

# Resident Engineer Workshop

## Environmental Topics

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Roadside Environmental Unit



# Overview

- Achieving Budget Metrics on EC Items
- NPDES for Construction Sites
- Resurfacing/Shoulder Reconstruction
- E&SC/SW Certification Update
- Riparian Buffer Rules: Jordan Lake & Upper Neuse/Falls Lake
- Construction Activities along Trout Waters
- 2009 Land Quality Annual Review
- 2011 Challenges

# Achieving Budget Metrics on EC Items

## ■ Statewide Overruns

- Matting For EC – 136%
- Mowing – 109%
- Seed for Repair Seeding – 60%
- Fert for Repair Seeding – 51%



- Total of 121 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

- Division 1 Top 5 EC Overruns
  - Seeding & Mulching – 34%
  - Temp. Slope Drains – -25%
  - Temp. Silt Fence – -39%
  - Hardware Cloth – -49%
  - Sediment Control Stone – -62%
  
- Total of 16 contracts whose final estimate was paid from April 2009 to Dec. 2009



# Meeting Budget Metrics on EC Items

## ■ Division 2 Top 5 EC Overruns

- Stilling Basins – 556%
- Mowing – 162%
- Temp. Slope Drains – 28%
- Hardware Cloth – 10%
- Temp. Silt Fence – 9%



- Total of 4 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 3 Top 5 EC Overruns

- Matting for EC – 157%
- Seed for Repair Seeding – 31%
- Seeding & Mulching – -1.5%
- Fert. For Repair Seeding – -22%
- Seed for Temp. Seeding – -29%



- Total of 6 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

- Division 4 Top 5 EC Overruns
  - Mowing – 76%
  - Matting for EC – 72%
  - Seed for Repair Seeding – 68%
  - Fert. For Repair Seeding – 66%
  - Seeding & Mulching – 32%
  
- Total of 9 contracts whose final estimate was paid from April 2009 to Dec. 2009



# Meeting Budget Metrics on EC Items

- Division 5 Top 5 EC Overruns
  - Mowing – 366%
  - EC Stone Class A – 261%
  - Temp. Slope Drains – 254%
  - Inlet Protection @ Slope Drains – 240%
  - Temp. Silt Fence – 159%
  
- Total of 23 contracts whose final estimate was paid from April 2009 to Dec. 2009



# Meeting Budget Metrics on EC Items

## ■ Division 6 Top 5 EC Overruns

- Mowing – 128%
- Fert for Repair Seeding – 67%
- Seed for Repair Seeding – 63%
- Stilling Basins – 60%
- Safety Fence – 10%



- Total of 15 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 7 Top 5 EC Overruns

- Matting for EC – 90%
- Stilling Basins – 64%
- Temp. Slope Drains – 45%
- Temp. Silt Fence – 30%
- Mowing – 20%



- Total of 14 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 8 Top 5 EC Overruns

- Matting for EC – 371%
- Fert. for Repair Seeding – 259%
- Seed for Repair Seeding – 215%
- Temp. Slope Drains – 151%
- Fert. for Temp. Seeding – 105%



- Total of 14 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 9 Top 5 EC Overruns

- Matting for EC – 305%
- Fert. For Temp. Seeding – 172%
- Seed for Temp. Seeding – 142%
- Temporary Mulching – 102%
- Temporary Silt Fence – 61%



- Total of 6 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

- Division 10 Top 5 EC Overruns

- Mowing – 301%
- Seed for Supp. Seeding – 278%
- Matting for EC – 146%
- Seed for Repair Seeding – 116%
- Fert. for Repair Seeding – 96%



- Total of 8 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 11 Top 5 EC Overruns

- Temporary Silt Fence – 17%
- Seeding & Mulching – 16%
- Hardware Cloth – -16%
- Seed for Temp. Seeding – -22%
- Temporary Slope Drains – -24%



- Total of 5 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

## ■ Division 12 Top 5 EC Overruns

- Matting for EC – 362%
- Stilling Basins – 54%
- EC Stone CI A – 51%
- Seeding & Mulching – 33%
- Temporary Silt Fence – 28%



- Total of 12 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

- Division 13 Top 5 EC Overruns
  - Matting for EC – 242%
  - Seeding & Mulching – 31%
  - Temporary Slope Drains – -33%
  - Seed for Temp. Seeding – -39%
  - Hardware Cloth – -55%



- Total of 4 contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metrics on EC Items

- Division 14 Top 5 EC Overruns

- Mowing – -50%
- Specialized seeding under guardrail – -100%



- Total of 1 contract whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metric on EC Items

## ■ Fertilizer Topdressing - Underruns

- Statewide: -75%
- Div. 1: -100%
- Div. 2: -87%
- Div. 3: -88%
- Div. 4: -82%



- Contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metric on EC Items

- Fertilizer Topdressing - Underruns
  - Statewide: -75%
  - Div. 5: -85%
  - Div.6: -86%
  - Div. 7: -96%
  - Div. 8: -71%
- Contracts whose final estimate was paid from April 2009 to Dec. 2009

# Meeting Budget Metric on EC Items

## ■ Fertilizer Topdressing - Underruns

- Statewide: -75%
- Div. 9: -96%
- Div. 10: -6%
- Div. 11: -97%
- Div. 12: -67%
- Div. 13: -61%
- Div. 14: N/A



- Contracts whose final estimate was paid from April 2009 to Dec. 2009



# Resurfacing/Shoulder Reconstruction



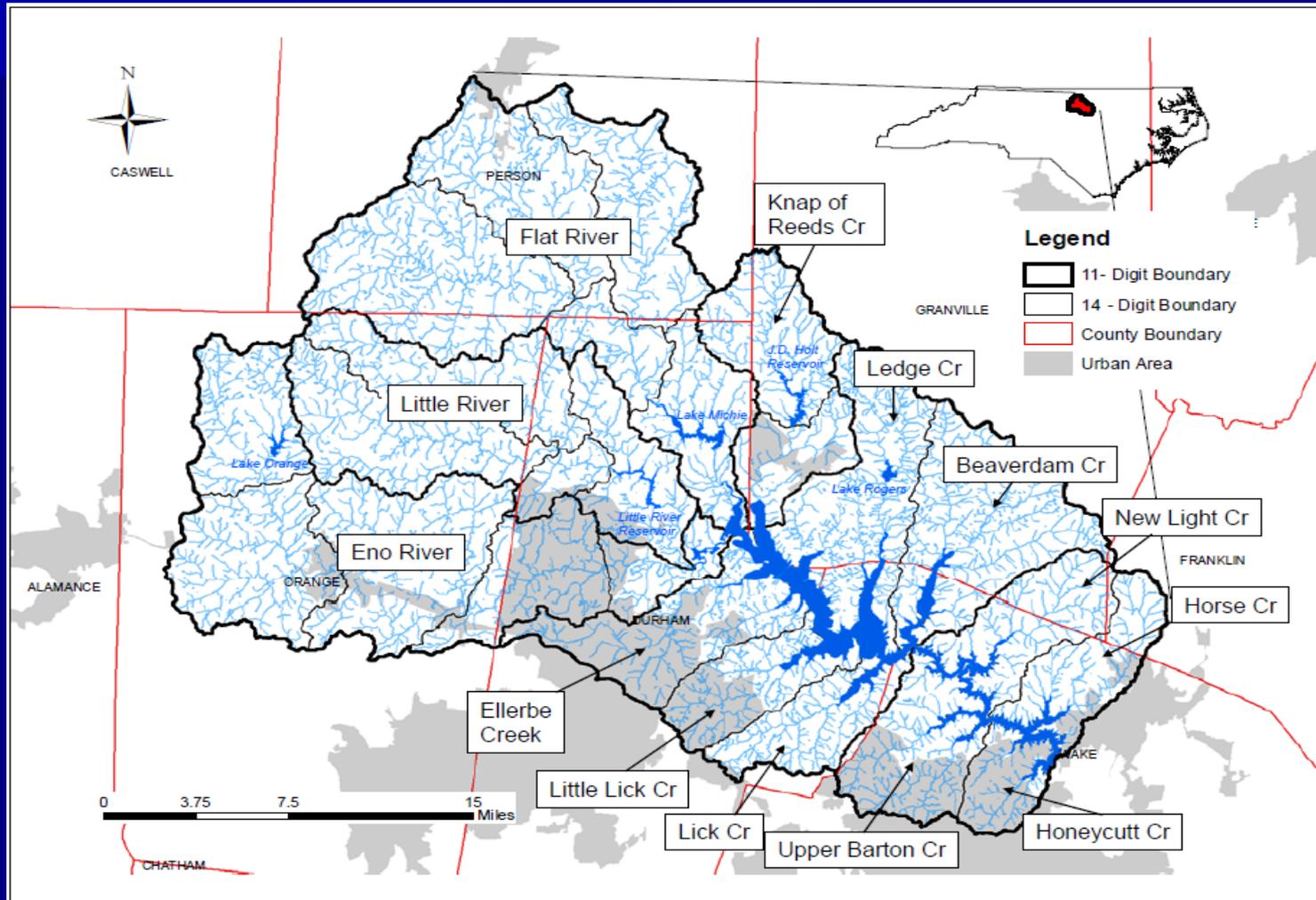
- NCG01 Gen. Constr. Permit
- Chief's Office negotiating terms
- Include EC pay items for temp. E&SC
- Contractor vs. State Forces reconstruction
- REU Monthly Reviews

# E&SC/SW Certification Update

- 3 year certification term
- Level I, II, & III Recertification courses available

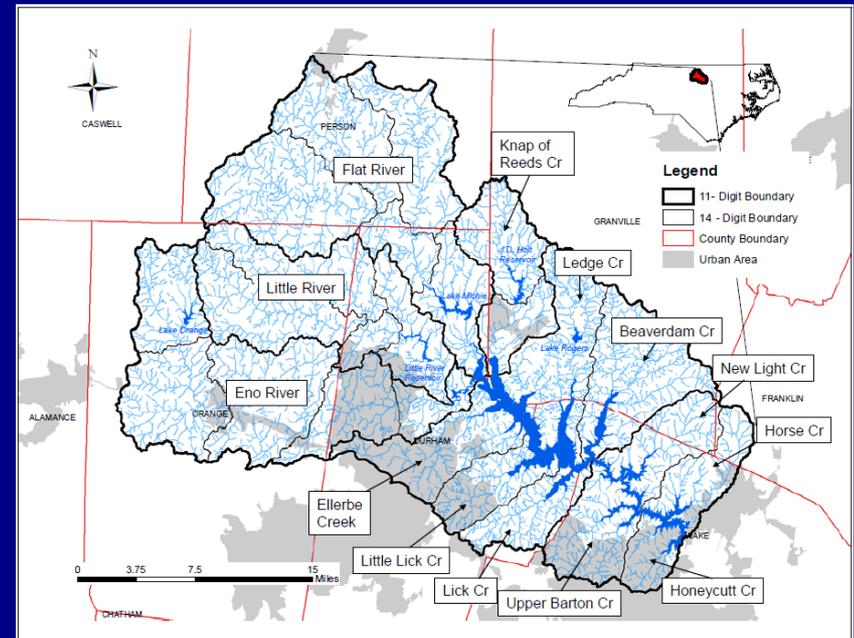


# Upper Neuse/Falls Lake Watershed



# Upper Neuse/Falls Lake Watershed Nutrient Strategies

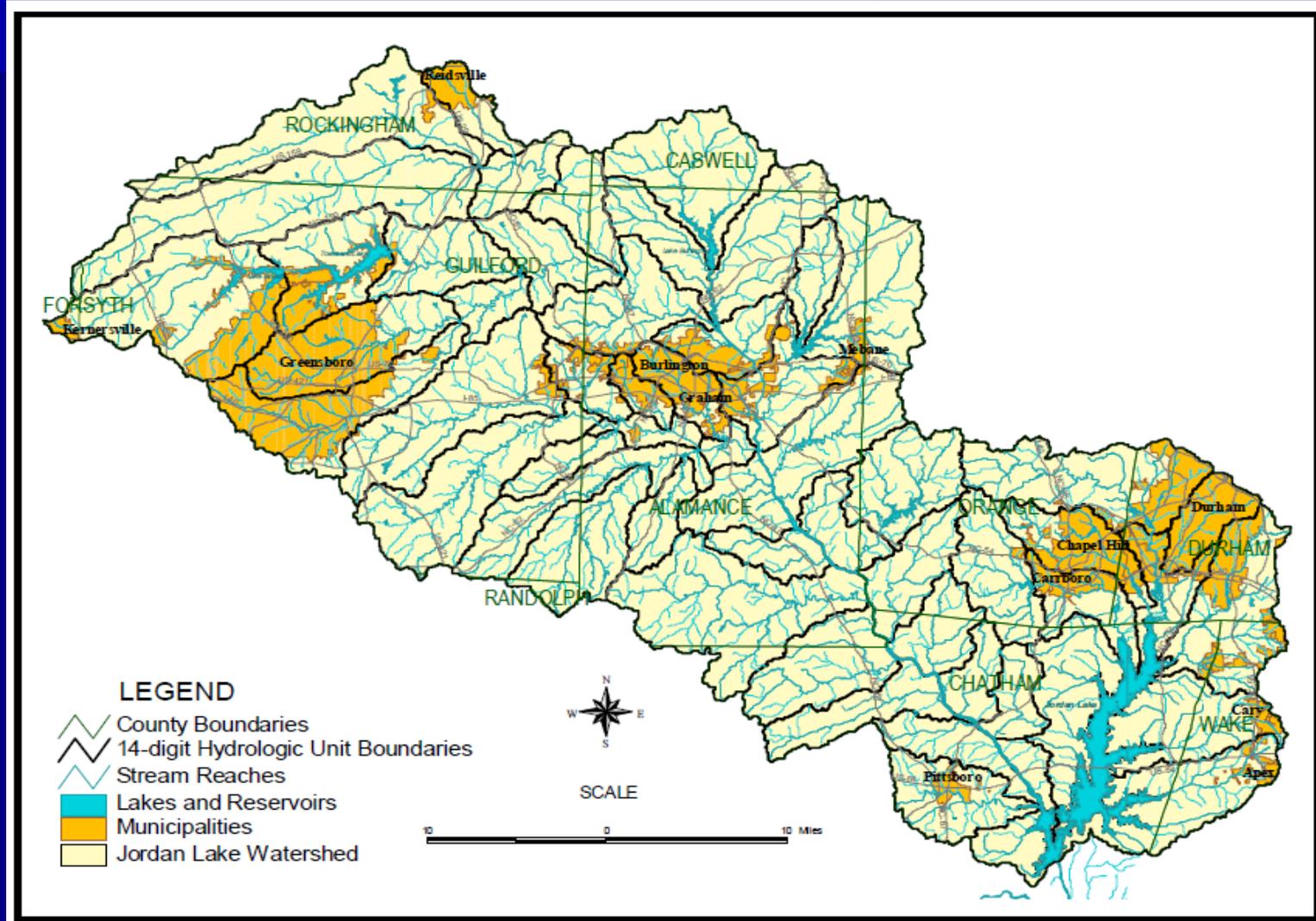
- Design requirements – 25 yr. storm
- Max. side slopes of 2:1 on newly constructed open channels
- Basins must be installed with skimmers/baffles
- Effective Jan. 1, 2010



# Upper Neuse/Falls Lake Watershed Nutrient Strategies

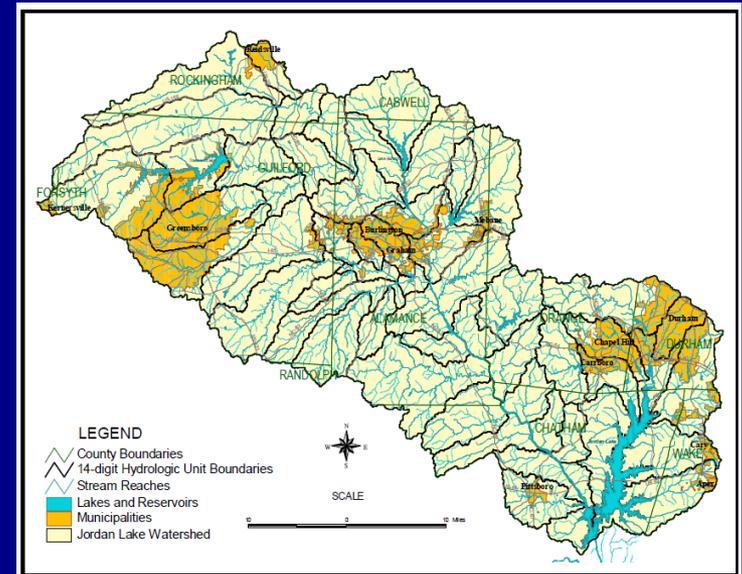
- Permanent Groundcover Requirements
  - Permanent ground cover within 7 days of completion of grading
- Temporary ground cover where grading has not been completed:
  - Within 14 days for areas with no slope
  - Within 10 days for areas with  $<3:1$  slopes
  - Within 7 days for areas with  $>3:1$  slopes

# Jordan Lake Watershed



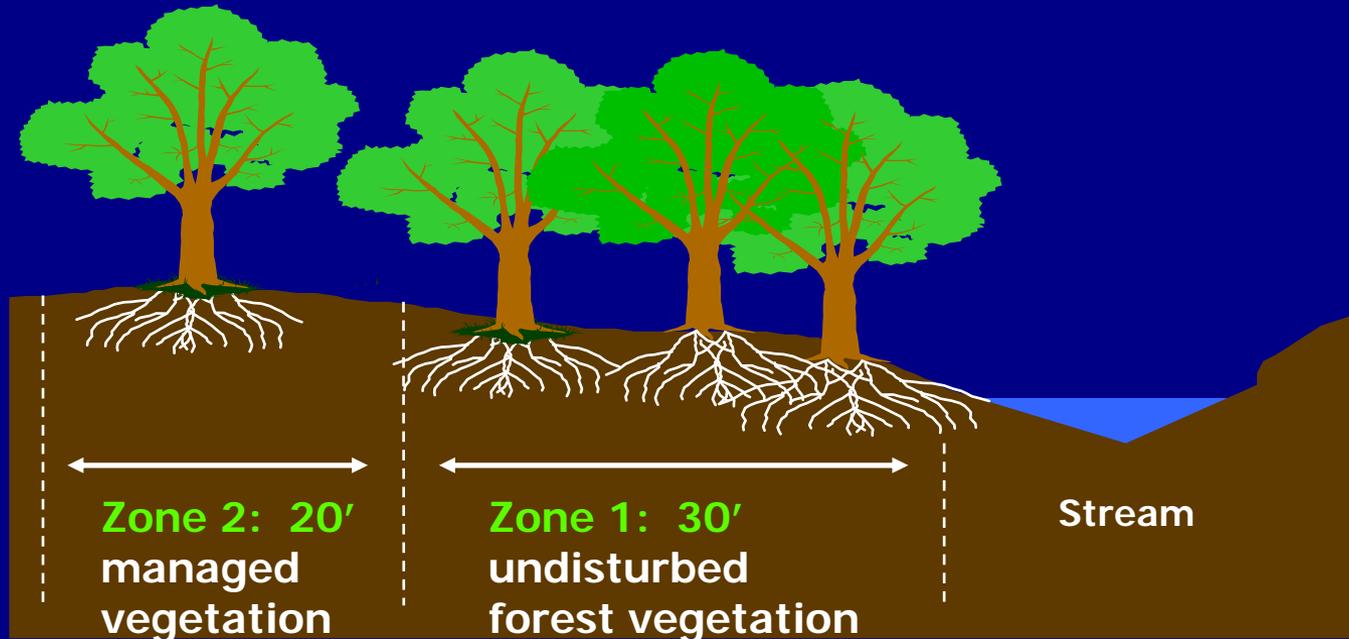
# Jordan Lake Watershed Riparian Buffer Rules

- Adopted to reduce nutrient loads
- Post Development Stormwater Management
- Riparian Buffer Protection
- Effective Aug. 11, 2009



# Riparian Buffer Zones

- Zone 1: 30 ft. of undisturbed vegetation from the edge of water body or top of bank
- Zone 2: 20 ft. wide from the outer edge of Zone 1



# NC Supreme Court to rule on Construction Activities along Trout Waters



- Variance required from DLR-LQ for any construction activity within 25 feet from bank of stream
- Includes 20 mountain counties
- Activities permitted not considered temporary and minimal thus violated the intent of the rules

# 2009 LQ Review

## Contract Construction Projects Summary

Division	Route	Plan		Measures		Ground Cover		Overall
		Adequacy	Implementation	Installation	Maintenance	Timeliness	Adequacy	Effectiveness
2	Spirit Way, Global Transpark	Yes	Yes	Yes	No	Yes	No	Good -
4	Rocky Mount Northern Connector	Yes	No	Yes	Yes	Yes	Yes	Good
5	SR 1116/1126 Bridges	Yes	Yes	Yes	Yes	Yes	Yes	Good
6	I-295 Fayettevill Outer Loop	Yes	Yes	Yes	Yes	Yes	Yes	Good
7	US 311 Bridges	Yes	Yes	Yes	Yes	Yes	Yes	Good
8	US 1	Yes	Yes	Yes	Yes	Yes	Yes	Good +
12	SR 1100 Brawley School Road	Bad Topo	Yes	Yes	Yes	Yes	Yes	Fair +
13	SR 1002 Bridges	Yes	Yes	Yes	Yes	Yes	Yes	Good
13	US 19	Yes	No	No	Yes	No	No	Fair

# LQ Review

- Sediment Controls should be kept in place until ground cover sufficient to restrain erosion is established rather than being removed for the convenience of the seeding contractor.



# LQ Review

- Enhanced settling with flocculants should be integrated with traditional practices when adequate surface area cannot be provided for measures.
- This should be implemented immediately on all maintenance projects as well as contract construction projects. (11/08)

# EPA's Effluent Limitation Guidelines

- Daily average of 280 NTUs for turbidity
- >20 acres disturbance, Aug. 2011
- >10 acres disturbance, Aug. 2014
- Not applicable when precip. is greater than the two year, 24-hour storm event

# Questions/Comments?

- Very good effort on environmental stewardship
- NOV Report Card for Contracted Projects:
  - Land Resources: Oct 2003
  - Water Quality: March 2008
  - Coastal Mgt: March 2008