Mill Creek / Peaks Branch / State Thomas Drainage Relief Project
Dallas, Texas

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Mill Creek, Peaks Branch and State Thomas Watersheds
Basin Characteristics

• Basin Area
  – Mill Creek – 2200 acres
  – Peaks Branch – 3100 acres
  – State-Thomas – 400 acres

• Land Uses
  – Upper Basin – Residential
  – Lower Basin – Commercial

• What’s in these basins?
  – Baylor Hospital
  – Old City Park
  – Deep Ellum
  – IH-30
  – Fair Park
  – “M” Streets
Mill Creek and Peaks Branch History

- Underground Storm Sewer Construction - 1930s
- May 1995 Flood
- March 2006 Flood
- September 2007 Flood
May 1995 Flood
Dallas Morning News Front Page May 7, 1995

- Flooding businesses and homes
- Baylor Emergency Room closed - flood damage $5M
- Old City Park
- Fair Park
- IH 30 closed due to high water
March 2006 Flood

- Widespread flooding throughout Dallas
- March 19th rainfall totals as high as 9.8” in Old East Dallas
- Extensive street, structure and vehicle flooding in East Dallas
Mill Creek Flooding – Baylor Hospital Area Flooding
March 19, 2006
Mill Creek Flooding – March 2006

Monticello Avenue – West of Greenville Avenue
Peaks Branch Flooding – March 2006

Zaragoza Elementary Flooding
Peaks Branch Flooding – March 2006

Worth Street Flooding
I-30 Flooding – March 2006
Areas Currently Subject to 100-Year Flooding in Mill Creek, Peaks Branch and State Thomas Watersheds

Note: Hatched area denotes known street flooding in the State Thomas area.
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Mill Creek / Peaks Branch / State Thomas Drainage Relief Tunnel
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- Protects a larger area sooner
- Addresses future IH-30 reconstruction
- Mines the tunnel in the Austin Chalk
- Reduces the construction cost for protecting State Thomas by approximately $50M
Project Components

• Deep Tunnel
  – Length – 5 miles
  – Diameter – 30 feet
  – Depth – 70 to 150 feet

• Drop Structures / Tangential Inlet
  – Five Intake Sites
  – Surface Collection Systems

• Tunnel Outfall

• Dewatering Station
Tunnel Profile

MAIN TUNNEL PROFILE
Function of an Inverted Siphon

1. EMPTY
2. STARTING TO FILL
3. CONTINUING TO FILL
4. FLOWING OUT OF THE LOWER END
Tunnel Sections

30’x35.5’ HORSESHOE MAIN TUNNEL SECTION

30’ CIRCULAR MAIN TUNNEL SECTION
Drainage Relief Tunnel

Tunnel Boring Machine (TBM)
Site Improvements
Tunnel Outfall

Outfall Structure
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After Mill Creek, Peaks Branch and State-Thomas Tunnel is Constructed – Areas Removed from 100-Year Flooding

Note: Areas in blue are to be addressed in future bond projects
-Mill Creek Ph. III
-Upper Peaks Branch

Note: The new tunnel provides 100-year trunk storm drain capacity. Additional inlets/laterals are required to capture and convey the 100-year surface runoff to the trunk drain systems.
Questions