Long Term Monitoring Plan
 - Influent and Effluent - Quarterly
 - Aeration Basin- Semi-annually
 - Sludge to Disposal- per sludge permit

Typical STMP Monitoring Frequencies

- Modified Programs have a STMP-
Short Term Monitoring Plan
 - Influent and Effluent- One year of quarterly sampling every 5 years
 - Aeration Basin- once every 5 years
 - Sludge to Disposal- per sludge permit

LTMP/STMP Detection Levels

- Detection levels must be approved by DWR in LTMP/STMP
- *Comp Guide, Chapter 4, Appendices 4-A, 4-C, and 4-D, page 3*
 - Some POTWs use lower
 - Some POTWs allowed to use higher in DWR approved LTMP/STMP

LTMP/STMP Guidance

- Find yours.
- Understand and follow it.
- *Comprehensive Guide, Chapter 4*
- Data Summaries - forms on website
- If LTMP/STMP doesn't do what you need it to do, change it!
 - Too much, too little data, useless data
- Effluent LTMP/STMP data on DMRs
 - All pollutants

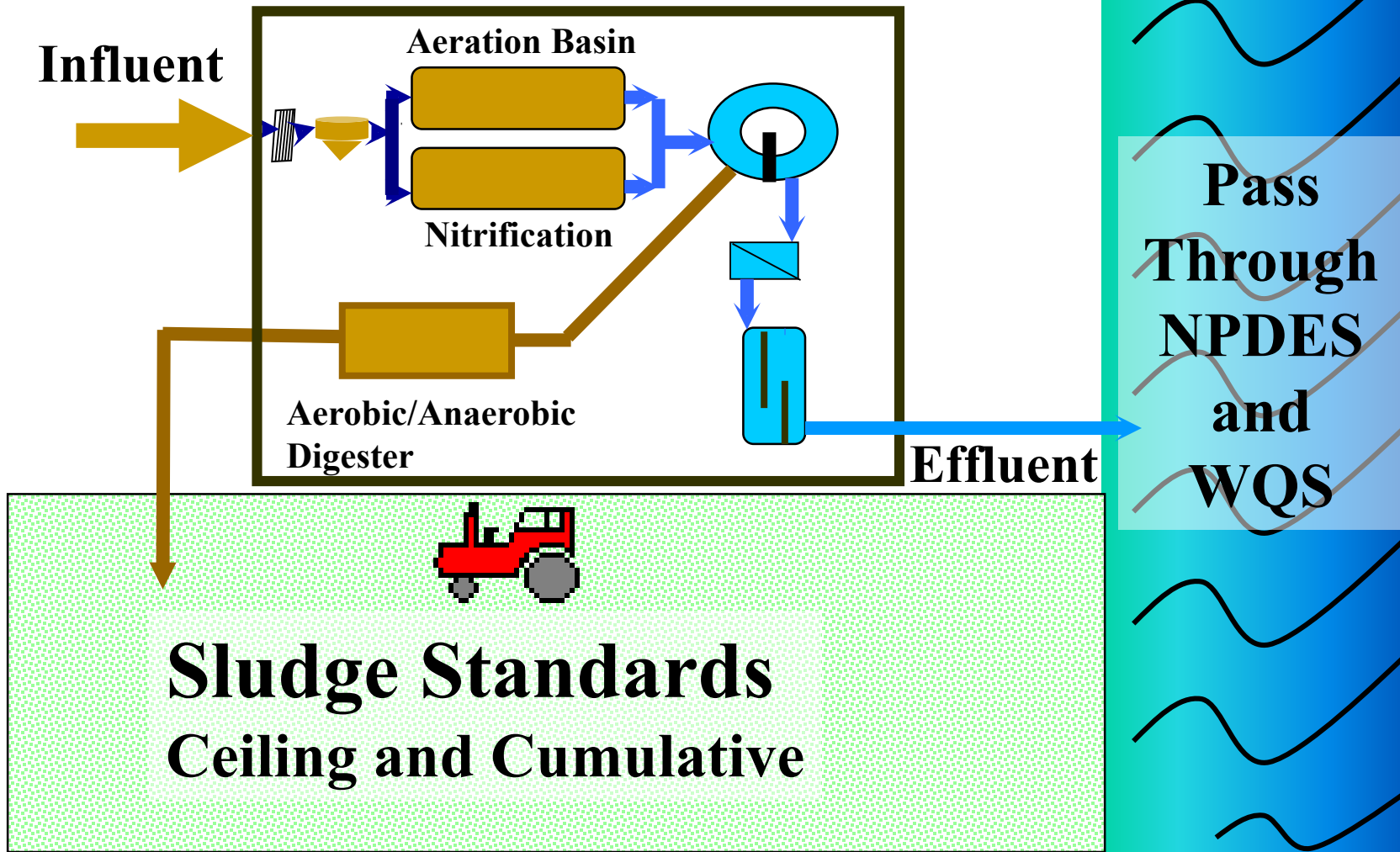
Headworks Analysis (HWA)

- Technical Analysis of a WWTP
 - Passthrough, inhibition, sludge
- Maximum Allowable Headworks Loading (MAHL)
- Maximum Allowable Industrial Loading (MAIL)

- HWA Workshops scheduled twice a year. PERCS specifically invites POTWs with upcoming HWAs due, but all are welcome!

Three Limiting Criteria

Biological Inhibition

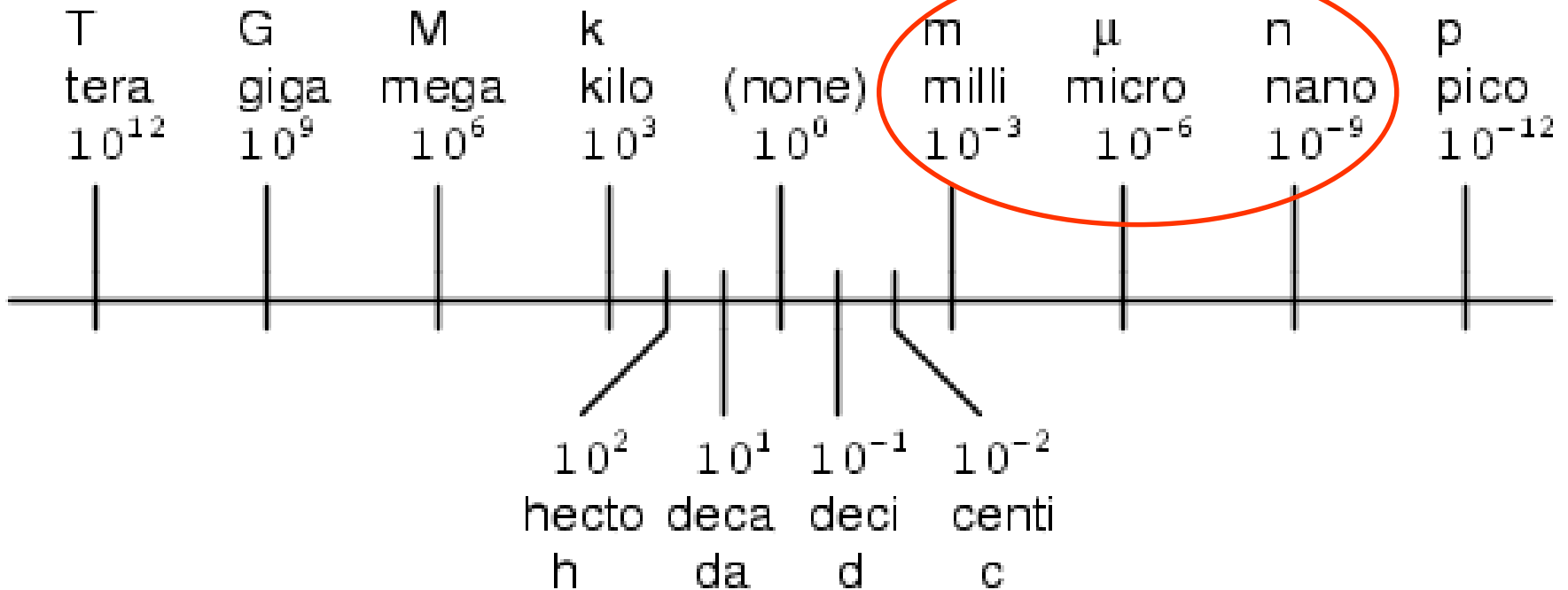


Pass Through NPDES and WQS

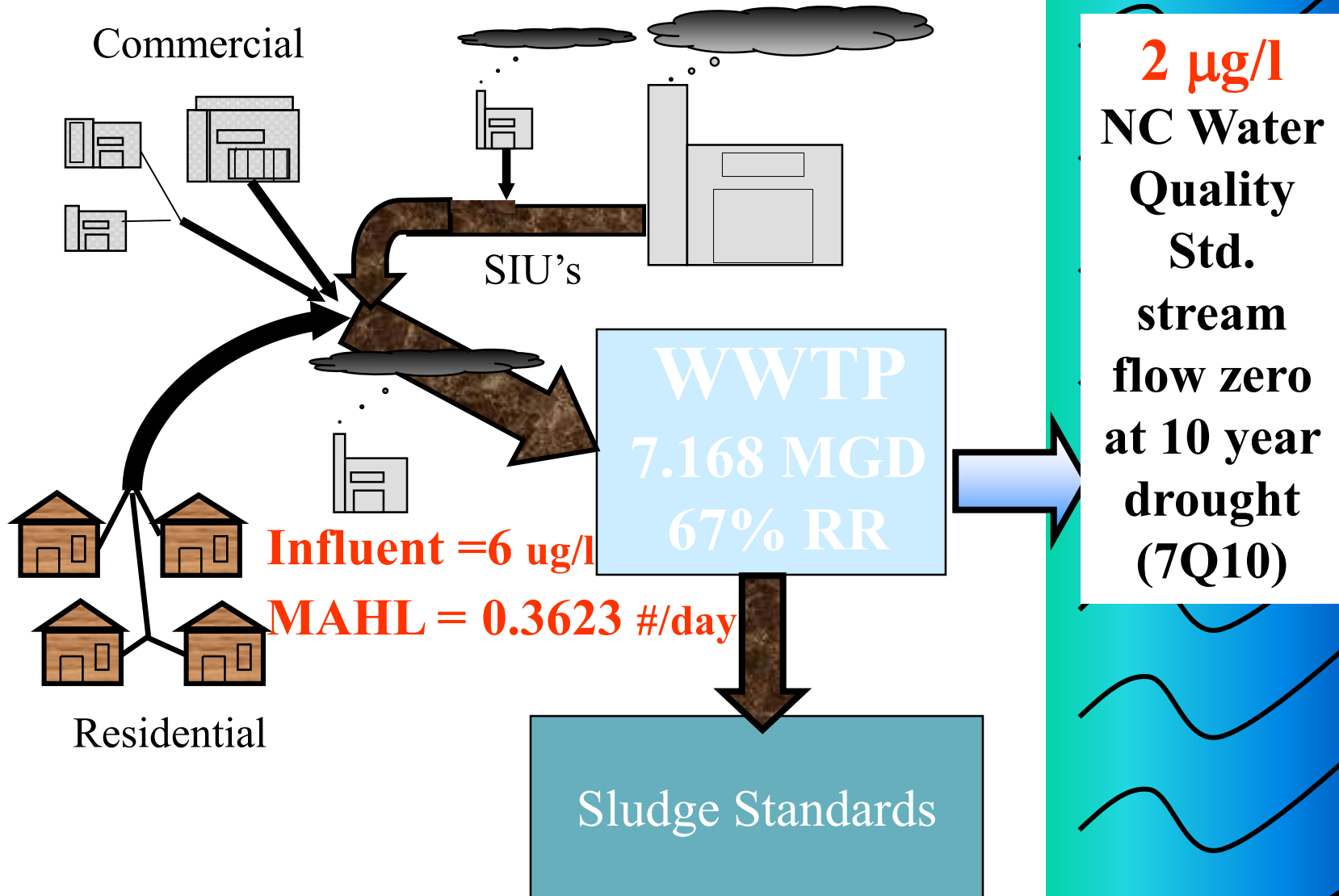
Sludge Standards Ceiling and Cumulative

Unit Conversions

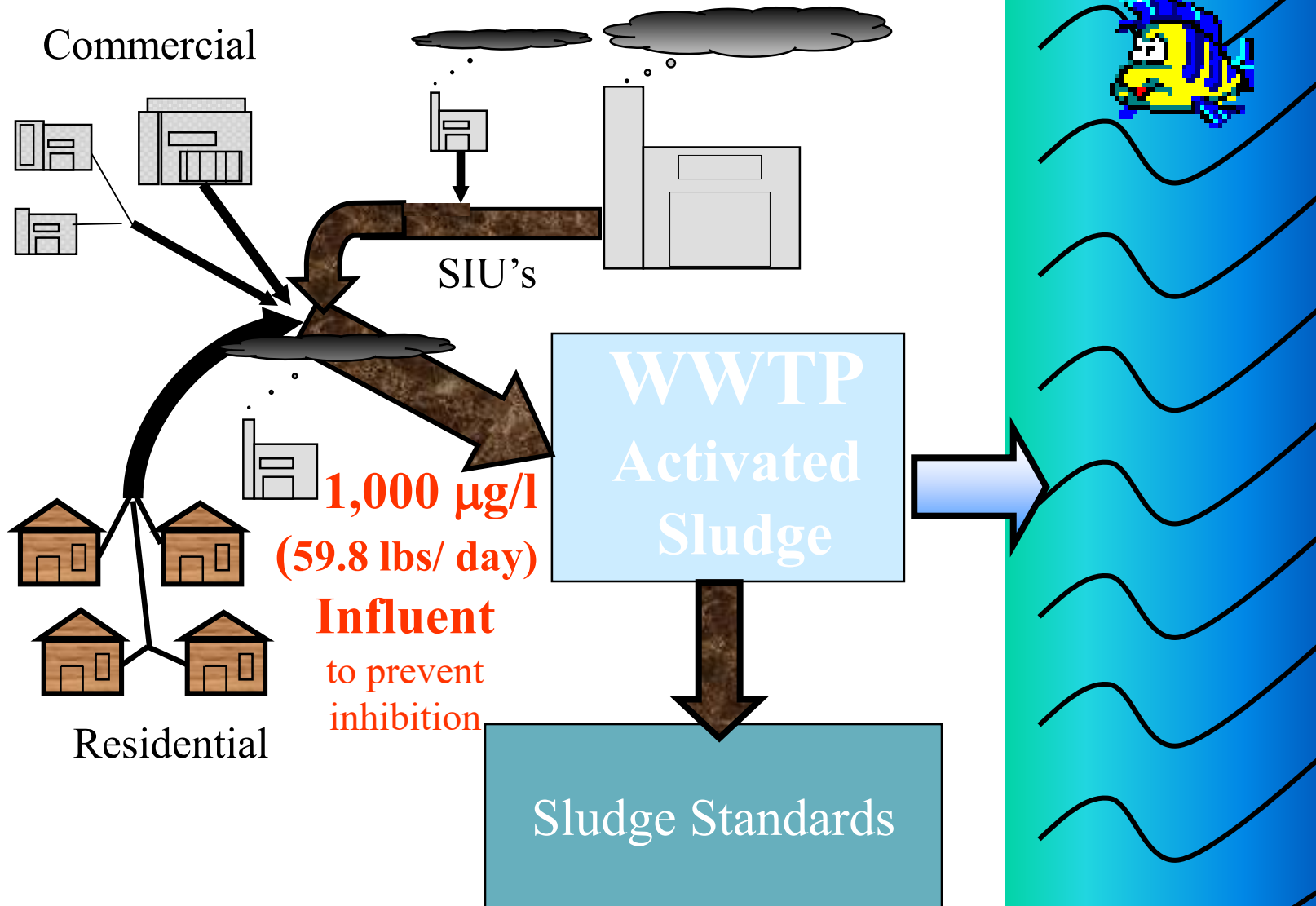
METRIC PREFIX SCALE



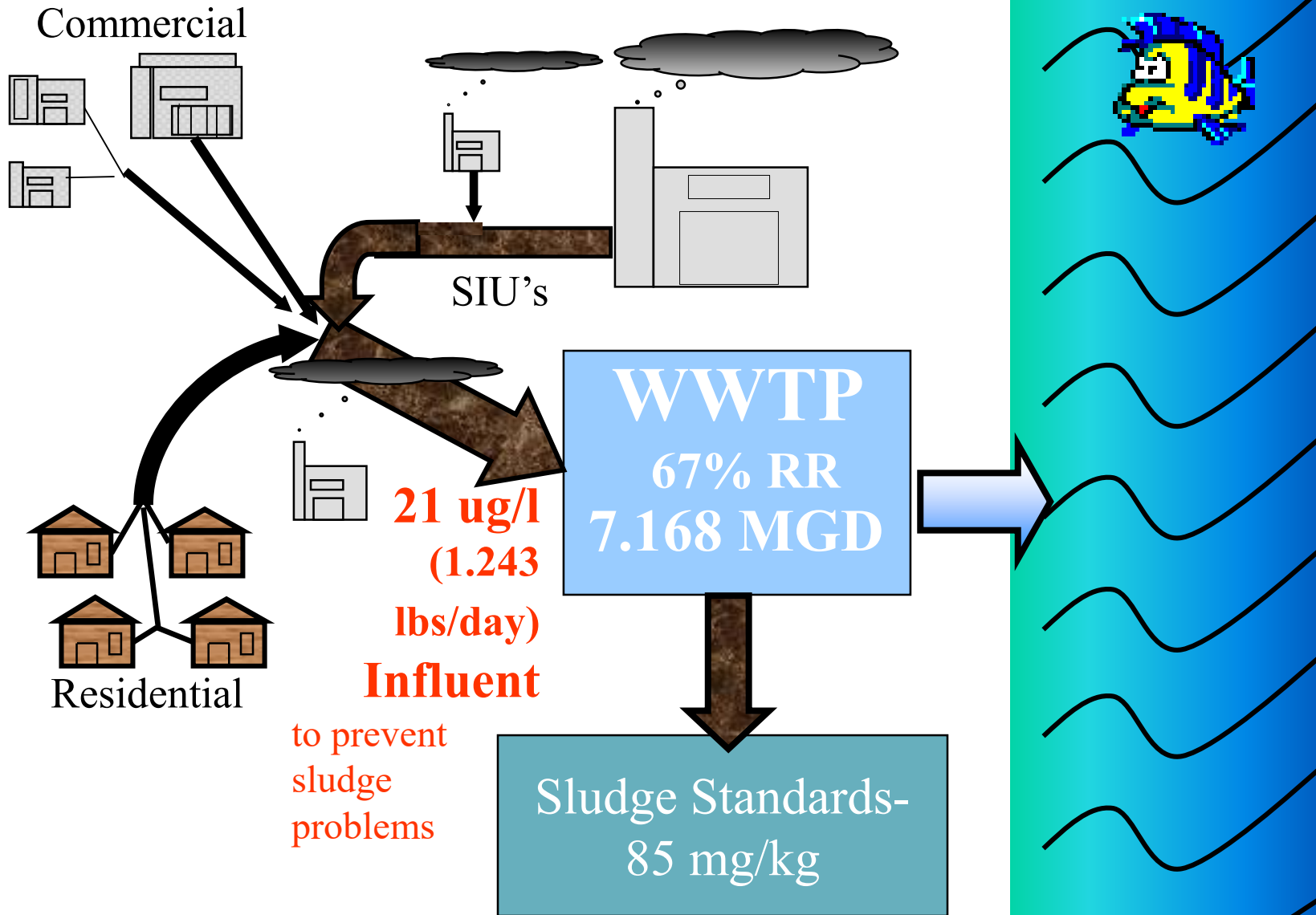
Pass Through cadmium load-based on WQS



Inhibition cadmium load



Sludge cadmium load-based on 40 CFR 503



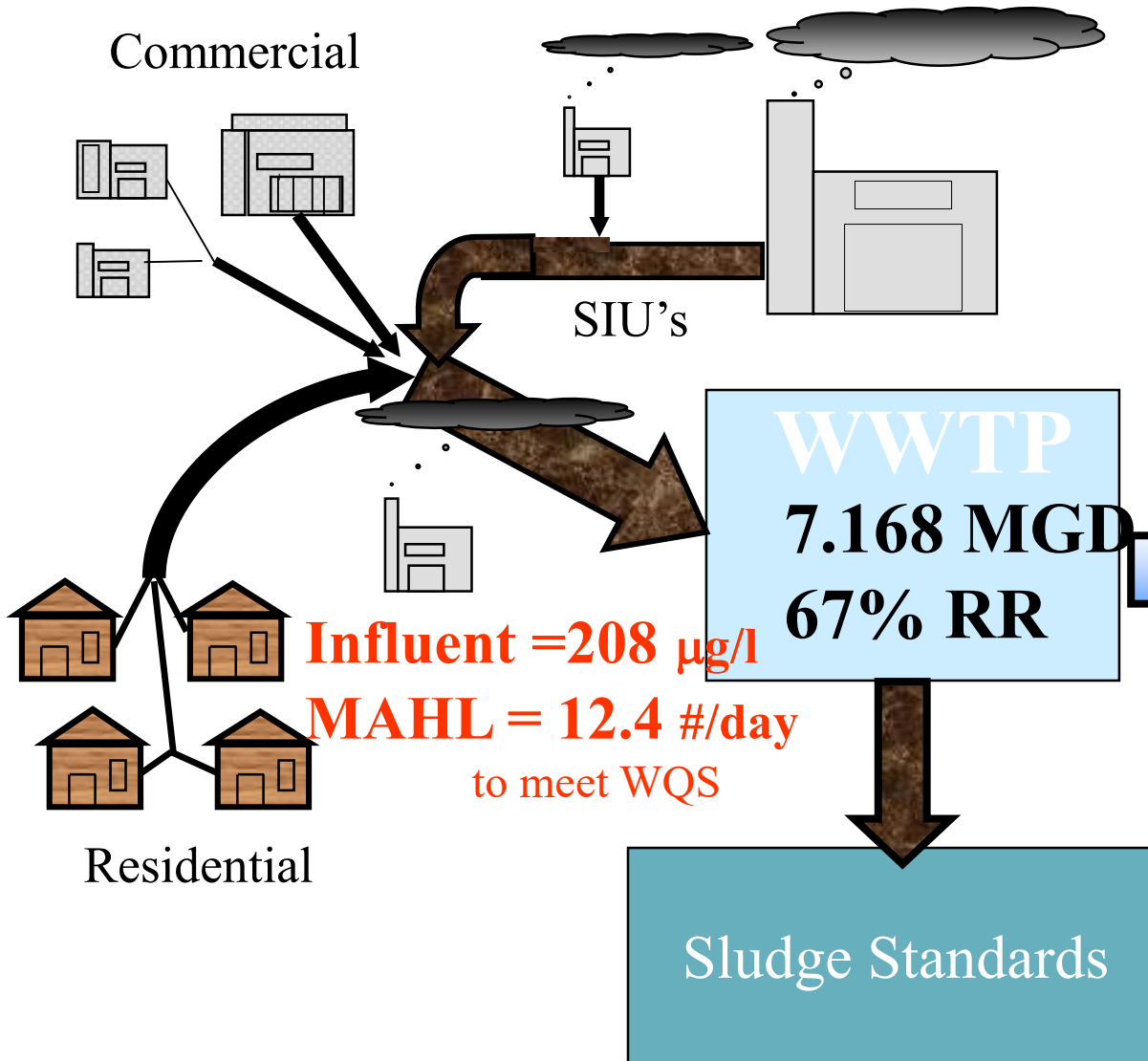
Evaluation of the most limiting criteria at the POTW

- 1) Pass Through Criteria - 6 ug/l
- 2) Biological Inhibition Criteria - 1,000 ug/l
- 3) Sludge Criteria – 21 ug/l

Use the most limiting factor as the
Maximum Allowable Headworks Load
(MAHL)

MAHL = 6 ug/l or 0.3623 lbs/day
based on passthrough

Pass Through cadmium load-based on WQS

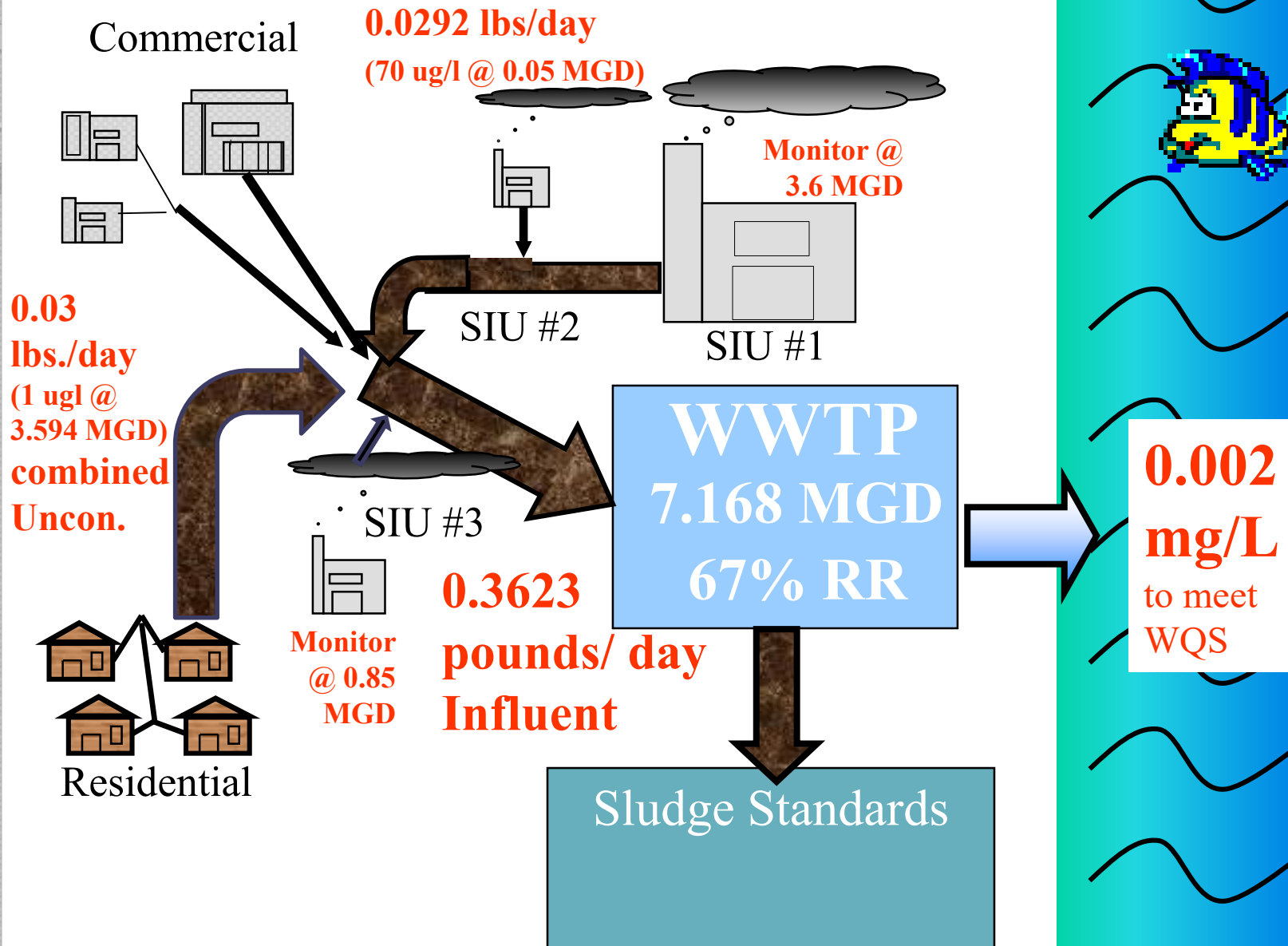


NC
WQS=
2 ug/l;
7Q10=
239
MGD
(IWC=
3%);

HWA and MAHL

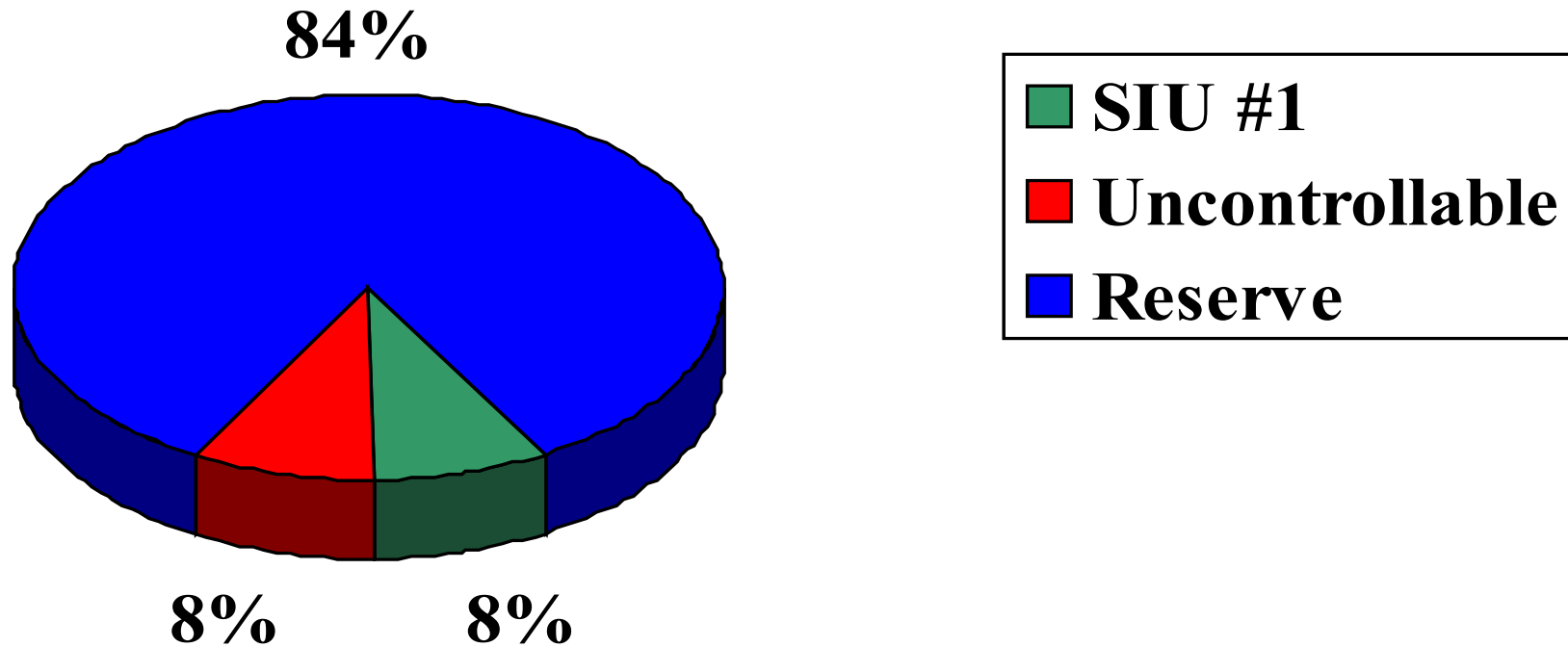
- How can I get a larger MAHL?
 - Bigger river
 - better removal rate
 - site-specific inhibition criteria
 - more land for sludge disposal

Allocating Cadmium



Allocating the pollutant load

Cadmium Allocation



Allocation Table

- SIU IUP limits
- Compute pounds/day
- Sum of SIU permitted load
- Compare against the MAHL and MAIL

No over allocation!

- Find yours.
- Understand it.
- *Comprehensive Guide, Chapter 6*

Compliance Judgment

- Is the SIU in compliance with the IUP or not?
- Compliance judgment responsibilities and required time frames in ERP.



Compliance Judgment Worksheet For SNC With Limits

Use separate sheets for each Industry

SNC determination for Flow optional, see Section 7-E

Use separate sheets for each Pollutant

SIU Name: <i>WillPlateit Metal Finishers</i>	IUP Number: <i>0006</i>	Pipe Number: <i>0001</i>
Parameter: <i>Cadmium</i>	Six Month SNC Determination Period: <i>7/1/2012-12/31/12</i>	

See next page for definitions

Daily Max. or ___ Ave. Limits from IUP	IUP Limit * TRC criteria = TRC Limit Circle 1.4 For TRC for BOD, TSS, oil, fat, grease; Circle 1.2 for all other pollutants TRC compliance judgment not required for pH:	Circle which units apply to each individual Limit
--	--	--

Daily Maximum Limit: .07 * 1.2 or 1.4 = TRC Daily Limit: .084 mg/l or lbs/day
 Average Limit: ___ * 1.2 or 1.4 = TRC Avg. Limit: ___ mg/l or lbs/day

- Column 1: I - Industry self P-PCTW A - Average
- Column 5: Use only if IUP has (monthly, or other?) average limit. Average values of all sampling events collected within the "average" period (for example, for a monthly average limit, use all values collected within a calendar month) and enter this average in column 5. Compare this average to the appropriate average IUP limit or TRC limit.
- Column 6: Use only if IUP has daily limits in lbs/day. Formula to use is (mgd * mg/l * 8.34 = lbs/day).
- Column 7: Use only if IUP has (monthl?) average limits in lbs/day. Use (mgd * mg/l * 8.34 = lbs/day).
- Column 8: Put "1" for each daily maximum or average value, tally up at bottom as "A."
- Column 9: Compare daily and average values to IUP limits above, put "0" if at or below limit, "1" if above, tally at bottom as "B."
- Column 10: Compare daily and average values to TRC limits above, put "0" if below limit, "1" if at or above, tally at bottom as "C."

Col. 1:	From IDMRs	From IDMRs	From DMRs	Col. 5:	Col 6:	Col 7:	Col 8:	Col 9:	Col 10:
Sample Type	Sample Date	Daily Flow, mgd	Daily Conc. mg/l	Avg Conc. mg/l	Daily Load lbs/day	Avg. Load lbs/day	Count	Regular Violation ?	TRC Violation ?
<i>I</i>	<i>7/17/12</i>	<i>.0752</i>	<i>.042</i>				<i>1</i>		
<i>P</i>	<i>7/24/12</i>	<i>.0469</i>	<i>.086</i>				<i>1</i>		
<i>I</i>	<i>8/7/12</i>	<i>.0313</i>	<i>.087</i>				<i>1</i>		
<i>I</i>	<i>8/23/12</i>	<i>.0538</i>	<i>.077</i>				<i>1</i>		
<i>I</i>	<i>9/3/12</i>	<i>.0790</i>	<i>.067</i>				<i>1</i>		
<i>I</i>	<i>10/9/12</i>	<i>.0676</i>	<i>.089</i>				<i>1</i>		
<i>I</i>	<i>10/21/12</i>	<i>.0681</i>	<i>.076</i>				<i>1</i>		
<i>I</i>	<i>11/1/12</i>	<i>.0657</i>	<i>.091</i>				<i>1</i>		
<i>I</i>	<i>11/16/12</i>	<i>.0678</i>	<i>.069</i>				<i>1</i>		
<i>I</i>	<i>12/17/12</i>	<i>.0292</i>	<i>.057</i>				<i>1</i>		

List these Totals on next page => A = 10 B = C =

Compliance Worksheet For SNC With Limits

Use separate sheets for each Industry

SNC determination for Flow optional, see Section 7-E

Use separate sheets for each Pollutant

SIU Name: <i>WillPlateit Metal Finishers</i>	IUP Number: <i>0006</i>	Pipe Number: <i>0001</i>
Parameter: <i>Cadmium</i>	Six Month SNC Determination Period: <i>7/1/2012-12/31/12</i>	

See next page for definitions

Daily Max. or _____ Ave. Limits from IUP	IUP Limit * TRC criteria = TRC Limit Circle 1.4 For TRC for BOD, TSS, oil, fat, grease; Circle 1.2 for all other pollutants TRC compliance judgment not required for pH:	Circle which units apply to each individual Limit
--	--	---

Daily Maximum Limit: .07 * 1.2 or 1.4 = TRC Daily Limit: .084 mg/l or lbs/day
 _____ Average Limit: _____ * 1.2 or 1.4 = TRC Avg. Limit _____ mg/l or lbs/day

- Column 1: I - Industry self P-POTW A - Average
- Column 5: Use only if IUP has (monthly, or other?) average limit. Average values of all sampling events collected within the "average" period (for example, for a monthly average limit, use all values collected within a calendar month) and enter this average in column 5. Compare this average to the appropriate average IUP limit or TRC limit.
- Column 6: Use only if IUP has daily limits in lbs/day. Formula to use is (mgd * mg/l * 8.34 = lbs/day).
- Column 7: Use only if IUP has (monthly?) average limits in lbs/day. Use (mgd * mg/l * 8.34 = lbs/day).
- Column 8: Put "1" for each daily maximum or average value, tally up at bottom as "A."
- Column 9: Compare daily and average values to IUP limits above, put "0" if at or below limit, "1" if above, tally at bottom as "B."
- Column 10: Compare daily and average values to TRC limits above, put "0" if below limit, "1" if at or above, tally at bottom as "C."

Col. 1:	From IDMRs	From IDMRs	From IDMRs	Col. 5:	Col 6:	Col 7:	Col 8:	Col 9:	Col 10:
Sample Type	Sample Date	Daily Flow, mgd	Daily Conc. mg/l	Avg Conc. mg/l	Daily Load lbs/day	Avg. Load lbs/day	Count	Regular Violation ?	TRC Violation ?
I	7/17/12	.0752	.042				1	0	
P	7/24/12	.0469	.086				1	1	
I	8/7/12	.0313	.087				1	1	
I	8/23/12	.0538	.077				1	1	
I	9/3/12	.0790	.067				1	0	
I	10/9/12	.0676	.089				1	1	
I	10/21/12	.0681	.076				1	1	
I	11/1/12	.0657	.091				1	1	
I	11/16/12	.0678	.069				1	0	
I	12/17/12	.0292	.057				1	0	

List these Totals on next page => A = 10 B = 6 C =

SIU Name: <i>WillPlateit Metal Finishers</i>	IUP Number: <i>0006</i>	Pipe Number: <i>0001</i>
Parameter: <i>Cadmium</i>	Six Month SNC Determination Period: <i>7/1/2012-12/31/12</i>	

See next page for definitions

Daily Max. or ___ Ave. Limits from IUP	IUP Limit * TRC criteria = TRC Limit Circle 1.4 For TRC for BOD, TSS, oil, fat, grease; Circle 1.2 for all other pollutants TRC compliance judgment not required for pH:	Circle which units apply to each individual Limit
--	---	--

Daily Maximum Limit: *.07* * *1.2* or *1.4* = TRC Daily Limit: *.084* *mg/l* or *lbs/day*
 ___ Average Limit: ___ * *1.2* or *1.4* = TRC Avg. Limit: ___ *mg/l* or *lbs/day*

Column 1: I - Industry self P-POTW A - Average
 Column 5: Use only if IUP has (monthly, or other) average limit. Average values of all sampling events collected within the "average" period (for example, for a monthly average limit, use all values collected within a calendar month) and enter this average in column 5. Compare this average to the appropriate average IUP limit or TRC limit.
 Column 6: Use only if IUP has daily limits in lbs/day. Formula to use is (mgd * mg/l * 8.34 = lbs/day).
 Column 7: Use only if IUP has (monthly?) average limits in lbs/day. Use (mgd * mg/l * 8.34 = lbs/day).
 Column 8: Put "1" for each daily maximum or average value, tally up at bottom as "A."
 Column 9: Compare daily and average values to IUP limits above, put "0" if at or below limit, "1" if above, tally at bottom as "B."
 Column 10: Compare daily and average values to TRC limits above, put "0" if below limit, "1" if at or above, tally at bottom as "C."

Col. 1:	From IDMRs	From IDMRs	From IDMRs	Col. 5:	Col 6:	Col 7:	Col 8:	Col 9:	Col 10:
Sample Type	Sample Date	Daily Flow, mgd	Daily Conc. mg/l	Avg Conc. mg/l	Daily Load lbs/day	Avg. Load lbs/day	Count	Regular Violation	TRC Violation
<i>I</i>	<i>7/17/12</i>	<i>.0752</i>	<i>.042</i>				<i>1</i>	<i>0</i>	<i>0</i>
<i>P</i>	<i>7/24/12</i>	<i>.0469</i>	<i>.086</i>				<i>1</i>	<i>1</i>	<i>1</i>
<i>I</i>	<i>8/7/12</i>	<i>.0313</i>	<i>.087</i>				<i>1</i>	<i>1</i>	<i>1</i>
<i>I</i>	<i>8/23/12</i>	<i>.0538</i>	<i>.077</i>				<i>1</i>	<i>1</i>	<i>0</i>
<i>I</i>	<i>9/3/12</i>	<i>.0790</i>	<i>.067</i>				<i>1</i>	<i>0</i>	<i>0</i>
<i>I</i>	<i>10/9/12</i>	<i>.0676</i>	<i>.089</i>				<i>1</i>	<i>1</i>	<i>1</i>
<i>I</i>	<i>10/21/12</i>	<i>.0681</i>	<i>.076</i>				<i>1</i>	<i>1</i>	<i>0</i>
<i>I</i>	<i>11/1/12</i>	<i>.0657</i>	<i>.091</i>				<i>1</i>	<i>1</i>	<i>1</i>
<i>I</i>	<i>11/16/12</i>	<i>.0678</i>	<i>.069</i>				<i>1</i>	<i>0</i>	<i>0</i>
<i>I</i>	<i>12/17/12</i>	<i>.0292</i>	<i>.057</i>				<i>1</i>	<i>0</i>	<i>0</i>

Compliance Worksheet For SNC With Limits

Use separate sheets for each Industry

SNC determination for Flow optional, see Section 7-E

Use separate sheets for each Pollutant

SIU Name: <i>WillPlateit Metal Finishers</i>	IUP Number: <i>0006</i>	Pipe Number: <i>0001</i>
Parameter: <i>Cadmium</i>	Six Month SNC Determination Period: <i>7/1/2012-12/31/12</i>	

SIGNIFICANT NON-COMPLIANCE (SNC) LIMITS DETERMINATION

Calculate % and Circle Answers

- 1) Calculate the % of Regular violations: *6/10* B/A = *60.0%*
2) Is B/A greater than or equal to 0.66 (or 66 %) ? Chronic violator? Yes / No
- 3) Calculate the % of TRC Violations: *4/10* C/A = *40.0%*
4) Is C/A greater than or equal to 0.33 (or 33 %) ? TRC Violator? Yes / No
- 5) Did any violation, alone or in combination with other discharges, cause pass-through or interference at the POTW, or endanger the health of POTW workers or the public? Yes / No
- 6) Did any violation cause imminent endangerment to human health / welfare or to the environment or has resulted in the POTW's exercise of its emergency authority to halt or prevent such discharge? Yes / No
- 7) If the answer to any of these questions is yes, the SIU is in Significant Non-Compliance (SNC) for this parameter. They must be listed on the Significant Non-Compliance Report (SNCR) form in the Pretreatment Annual Report (PAR), described in the PAR narrative (including parameter, period, and POTW actions), and the POTW must take adequate enforcement as outlined in its Enforcement Response Plan (ERP).

Per ORC

Is the SIU in SNC for this six month period? CIRCLE ONE: YES NO

Was the SIU in SNC for THE SAME PARAMETER in the previous six month compliance period? CIRCLE ONE: YES NO

If YES to EITHER question, DESCRIBE IN NARRATIVE.

Now What?

Please note if SIU was in SNC for the previous six month compliance period and is also in SNC for this six month compliance period, escalated enforcement actions must be taken as soon as possible, preferably before the end of the second consecutive period. Failure to take the action within 2 months after the end of the second consecutive period will subject the POTW to enforcement by the Division. The options are:

- Consent Order with Enforceable schedule;
- Administrative Order with Enforceable schedule;

Permit modification.

See Chapter 9 - Pretreatment Annual Reports, Chapter 8 - Enforcement, and the POTW's Enforcement Response Plan (ERP).

Definitions:

Count, The number of daily sample data values or the number of average of sampling events used for checking compliance with average limits.

TRC Technical Review Criteria, Multiply the actual IUP limits by the proper TRC Criteria value to get a TRC Limit:

TRC Criteria = 1.4 for BOD, TSS, oil, fat, grease

TRC Criteria = 1.2 for all other pollutants

Not required to perform TRC compliance judgment for pH.

SNCR Significant Non-Compliance Report

SNC Significant Non-Compliance

Sampling of SIUs



- Must be performed per IUP
 - 15A NCAC 15H .0908(e) and 40 CFR 403.8(f)(2)(v)
 - 40 CFR 136
- DWR Chain of Custody forms found in *Comprehensive Guide, Appendix 7-A and B*
- Data Summaries
 - good detection levels
 - separate column for “less than” sign
 - average, max, min, and lbs/day

Reporting by SIUs

- Must be performed per IUP
- Must submit reports on time
- IUP Part II, 2-sampling reports and 24 hour notification of violations
- Most other IUP conditions, including
 - Part II, 4 - additional monitoring
 - Part II, 7 - pretreatment unit operations
 - Part II, 23 - re-application
 - Part II, 25 - changes in operation
 - Part II, 30 - potential problems
- SIU communicate early and often



Inspections



- REQUIRED ANNUALLY AT ALL SIUs
- POTW staff goes on-site to SIU to confirm the SIU is in compliance:
 - Production changes
 - Pretreatment Unit operation
 - sampling and data summary sheets
 - Are they the same as what SIU sent you? Especially important if SIU not required to submit lab sheets and chain of custody
 - Slug/Spill Control Plan needed, followed
 - Housekeeping
 - Schematic/Diagram in application/permit adequate

Enforcement Response Plan (ERP)

- Enforcement that is timely, effective, fair, and equitable
 - Response time for POTW's issuance of Notices of Violation, etc.
 - Required fines/penalties
 - Required follow-up actions
 - Enforcement actions must escalate

Sampling, Inspection, and Enforcement

- Find your IUPs and ERP.
- Understand and follow them.
 - *Comprehensive Guide, Chapter 6 - IUP*
 - *Comprehensive Guide, Chapter 7 - Compliance Judgment, Sampling, and Inspection*
 - *Comprehensive Guide, Chapter 8 - Enforcement*
- **If IUPs and ERP don't do what you need them to do, change them!**
 - **Too harsh, too weak, can cause extra work**

Pretreatment Annual Report (PAR)



- Annual Progress Report
- DWR review of these documents:
 - Pretreatment “vital signs”
 - accuracy
 - compliance judgment
- Complete PAR required for Full Programs
 - Modified Programs must submit SIU in SNC info, PPS form, Program Info
- Due March 1st. - Compile in one pdf and be emailed to PERCS Unit
- Classes in Jan/Feb of each year

Files - Organized



Files - Complete

- keep at least 3 years (recommend 5)
- for major elements that are in effect for long periods, such as HWWAs, IUPs, SUO, keep latest version and one before that (~6-10 years)
- Categorical determination—forever?



DCI (PRETREATMENT)

PAR

2009

PAR 2013

PAR

Sewer Use

ERP

ERP

2004 LTMP Test Results

2006

LTMP Test Results

2008 LTMP Test Results

2010 LTMP Test Results

2011

Results

All
CORRESPONDENCE

Admin 15 NCAC 21.0900 Code for Pretreatment Programs

Pretreatment
Info (SIU)



Files-SIUs

- IUP, with transmittal letter, synopsis, application, and DWR approval letter
- inspections
- NOVs and SIU responses
- Correspondence, possibly separated by POTW and SIU
- Data, possibly separated by POTW collected and SIU collected



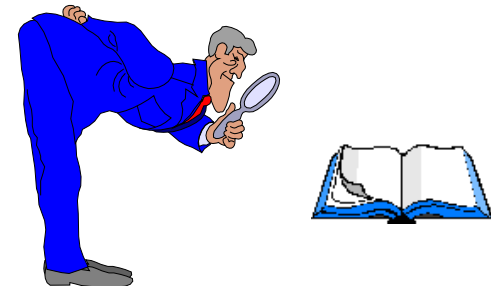
Funding

- Fair and Equitable
- Defendable
- Based on actual costs
- Examples:
 - Permit Charge
 - Sampling Cost Recovery Charges
 - Administration Charge
 - LTMP Charge
- **Do you have enough money?**

DWR Inspections and Audits



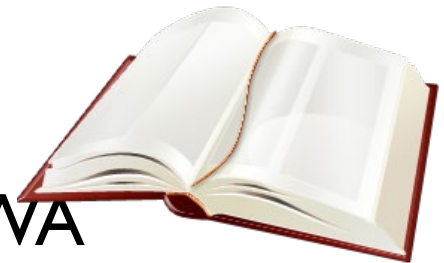
- DWR staff goes on-site a minimum of 3 times in 5 years to the POTW :
 - program elements
 - files
 - sampling and data summary sheets
 - compliance judgment/enforcement
 - SIU correspondence
 - inspections of SIUs



DWR Guidance and Training



- DWR Guidance - *Comprehensive Guidance for North Carolina Pretreatment Programs or “Comp Guide”*
- Training
 - One-day workshops on PAR, HWA and IUPs
 - Phone calls, emails, meetings, letters
- Website –
<http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/percs/pretreatment-permits>



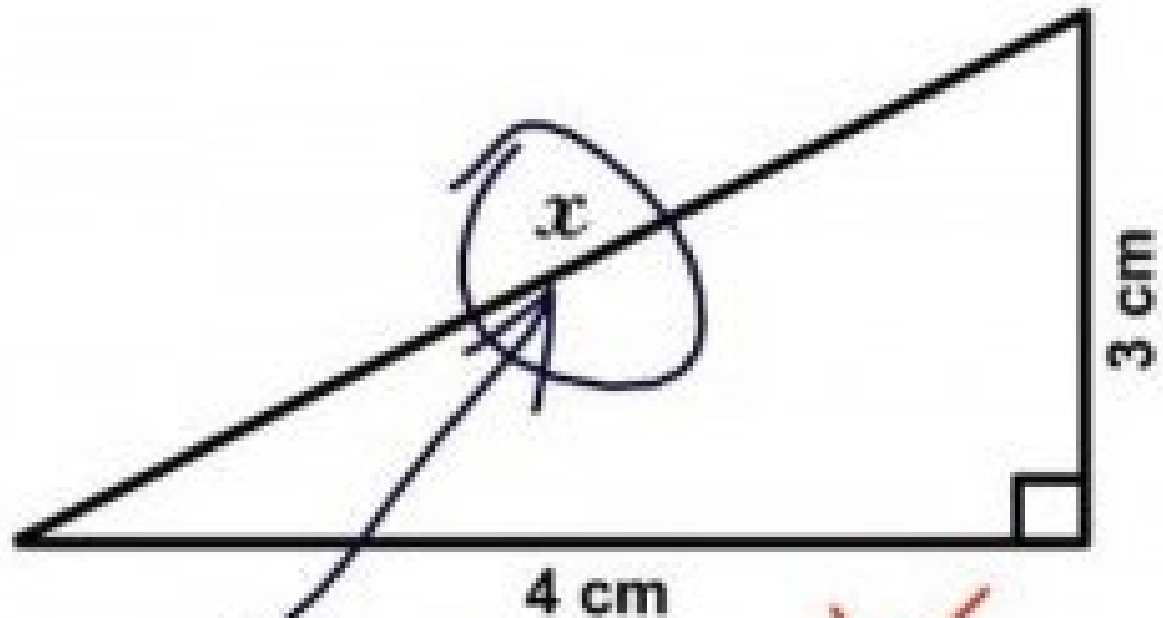
POTW Support and Training

- POTWs -
 - Annual Pretreatment Conference - presented by NC-PC Conference Planning Committee
 - Pretreatment Consortium - www.ncpretreatment.org
 - Voluntary Certification Program
 - One on one support

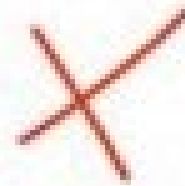
Summary

- You are now ready (hopefully)!
- Find and read your Pretreatment Program Elements in your files
 - element itself
 - submittal letter to DWR
 - approval letter from DWR
 - especially IUPs, AT, LTMP/STMP, ERP
- Read *Comprehensive Guide*
 - especially Chapters 7 and 8
- Call us with any questions

3. Find x .



Here it is



Acronyms

- AT- Allocation Table
- BOD- Biological Oxygen Demand
- CIU- Categorical Industrial User
- DEQ- Department of Environmental Quality
- DMR- Discharge Monitoring Report
- DWR- Division of Water Resources
- EPA-Environmental Protection Agency
- ERP- Enforcement Response Plan
- HWA- Headworks Analysis
- IU- Industrial User
- IUP- Industrial User Pretreatment Permit
- IWS- Industrial Waste Survey
- LL- Local Limit
- LTMP- Long term monitoring plan
- MAHL- Maximum Allowable Headworks Loading
- MAIL- Maximum Allowable Industrial Loading
- MGD- Million gallons per day
- NCAC- North Carolina Administrative Code
- NCGS- North Carolina General Statute
- NPDES- National Pollutant Discharge Elimination System
- OCPSF- Organic chemicals, plastics and synthetic fibers
- PAR- Pretreatment Annual Report
- PERCS- Pretreatment, Emergency Response and Collection Systems
- POC- Pollutant of Concern
- POTW- Publicly Owned Treatment Works
- QNCR- Quarterly noncompliance report
- RPA- Reasonable potential analysis
- SIU- Significant Industrial User
- SNC- Significant noncompliance
- STMP- Short term monitoring plan
- SUO- Sewer Use Ordinance
- TMDL- Total Maximum Daily Load
- WQS- Water Quality Standard
- WWTP- Wastewater Treatment Plant

Contacts

- Monti Hassan 919-707-3626
 - Chowan, Hiwassee, Little Tennessee, Neuse, Roanoke, Yadkin
- Vivien Zhong 919-707-3627
 - Broad, Cape Fear, Catawba, French Broad, Lumber, New, Tar-Pam

Email: FirstName.LastName@ncdenr.gov

Jeff Poupart 919-707-3600

PT 101

JEOPARDY!