ALDOT Construction Stormwater
“Worst to First”

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ALDOT Environmental Construction Engineer
'River guardians' wanted
Environmentalists seek residents to help find signs of contamination
Monday, December 04, 2006

…City ecologist Soos Weber, the Flint River Conservation Association and others are planning a workshop next year to train people to find signs of "nonpoint source" pollution and report the violations. …Weber said pollution from homes, farms, vehicles and construction zones is one of the chief sources of contamination of area waterways. Examples of nonpoint source pollution are: *Construction sediment* from improper land clearing and grading activities; Agricultural soil erosion laden with animal waste and farm chemicals; Leaky septic tanks caused by failures or improper installation;
...The number of civil enforcement cases EPA referred to the Justice Dept. in fiscal 2006 was the highest in at least five years and the number of such cases concluded also rose. In addition, EPA Nov. 15 reported that it had 23,000 compliance inspections in 2006, the highest level in at least five years...
ALDOT Organization

- Design Bureau
  - Environmental Technical Section
  - Roadway Design Section
    - Stormwater Coordinator

- Construction Bureau
  - Environmental Construction

- 9 Divisions
  - Division Stormwater Coordinators
ALDOT Environmental Accountability in Construction

- Project Inspector
- Project Engineer
- Division Stormwater Coordinator
- Division Construction Engineer
- Division Engineer
- Environmental Construction Engineer
- State Construction Engineer
- State Environmental Compliance Officer
Good Times…

- 2002 – ADEM fed up with ALDOT
- Consent Agreement
  - 10 Projects
  - $105,000
- Memorandum of Agreement
  - All work statewide
  - From now on
  - Specific Requirements
The Path Less Traveled…

- Continue to Ignore ADEM
- Satisfy ADEM with Existing System
- Major Culture Change
Albert Einstein

- We can't solve problems by using the same kind of thinking we used when we created them.
"Damn the torpedoes! Full speed ahead!"
Road to Recovery

- Culture Change began with MOA requirements
  - Increased Construction Bureau Involvement
  - ALDOT QCI Program
Road to Recovery

- Culture Change began with MOA requirements
  - Increased Construction Bureau Involvement
  - ALDOT QCI Program
  - NPDES Permit Tracking System
Road to Recovery

- Culture Change began with MOA requirements
  - Increased Construction Bureau Involvement
  - ALDOT QCI Program
  - NPDES Permit Tracking System
- Spec/Drawing Updates
  - Administration
  - Water Quality Protection
  - Vegetation Establishment
Specification Changes

- Increase ALDOT and Contractor Planning
- Address Payment for Some Unknowns
- Shift Priority to Erosion Control while Decreasing the Dependence on Sediment Control
- Admit That We Are Learning
- Spread the Love
Contractor Accountability – Spreading the Love

- Added required participation
  - Contractor QCI
  - Stormwater Management Plan
  - Strengthened wording regarding responsibility for damages
Addressing Noncompliance

True Upset or Design

Contractor Neglect

ALDOT

MITIGATION

Contractor

Taxpayer

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It Is 2007… We Should Know Better By Now
Lessons Learned
Lessons Learned -

Erosion and Sediment Control
or
Water and Disturbance Control?
Water

- Increase velocity by 2 times =
  - Increase erosive energy by 4 times.
  - Increase size of carried particle by 64 times.
  - Increase mass of soil transported by 32 times.

Slow It Down!!!
Water

- Turbidity Happens
- Protected Diversion = clean water in, clean water out
- Captured Water = captured sediment
Disturbance

- Do Not Disturb.
- Delay Disturbance.
- Limit Disturbance.
- Stabilize/Cover ASAP.
  - Permanent Stabilization
  - Temporary Stabilization
  - Cover…with anything
  - Grading w/Tracking
- Complete Work ASAP.
Disturbance – Stabilization ASAP
BMPs are Expensive, but...
so is Mitigation

- Paradise Lake - $100k-$150k
- Ms. Wright’s Pond - ±$200,000?
- Stevens Lake – $200,000+
- Lake Louise - $100k – $150k
- Mr. Mitchell - $180,000+
- Mr. Cobb - ±$Big?
- Mr. Patten - $21,000+
- Dr. Tisdale - $8,440.20+
- Mr. Dunham - $174,000+
- Lake Martin - $84,437.61+
- Culvert Clean Out - $82,753.59
- Lake Sherwood – No Estimate yet
Are these requirements realistic?
Communication Happens (Good or Bad)

- **Internal**
  - Top to Bottom
  - Bureau to Bureau
  - Within Construction

- **External**
  - Public
  - Environmental Groups
  - Contractors
  - Regulators
ALDOT’s Future?

- Better understanding of the effectiveness of BMPs through observation and research
- Contractor choice among equally effective BMPs
- Increased Accountability?
- Better Communication?