APPENDIX I

DRA BOARD BRIEFING



Duck River Comprehensive Regional Water Supply Plan

Board Briefing / October 28, 2010

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Executive Summary

- **Comprehensive 50-Year Water Supply Plan with 100-Year Vision**
  - Multiple sources of water supply increase reliability, flexibility and sustainability
- **Credible process with good science and collaborative decision-making**
  - Sound technical approach using state of the art tools and techniques
- **Regional approach with benefits beyond water supply**
  - Reduces flood risk to communities downstream of Normandy Dam
  - Extends recreation (reservoir and river) during droughts
- **Affordable solution**
  - Long range water supply for $2.40/month or less per house!
  - *"Working Together Works"*

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Project Goal

The goal of the Comprehensive Water Supply Plan is to provide direction to the Duck River Agency regarding the management of available water resources, including the implementation of specific water supply infrastructure projects."

50-Year Plan with a 100-year Vision

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Duck River Watershed and Study Area



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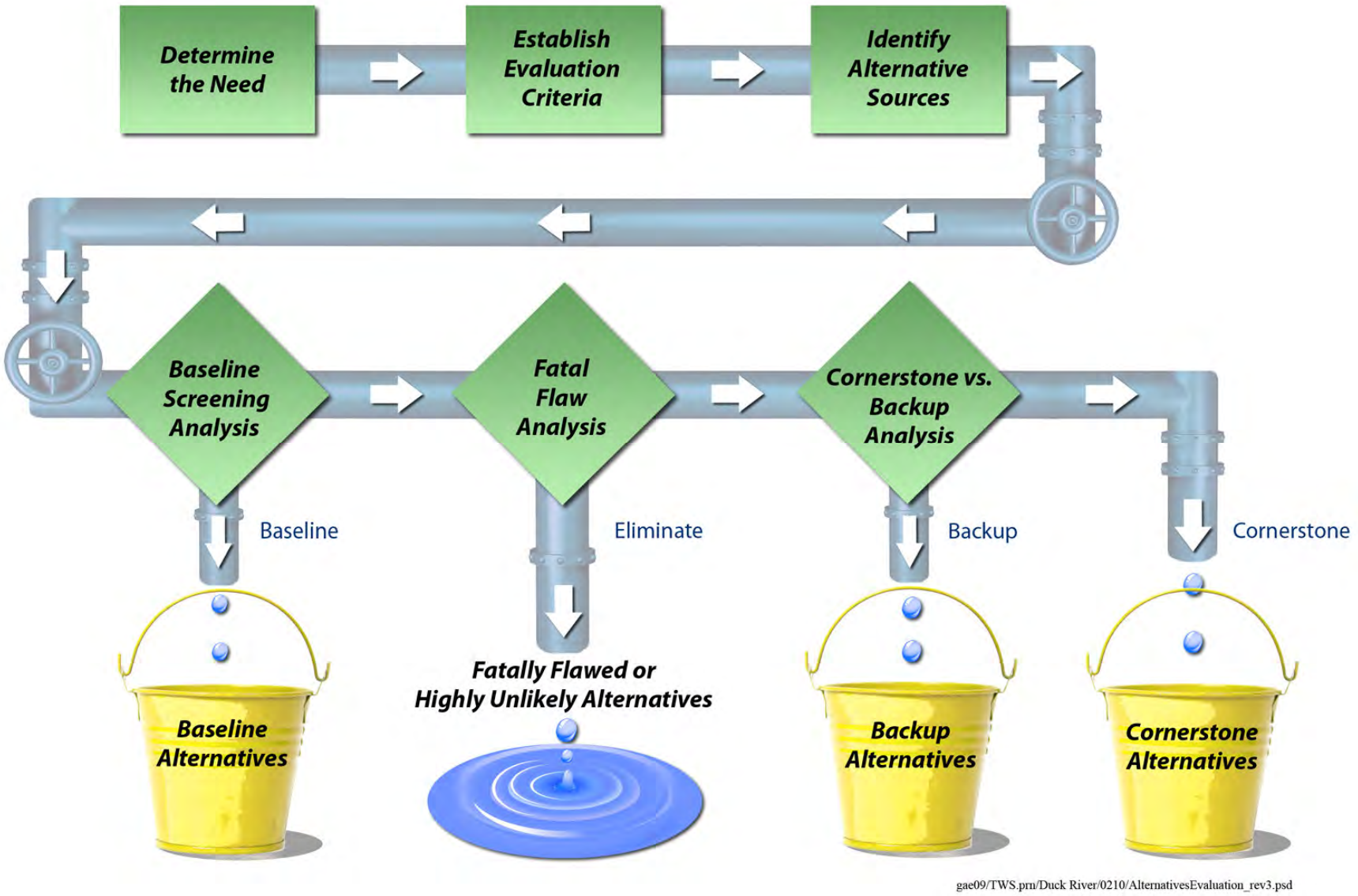
Water Supply Evaluation Process



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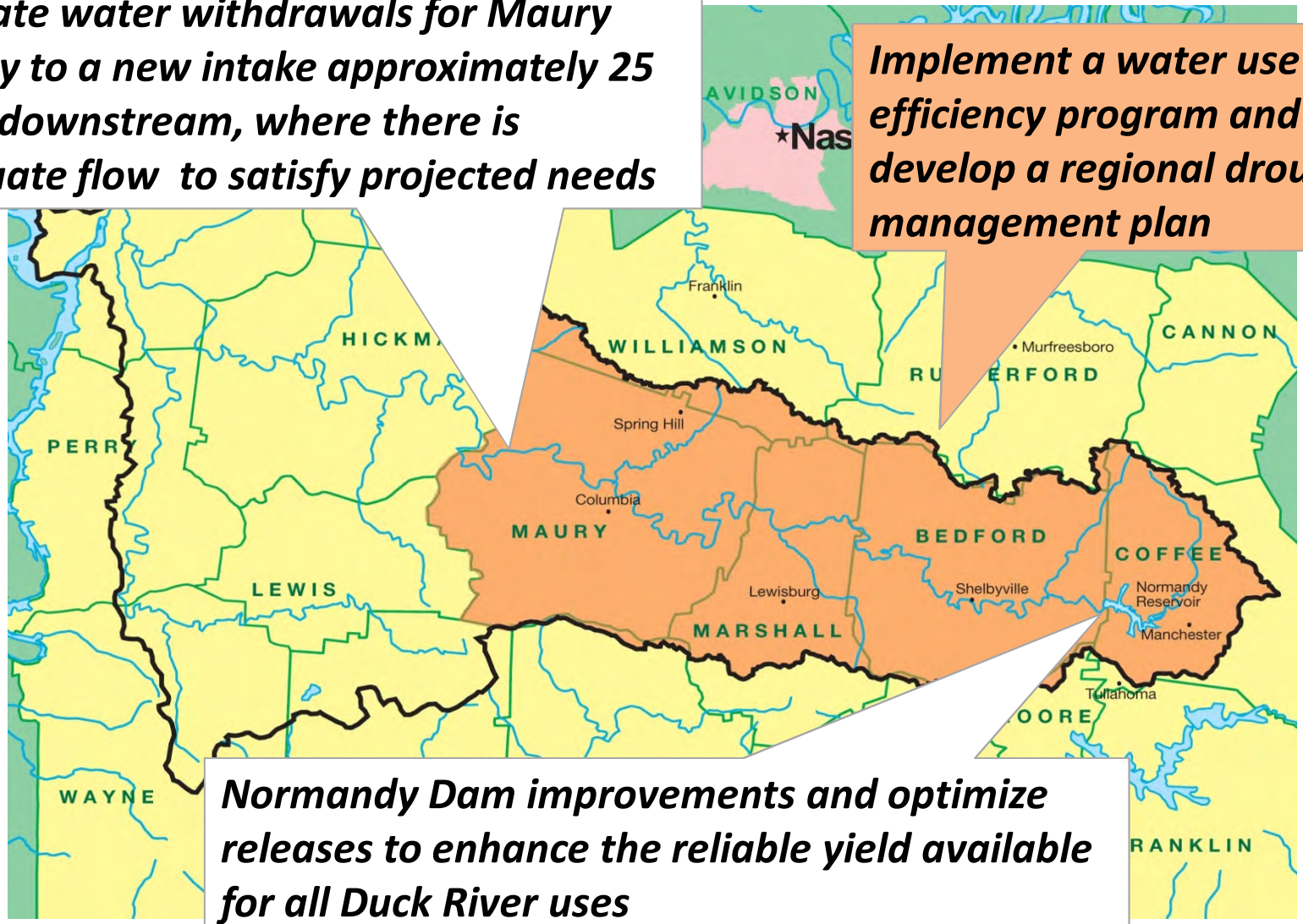
Comprehensive 50-year Water Supply Plan with 100-year Vision

Relocate water withdrawals for Maury County to a new intake approximately 25 miles downstream, where there is adequate flow to satisfy projected needs

Implement a water use efficiency program and develop a regional drought management plan



Normandy Dam improvements and optimize releases to enhance the reliable yield available for all Duck River uses

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Baseline Recommendations

3 Non-Structural Components:

1. Develop and implement a regional **drought management plan**

2. Develop and implement a **water use efficiency program**

3. Develop criteria to **optimize releases** from Normandy Reservoir to preserve storage in the reservoir

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2 Structural Components:

1. **Normandy Reservoir Improvements** - Increase the elevation of Normandy Dam by five feet and increase the winter/spring pool elevation by approximately five feet without increasing the summer pool elevation. This component increases water storage during droughts, enhances flood protection while minimizing environmental impacts, and enhances the reliable yield available for all Duck River uses.

2. **New Maury County Intake** - Relocate Maury County water withdrawals to a new intake approximately 25 miles downstream, near Williamsport, where there is adequate flow in the river during droughts to satisfy Maury County projected needs. This component addresses the potential deficit in Maury County and southern Williamson County with a local, highly reliable supply and eliminates their sole reliance on Normandy Reservoir.

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Cost Summary

Estimated Project Costs for Recommended Plan:

Williamsport Intake and Raw Water Pipeline to Columbia (with one 30" pipeline for 20 mgd)	$38 million
Raise Normandy Dam	$20 million
Baseline Alternatives	$4 million
Total Costs	**$62 million**

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Advantages of Implementing all Components

- **Multiple sources of supply**
  - Increases reliability by utilizing multiple sources of water supply
- **Flexibility**
  - Combination of structural and non-structural components address uncertainty in future conditions
    - Alteration of instream flow conditions
    - Changes in projected water demands or water use characteristics
    - Changes in regulatory requirements
    - Likelihood of more severe hydrologic/climatic conditions
    - Changes in land use and hydrologic conditions in watershed
- **Financial**
  - Encourages financial support from entire region at lower cost per customer …

"Working Together Works"

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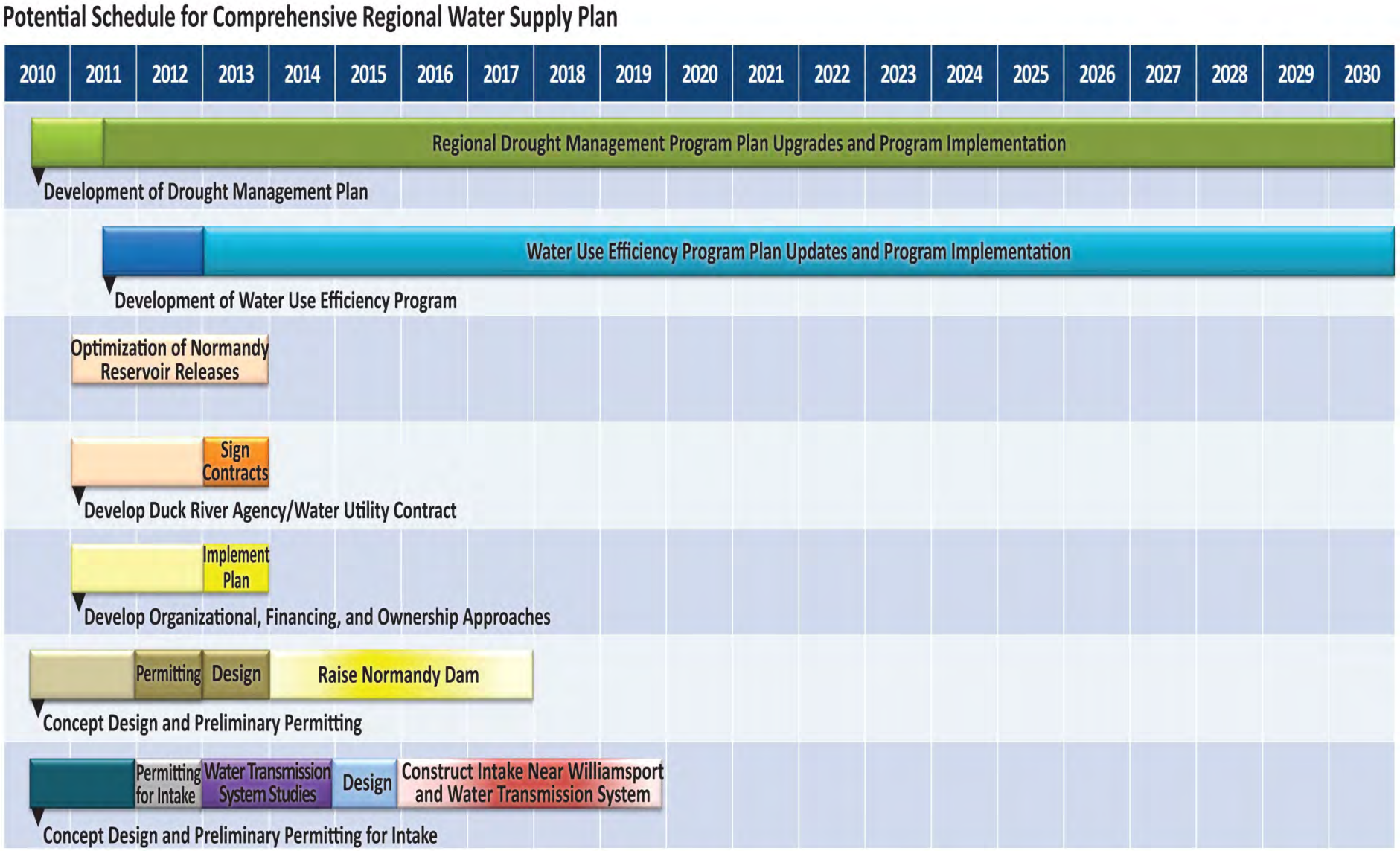
Potential Schedule



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Financing Approach - Philosophy

- Cost sharing philosophy:
  - "*Growth Pays For Growth*"
    - System development charge for new services and larger services
  - Common charge based on all water withdrawals
    - *"Working together works!"*

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Financial Strategy – Potential Cost per Household

- Three examples of initial estimated increase in cost per household (typical usage = 5,000 gallons/month) (Excludes grant funding)

1. Using only water withdrawal fees and current reserve funds:
   - **Approximately $2.40/month**

2. Using water withdrawal fees (all customers), System Development Charges (for new services and larger services) and current reserve funds:
   - **Approximately $1.20/month**

3. Using water withdrawal fees (all customers) and System Development Charges (for new services and larger services), current reserve funds, ***plus*** phasing the construction:
   - **Approximately $0.60/month**

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Next Steps

- Board endorses recommendations
- Implementation
  - Program management support
  - Develop financial strategy
  - Develop communications plan
  - Drought Management Planning
  - Dam stability analysis/discussions with TVA
  - Preliminary intake siting near Williamsport

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Board Briefing Question Period



COMMENTS and QUESTIONS

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