

Memorandum



CITY OF DALLAS

DATE February 12, 2016

TO The Honorable Mayor and Members of the City Council

SUBJECT Mill Creek / Peaks Branch / State-Thomas Drainage Relief Tunnel Update

On Wednesday, February 17, 2016, you will be briefed on the Mill Creek / Peaks Branch / State-Thomas Drainage Relief Tunnel project. The briefing materials are attached for your review.

Please feel free to contact me if you have any questions or concerns.

A handwritten signature in black ink, appearing to read 'Mark McDaniel'.

Mark McDaniel
Assistant City Manager

c: A.C. Gonzalez, City Manager
Warren M.S. Ernst, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Ryan S. Evans, First Assistant City Manager

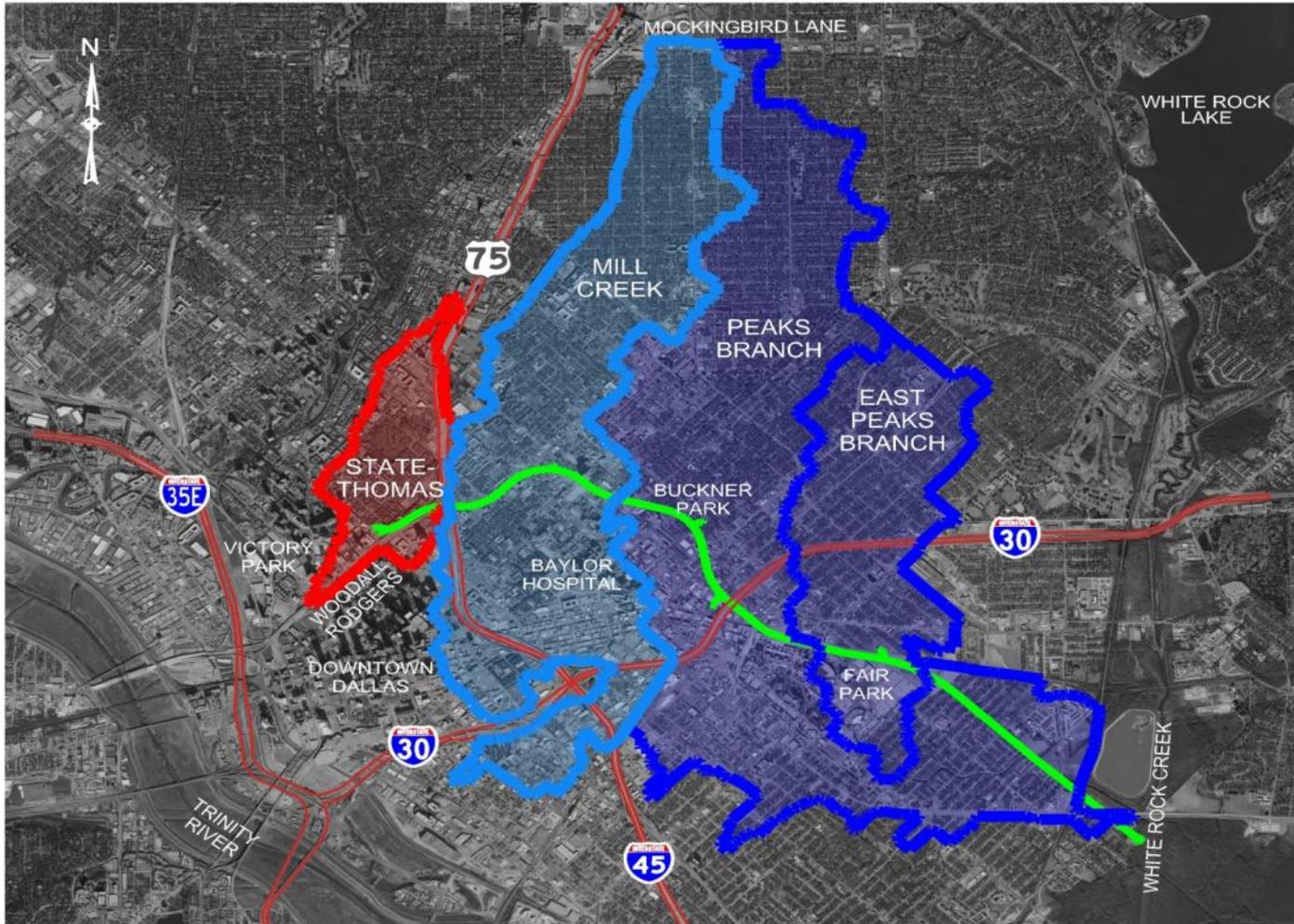
Eric D. Campbell, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
Joey Zapata, Assistant City Manager
Jeanne Chipperfield, Chief Financial Officer
Sana Syed, Public Information Officer
Elsa Cantu, Assistant to the City Manager – Mayor & Council

Mill Creek / Peaks Branch / State-Thomas Drainage Relief Tunnel Update

**City Council Briefing
February 17, 2016**



Mill Creek, Peaks Branch and State-Thomas Drainage Areas



Basin Characteristics

■ Basin Area

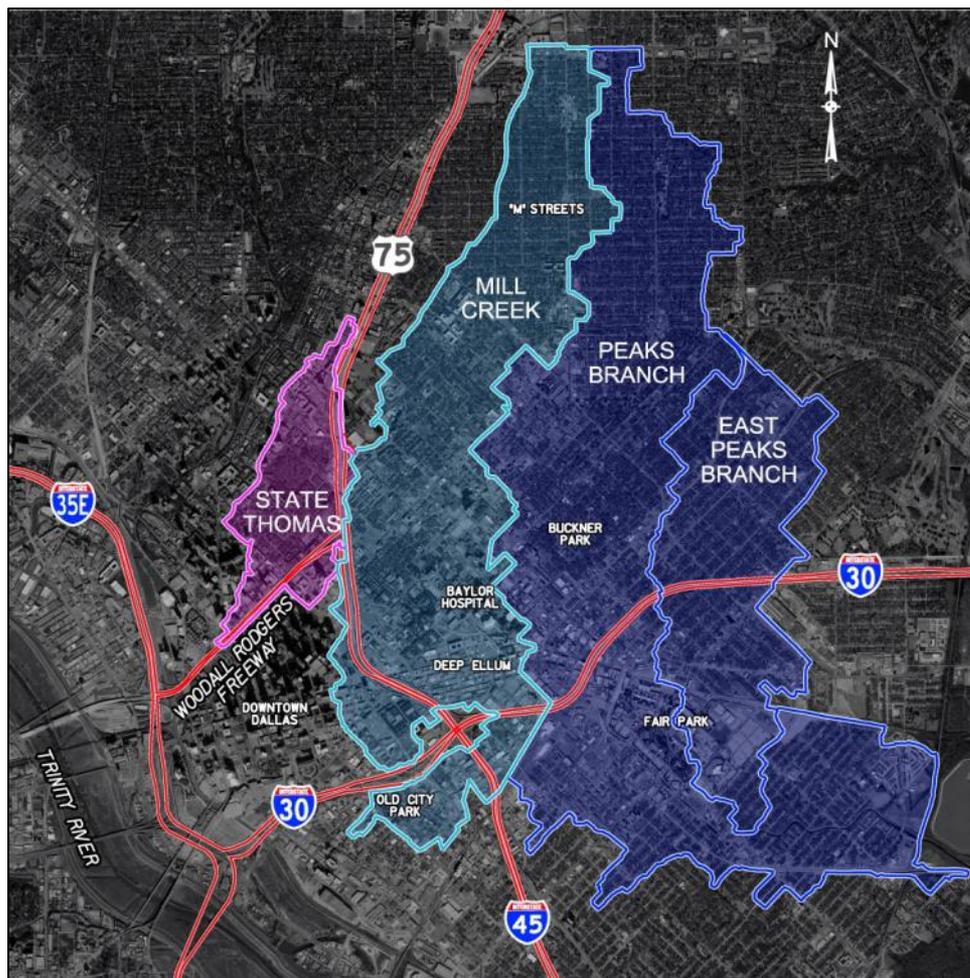
- State-Thomas – 450 acres
- Mill Creek – 2,200 acres
- Peaks Branch – 3,100 acres
- East Peaks – 1,100 acres

■ Land Uses

- Upper Basin – Residential
- Lower Basin – Commercial

■ What's in these basins?

- Old City Park
- Deep Ellum
- Fair Park
- IH-30
- "M" Streets
- Baylor Hospital



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

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

16 deaths blamed on storm



4 missing after floods; 100 hurt

By Randy Lee Loftis and Nora López
Staff Writers of The Dallas Morning News

The stunning violence of the latest spring storm to slam through the Dallas area became clear Saturday. At least 16 people were dead and as much as \$600 million worth of property damaged after Friday night's rampage.

Among the victims of one of the area's deadliest, most destructive storms in history were five members of an Oak Cliff family who drowned when floodwaters washed away their car.

At least seven people drowned in other flooded areas. A lightning-caused fire killed a Dallas woman, and a lightning strike killed an Irving boy. Late Saturday, at least four people were missing and feared dead. Late Saturday, searchers continued going through a Please see 16 DEATHS on Page 29A.

911 response times criticized

By Nora López and Jason Suckles
Staff Writers of The Dallas Morning News

During Friday's devastating rains and hail, hundreds of motorists were stranded in city streets submerged under several feet of water. Roads collapsed under the strain of heavy rain. Families watched in horror as loved ones were swept away in storm drains. Nearly all turned to 911 for help. Many times, all they got was a busy signal.

City officials said the demand for city services was so great late Friday that the calls simply overloaded the 911 system, resulting in busy signals and delayed response times of up to an hour. "We practice. We train. We study. And we prepare Please see CALLERS on Page 29A.

The Dallas Morning News Michael Stewart

Paul Griffin on Saturday examines some of the damage inflicted on cars at Fair Park during Friday's storm.

Lives lost, families torn

Storm victims from all walks of life, neighborhoods

By Bill Minutaglio and Eric Garcia
Staff Writers of The Dallas Morning News

The marauding storm knew no boundaries when it claimed its victims. There was the elderly woman who quietly cared for the animals

in her neighborhood. The teacher who had proudly posed for a recent photo with her young students. The family of five swept away as they headed for a restaurant. One woman was saved from the flooding — only to be engulfed by Please see VICTIMS on Page 29A.

NORTH TEXAS STORMS

■ Storm makeup. 28A	■ Closings. 32A
■ Worst storms. 28A	■ TV coverage. 32A
■ The damage. 28A	■ Effect on voting. 32A
■ How to help. 28A	■ Drainage woes. 33A
■ Vignettes. 30A	■ Fair Park. 33A
■ FW's damage. 30A	■ Driving tips. 33A
■ Business impact. 32A	■ Weather. 24B

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 – March 2006



Monticello Avenue – West of Greenville Avenue

Peaks Branch Flooding At Buckner Park - March 2006

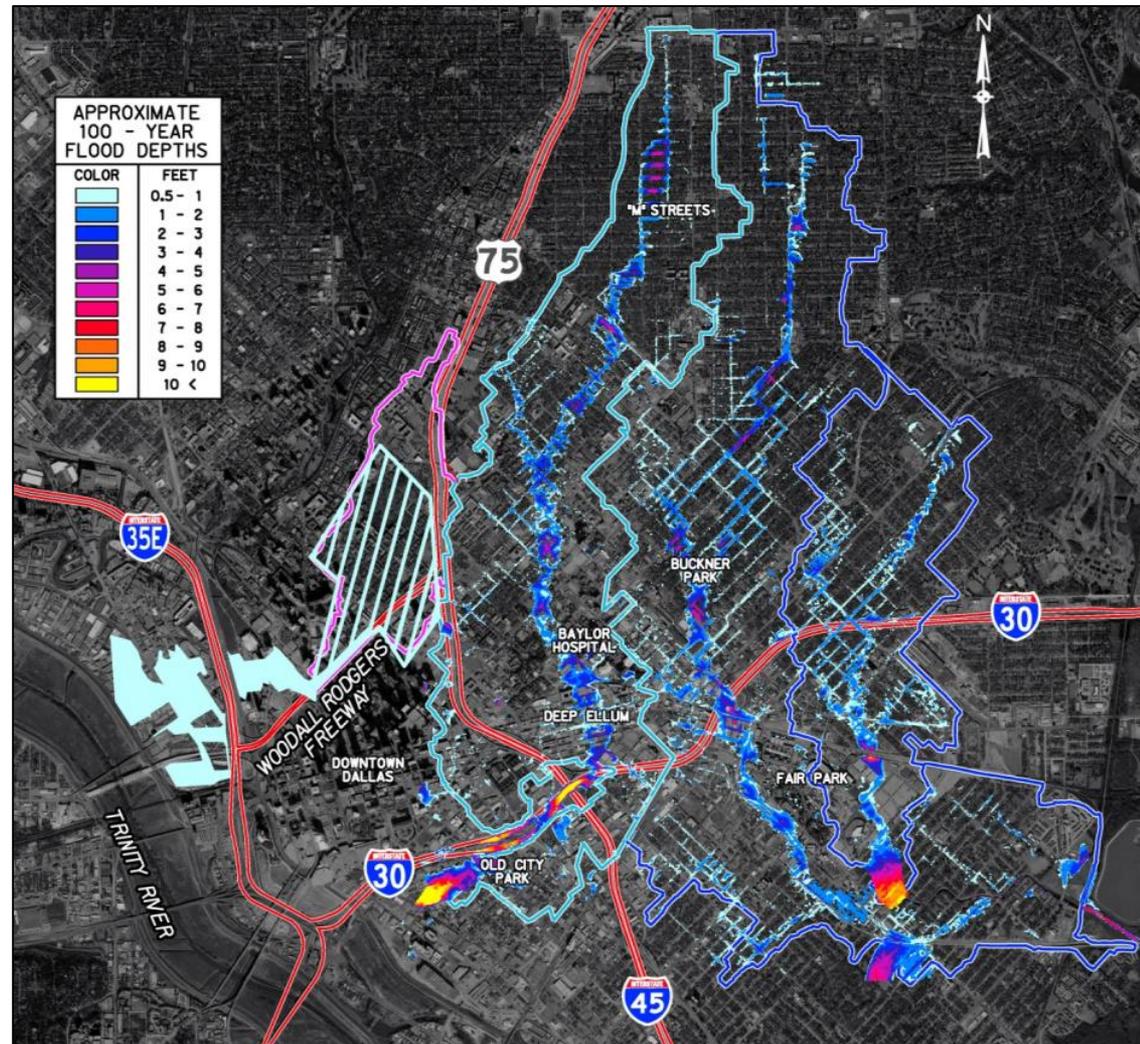


Worth Street Flooding in front of the Zaragoza Middle School

I-30 Flooding – March 2006

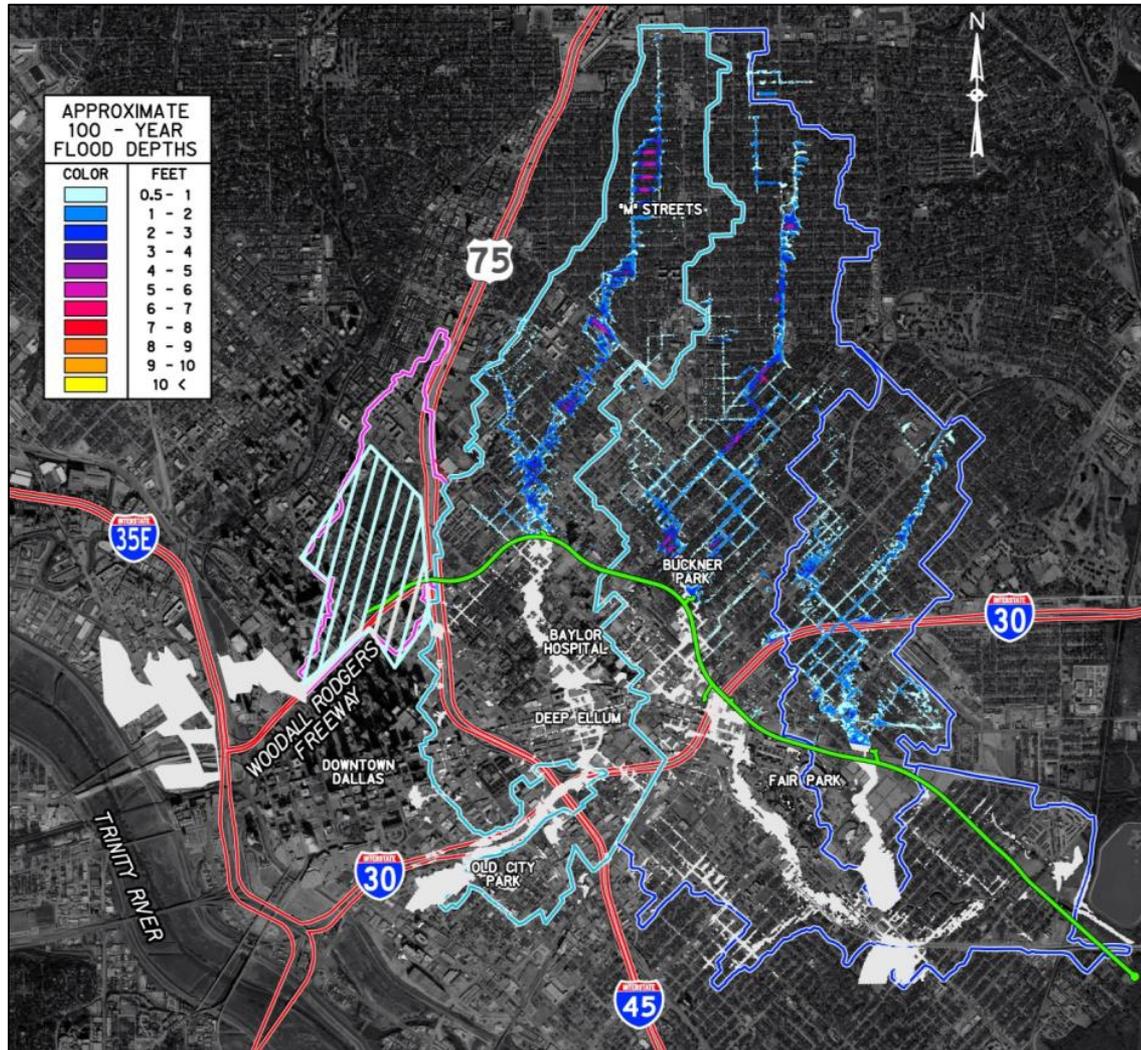


Mill Creek, Peaks Branch and State-Thomas Watersheds – Areas Currently Subject to 100-Year Flooding

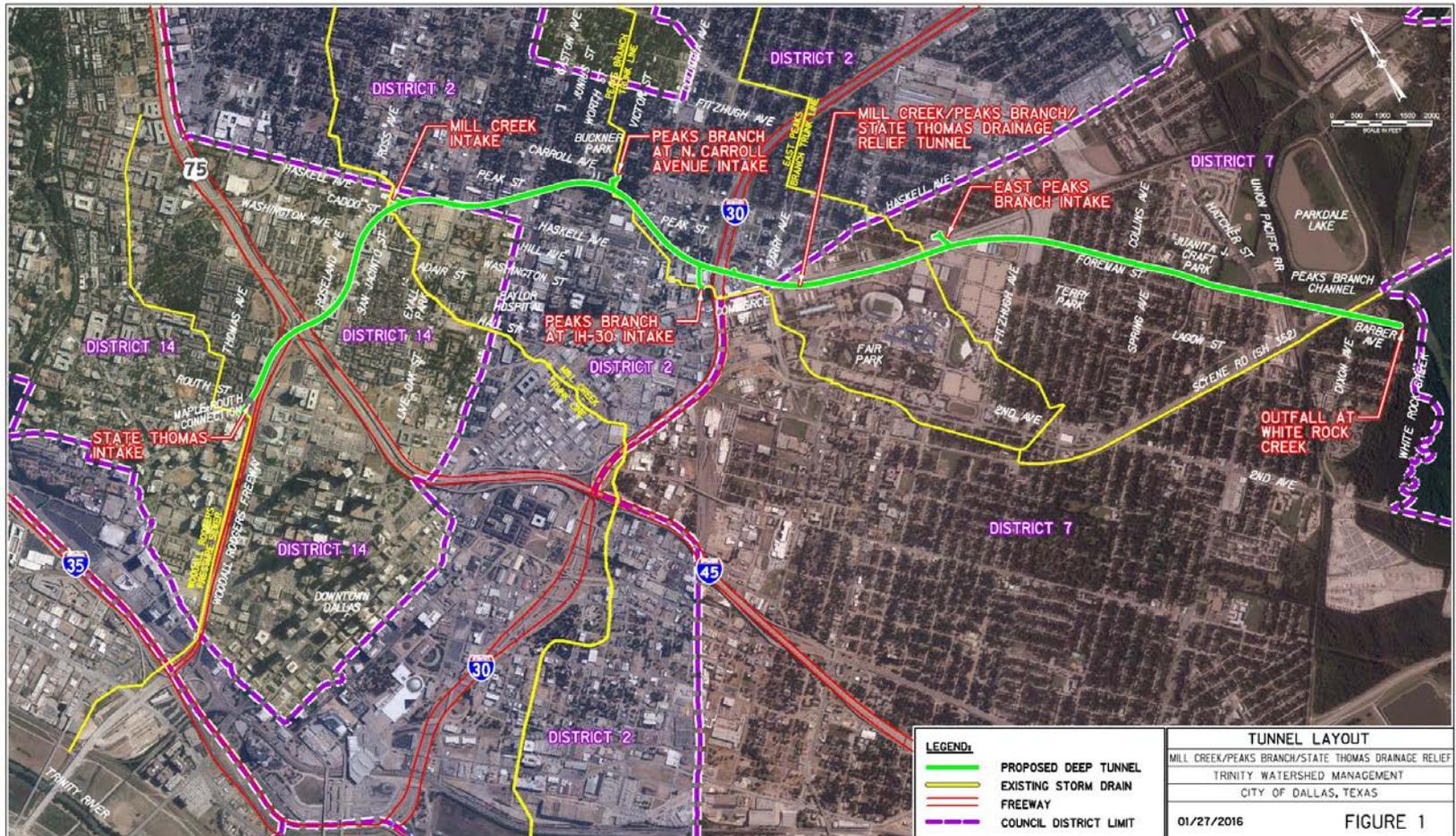


After Drainage Tunnel is Constructed – Areas Subject to 100-Year Flooding

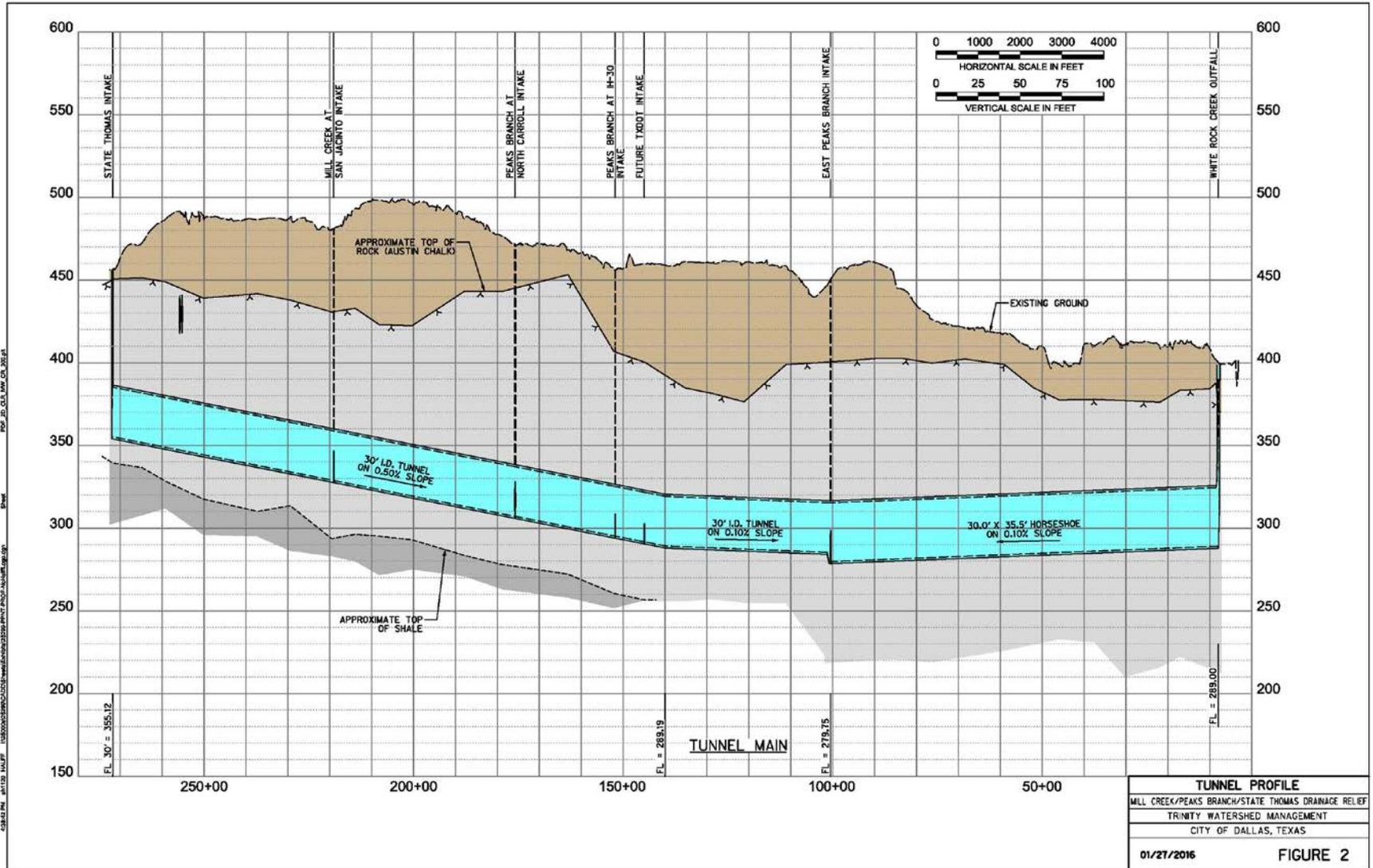
Note:
Areas in gray
are removed
from 100-yr
flooding



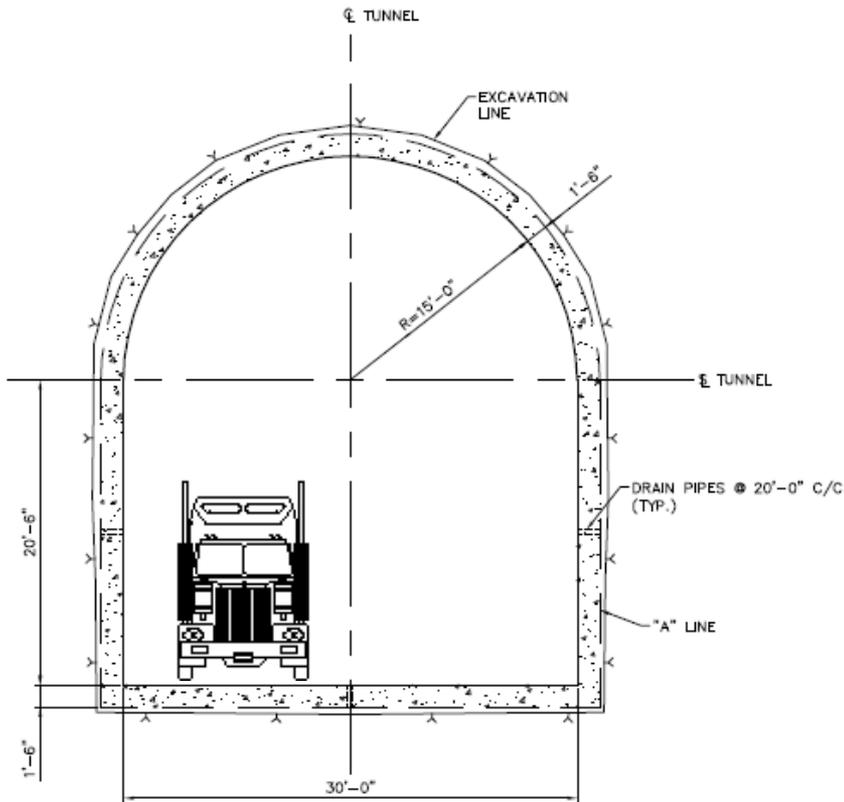
Mill Creek / Peaks Branch / State-Thomas Drainage Tunnel



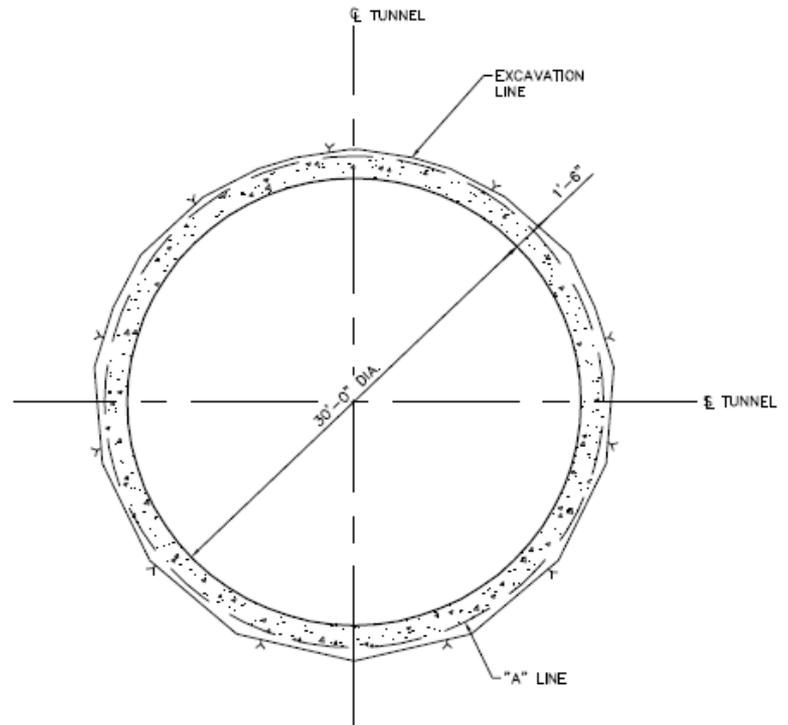
Tunnel Profile



Tunnel Sections



30'x35.5' HORSESHOE
MAIN TUNNEL SECTION
OUTFALL TO SITE A
(2 MILES)



30' CIRCULAR
MAIN TUNNEL SECTION
SITE A TO END
(3 MILES)

Tunnel Boring Machine (TBM)



Project Information

- Deep Tunnel
 - Length – 5 miles
 - Diameter – 30 feet
 - Depth – 70 to 150 feet
- Five Intake Sites
 - Drop Structures
 - Surface Collection Systems
- Tunnel Outfall at White Rock Creek
- Dewatering Station to drain tunnel for maintenance



Project Schedule

- Began Design June 2007
- Began Right-of-Way Acquisition January 2012
- Completed Design August 2015
- Advertised for Bids September 2015
- Opened Bids December 2015

Project Funding

■ 2006 Bond Program	\$100,400,000
■ Mill Creek Phase I	\$53,800,000
■ Peaks Branch Phase I	\$22,300,000
■ Peaks Branch Phase II	\$12,600,000
■ State-Thomas Drainage	\$11,700,000
■ 2012 Bond Program	\$218,600,000
■ Total Funding	\$319,000,000

Project Costs

- Design and ROW Costs \$40,300,000
- Construction Management \$17,200,000
- Other Project Costs \$5,600,000
- Construction Costs
 - *City advertised and received bids on December 18, 2015*
 - *Award to be made to the lowest, most responsible bidder*
 - *Total construction costs range from -*
 \$189,700,000 to \$281,450,000
- Total Project Costs
 \$252,800,000 to \$344,550,000

Schedule Forward

- Council consideration of construction award April/May 2016
- Begin Construction May/June 2016
 - Begin Outfall Shaft Excavation May 2016
 - Begin Tunnel Excavation June 2017
 - Begin Surface Improvements May 2018
- Complete Construction May 2021