Don’t Flood The Rodeo!
Preparing for Fort Worth’s New Arena

OUTLINE

1. Project Background
2. Fast Track Study
3. Design Process

PROJECT LOCATION
**MONTGOMERY STREET**

Don't Flood the River!

**WATERSHEDS**

Don't Flood the River!

**RECENT IMPROVEMENTS**

Don't Flood the River!
RECENT IMPROVEMENTS

EXISTING FLOODING
EAH Watershed Never Studied but Known to Flood

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DON'T FLOOD THE ROODO!

EXISTING FLOODING

Portion of EAH Watershed Identified as a Repetitive Loss Area (RLA) by the City/FEMA

DON'T FLOOD THE ROODO!

EXISTING FLOODING

High-level analysis indicates garage could flood!

ARENA PARKING GARAGE SITE

DON'T FLOOD THE ROODO!
**PROJECT SCHEDULE**

Fast Tracked a Study and Design to Protect the Garage and Montgomery Street

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<th>2016</th>
<th>Study</th>
<th>Study Alternatives</th>
<th>Design</th>
<th>Survey</th>
<th>Franchise</th>
<th>Design &amp; Relocation</th>
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**DON'T FLOOD THE RIO!**

**DRAINAGE INFRASTRUCTURE**

Proposed Montgomery Street

- 1924-1960
- 1926-1961
- 1951-1961
- 1977 42" Relief
- 1965 48" Relief

Flooding Exacerbated by Sumps

**DON'T FLOOD THE RIO!**

5/25/2017
WATERSHED STUDY

Model Stats
- Innovative CM
- SWMM Routing
- Curve Number Losses
- 239 Drainage Areas
- 766 Nodes
- 516 Links
- 158,000 Triangles

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WATERSHED STUDY

41 Structures Flood in 100-year Event

DON'T FLOOD THE RIBBON!

ALTERNATIVES

Considered a range of solutions to find the sweet spot based on available funding

DON'T FLOOD THE RIBBON!
ALTERNATIVES
Considered different project lengths based on sump locations
Able to generate order of magnitude costs due to experience in similar projects in Fort Worth
City was able to fund the most beneficial project we considered

PROJECT DESIGN
Downstream connection
Paralleled 60” pipe remains in place
CROSS CONNECT
at the sump

PROJECT DESIGN
Upstream connection and inlet
Abandon lines under houses
Old arch removed due to limited space
Relocate water and sewer
INLETS

- Approx 700 cfs Overland Flow from Upstream
- Retrofit Existing Junction Box to Connect to Existing Storm Drains
- 60' Open Back Curb Inlet in Alley ROW Drain to Pipe

PROJECT HYDRAULICS

- Don't Flood the River!

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- Don't Flood the River!
**ALTERNATIVE CONTRACTING**

Montgomery Street CMAR used for Eastern Arlington Heights

- Constructability review
- Define construction schedule and phasing
- Construction cost feedback during design
- Local contractors selected
- Guaranteed Maximum Price
- Additional fees should be considered

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**QUESTIONS**

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**PROJECT HIGHLIGHTS**

- Pavement, Drainage, and Utility Design
- 1,700 LF of 11'x6' Box Culverts
- 450 LF of Curb Inlet
- 19 Structures with Reduced Flooding
- 8 Structures Protected in 100-year

Construction Cost: $4.8 million

**Alternative Construction Contracting**

Fast Track Schedule