New Directions for iSWM: Using an Outcome-Based Strategy to Encourage Participation in North Texas

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Presenters

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What is iSWM?

• A regional program to assist local governments:
  – Manage stormwater impacts
  – Meet MS4 Permit requirements

• Collaborative effort between:
  – 60+ local governments
  – iSWM Committee
  – Regional Public Works Council
  – Consultant team led by Freese and Nichols

Why iSWM?

• Increased runoff → flooding and streambank erosion
• Water quality concerns/stormwater regulations
• Loss of natural features
• Interest in green infrastructure
• Comprehensive approach needed
• Regional consistency and equity
iSWM Basics

- Address stormwater early in the development process
- Design for multiple storm events
- Use integrated Site Design Practices

- Reduce downstream impacts
  - Water quality
  - Streambank erosion
  - Flooding

- Protect water quality during construction activities

Overview of iSWM Program

http://iswm.nctcog.org

iSWM Criteria Manual
(For Adoption)

iSWM Technical Manual
(For Reference)

iSWM Program

iSWM Tools
(For Reference)

iSWM Program Guidance
(For Reference)
Criteria Manual

What’s in the Criteria Manual?

- **Ch. 1:** Overview of iSWM Criteria Manual
- **Ch. 2:** integrated Development Process
- **Ch. 3:** integrated Design Criteria
- **Ch. 4:** integrated Construction Criteria

iSWM Technical Manual

- Technical and design information
- Online resource for use by local governments and design community
- Separate volumes for easy download and use
Implementing iSWM – Current

- Use of iSWM Criteria Manual by local government requires a license agreement with NCTCOG
- Must be a member of the Regional Public Works Program in year of adoption
- Participation cost based on population
- Cities are encouraged (but not required) to continue participation to support manual maintenance, updates, training, etc.
Implementing iSWM - Current

- Community must be a current participant of the Regional Public Works Program.
- Community must adopt the iSWM Criteria Manual for Site Development and Construction (Manual) with Local Provisions as desired – OR – the Community must incorporate or reference portions of the Manual into codes, ordinances, drainage manual, etc.
- Community's adoption or incorporation of elements of the iSWM Criteria Manual for Site Development and Construction must meet a minimum of 70 points in accordance with the table.
- Note that no License Agreement is required for use of the iSWM Technical Manual.

<table>
<thead>
<tr>
<th>iSWM Element</th>
<th>Points for Element</th>
<th>City Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three-Step Review Process (Concept, Preliminary, Final)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Water Quality Option 1: integrated Site Design Practices</td>
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<tr>
<td>Water Quality Option 2: Treat the Water Quality Protection Volume</td>
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<td></td>
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<tr>
<td>Water Quality Option 3: Off-Site Pollution Programs/Controls</td>
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<tr>
<td>Downstream Assessment for Three-Storm Events (Streambank Protection, Conveyance, Flood Mitigation)</td>
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<td></td>
</tr>
<tr>
<td>Streambank Protection* (Require Options 1, 2 and/or 3)</td>
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<td></td>
</tr>
<tr>
<td>Flood Mitigation** (Require Options 1, 2 and/or 3)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Integrated Construction Criteria</td>
<td>10</td>
<td></td>
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<tr>
<td>Points Available</td>
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<td>100</td>
</tr>
<tr>
<td>Minimum Points Required</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>City Score</td>
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</tbody>
</table>

* Requires Downstream Assessment
** Requires Downstream Assessment if using iSWM Criteria. As an alternative, Community qualifies for Flood Mitigation points if a community-wide drainage study / master plan has been developed and no development is allowed in the fully developed 100-year floodplain.

Implementing iSWM - Current

- Need 70 points, so 30 points to spare.
- Lots of possible combinations.
- Set up meetings with COG to discuss if unsure.
Adoption of iSWM

• 2006 – Fort Worth, Grand Prairie
• 2007 – Roanoke, Southlake
• 2008 – Benbrook
• 2009 – Lakeside, Mansfield
• 2010 – Dallas*, Glenn Heights, Northlake
• 2011 – Duncanville, University Park
• 2012 – Azle
• 2013 – Hurst

• *Dallas has not yet adopted iSWM, but allows use of iSWM as an alternative to standard requirements
Implementation Roadblocks

• Surveyed 20 cities in the Metroplex
• What were they doing to meet MS4 requirements?
  – Did they consider using iSWM? If not, why?

SWMP Approaches to Address Post-Construction Requirements

- iSWM Considered (6)
- Individual WQ Ord. (9)
- Exist. Ord. Reviewed and Revised (5)
Implementation Roadblocks

1 of the six communities that indicated they would consider adopting iSWM did adopt

6 of the nine communities that adopted a post-construction ordinance referenced iSWM

5 of the communities used construction control measures to meet post-construction control measures

Implementation Roadblocks

WHY NOT iSWM?

- Limited resources for adoption process: 31%
- Too strict: 6%
- Cumbersome review process: 6%
- Deterrent to developers: 3%
- Redevelopment applicability: 19%
- General applicability: 19%
- MS4 requirements already met: 6%
- Council approval: 10%
Implementation Roadblocks

Recommended Changes:

• (4) Provide a separate “scaled” version of iSWM for smaller cities

• (4) Provide a separate version of iSWM that only covers water quality

• (2) Provide more guidance for redevelopment

• (2) Provide a “refresher” course to remind people of the 2009 iSWM Manual changes

• (1) More involvement of other departments (Planning, Maintenance, etc.)

A New Direction
A New Direction

• Allow communities to join iSWM without formally adopting iSWM

• Communities may adopt the iSWM Criteria Manual OR implement iSWM through their own criteria and ordinances

A New Direction

• Moving to an outcome-focused implementation format
  – What “outcomes” are we trying to achieve?
    • What are the fundamental components of iSWM?
  – Criteria in iSWM that has an impact on development practices
A New Direction

**Step 1: List of Outcomes**
- Criteria significant to iSWM

**Step 2: Tiered Measurement of Implementation**
- Provide levels of implementation and set the requirements of each level

**Step 3: Jurisdictional Implementation**
- Reviewing implementation applications and increasing program participation

Step 1: List of Outcomes

**Sorting the Outcomes**

- **Mandatory**: Outcomes critical to iSWM and are required to join the program
- **Recommended**: Outcomes that strongly embody iSWM but are not all required to join the program
- **Optional**: Outcomes that are not required to join the program
Step 1: List of Outcomes

Mandatory Outcomes

1. Site Plan Review Applicability
2. Land Use Conditions
3. Hydrologic Methods
4. Open Channel Velocity Criteria
5. Detention Structure Discharge Criteria
6. Streambank Protection
7. Flood Mitigation
8. Construction Controls
9. Operations and Maintenance
10. Downstream Assessments

Recommended Outcomes

1. Conveyance Limits
2. Storm Drain Velocity Criteria
3. Spread Criteria
4. Freeboard Criteria
5. Finished Floor Elevations
6. Water Quality Protection
7. Drainage and Floodplain Easements
Step 1: List of Outcomes

Optional Outcomes

1. Open Channel Stability Criteria
2. Detention Downstream Timing Analysis
3. Conservation and Utilization of Natural Features and Resources
4. Lower Impact Site Design Techniques
5. TriSWM

Applying Outcomes

• Full Application: Community currently has criteria that meets or exceeds iSWM criteria

• Partial Application: Community currently has criteria that addresses the intent of the outcome, but the criteria does not meet iSWM criteria
Step 1: Outcome Documentation

1. Outcome Documentation
   - Original iSWM communities to be recognized with founding member designation

Step 2: Tiered Measurement of Implementation

<table>
<thead>
<tr>
<th>Outcome Category</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>10 full application</td>
<td>10 full or partial application</td>
<td>10 full or partial application</td>
</tr>
<tr>
<td>Recommended</td>
<td>7 full application</td>
<td>7 full or partial application</td>
<td>4 full or partial application</td>
</tr>
<tr>
<td>Optional</td>
<td>3 full or partial application</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Original iSWM communities to be recognized with founding member designation
Step 3: Proposed Application Review

1. Voluntary meeting with NCTCOG staff
2. Submit documentation
3. Documentation reviewed by iSWM Implementation Subcommittee (IIS) review board
4. Voluntary meeting with NCTCOG to review results
5. Appeal decision or re-submit updated information if needed

Step 3: Increasing Participation

• Potential incentives to add value to participation
  – Free training to iSWM communities and their consultants
  – Classes at communities’ offices, also aimed at broader audience (i.e. planners)
  – City entrance signage
  – Plaques
  – Annual banquet or separate industry event (i.e. TFMA North Texas Luncheon) to present program highlights, awards, and discussions
  – Provide flyers for utility mailers that may also assist in MS4 requirements
Questions?

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