Canal Street Laredo Mitigation

TFMA Fall 2014 Technical Seminar

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Flooding Issues




Flooding Issues

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Zacate Flood Control Projects

- Identified in the 2000 Zacate Master Plan
- After the flood of 2007, the project was a priority
- 2008, City was awarded a grant from TWDB to develop the Zacate Creek Flood Protection Plan & update the master plan for other completed projects

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Zacate Flood Control Projects

- Other flood mitigation projects in the watershed:
  - Backwoods detention pond
  - Del Mar Culvert addition
  - Alexander detention pond (private)
  - Upper Zacate detention pond
  - Upper Zacate channel improvement
  - McPherson acres drainage
  - Calton/Chaparral channel const.
  - Canal Street Phase 1

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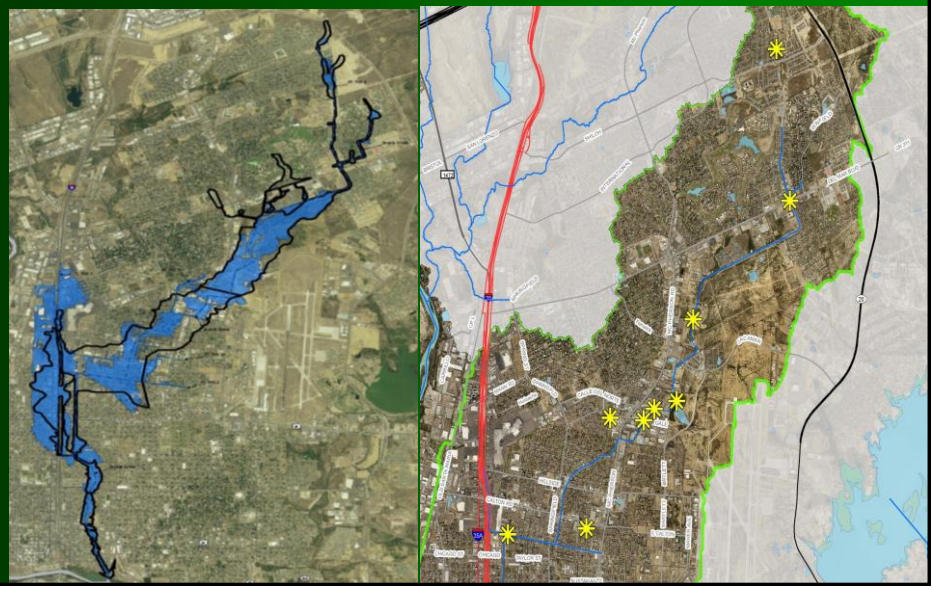
Zacate Flood Control Projects



How We Got Here

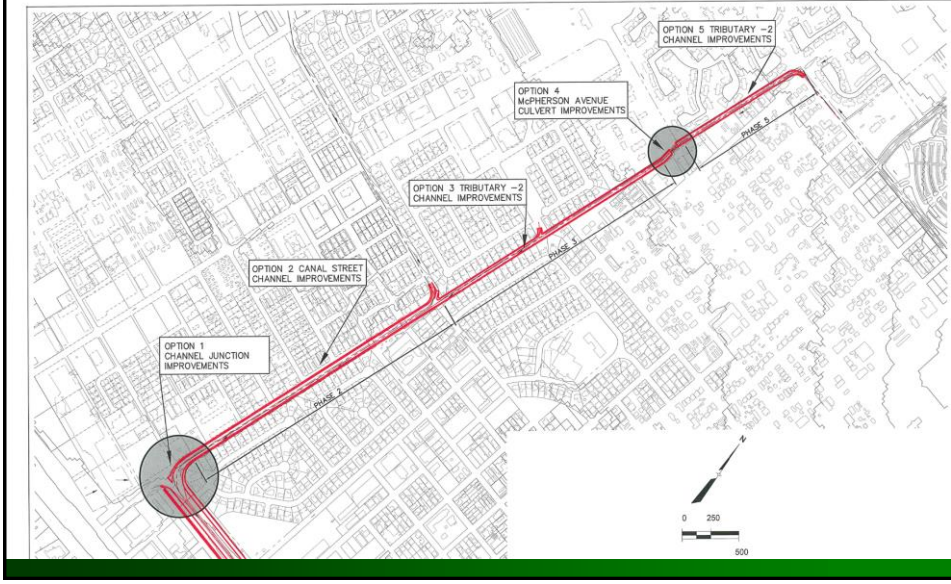
HMGP GRANT ($3.7 Million)

Grant from TWDB for
Zacate Creek Flood Protection Plan (FPP)

Canal Street
Preliminary Engineering

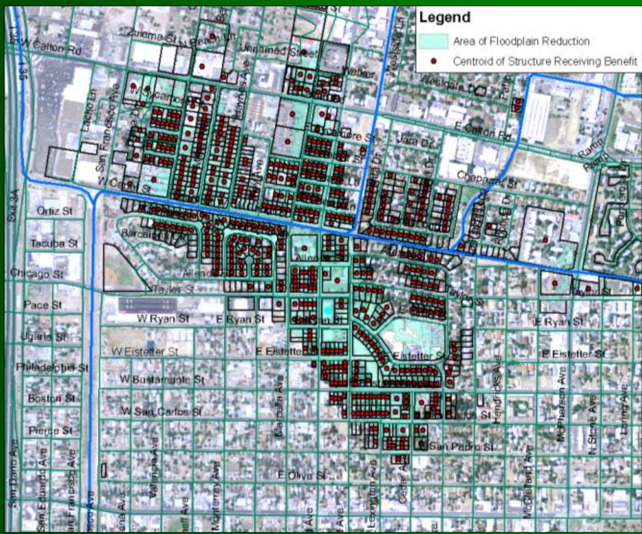
Zacate Creek
Master Plan

The Canal Street Projects



Canal Street BCA Structure

1. 621 Structures would receive Benefit
2. For the BCA,, reached a BCR of >1.0 after analyzing only 13 structures.
3. FEMA likes to see that they can reduce future flood insurance liabilities for multiple structures with a single investment in drainage infrastructure.



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Canal Street Improvements

Table 6. Design Option Summary

Design Option	Design Storm Capacity	Design Characteristics	Prelim. Cost Estimate
Reach 1			
Option 1-A	100-yr	50 ft. bottom, 1:1 ss, 10 ft. depth, 70 ft. TW	$1,592,900.00
*Option 1-B	100-yr	40 ft. bottom, 0.5:1 ss, 10 ft. depth, 50 ft. TW	$1,509,624.00
Reach 2			
Option 2-A	100-yr	50 ft. bottom, 1:1 ss, 10 ft. depth, 70 ft. TW	$10,473,137.00
*Option 2-B	50-yr	40 ft. bottom, 0.5:1 ss, 10 ft. depth, 50 ft. TW	$4,646,378.00
Reach 3			
Option 3-A	100-yr	35 ft. bottom, 1:1 ss, 6 ft. depth, 47 ft. TW	$3,211,929.00
*Option 3-B	50-yr	27 ft. bottom, 1:1 ss, 6 ft. depth, 40 ft. TW	$2,842,907.00
Reach 4			
Option 4-A	100-yr	New 3-10ft x 5ft MBC, Lower flowline 2 ft.	$997,385.00
*Option 4-B	100-yr	Add 2- 10 ft x 5 ft MBC, match exist. flowline	$874,641.00
Reach 5			
Option 5-A	100-yr	35 ft. bottom, 1:1 ss, 4 ft. depth, 43 ft. TW	$1,723,168.00
*Option 5-B	100-yr	27 ft. bottom, 1:1 ss, 3 ft. depth, 35 ft. TW	$1,365,684.00
TOTAL COST OPTIONS A			$17,998,519.00
TOTAL COST OPTIONS B			$11,239,234.00

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Reach 2 - Canal St Projects

Addresses flooding along Canal Street (Reach 4) and Trib 2

- **Phase 1** under construction Fall 2009, completed in 2012. The total cost was $1.0 million.
- **Phase-2** was awarded in February 2012, completed in July 2014. The total cost is $3.l million.
- **Phase-3** was awarded in March 2012 and was completed in February 2013. The total cost was $727,000.

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Construction Challenges

- Two change orders were approved for another $600,000 for extra concrete and demo.
- Due to financial issue, Project completely stopped for weeks
- Emergency construction by Public Works during work stoppage
- Bonding company started to manage the project in February 2013. Finally took over completely in August 2013.
- 17 power poles had to be relocated @ $60,000.00 causing delays.
- Conflicts with Time Warner Cable @ $31,000.00
- Water line conflict & Sewer Line relocation @ Marcella bridge
- Sewer line relocation at McPherson Bridge
- Redesign of Boxes under the McPherson Bridge

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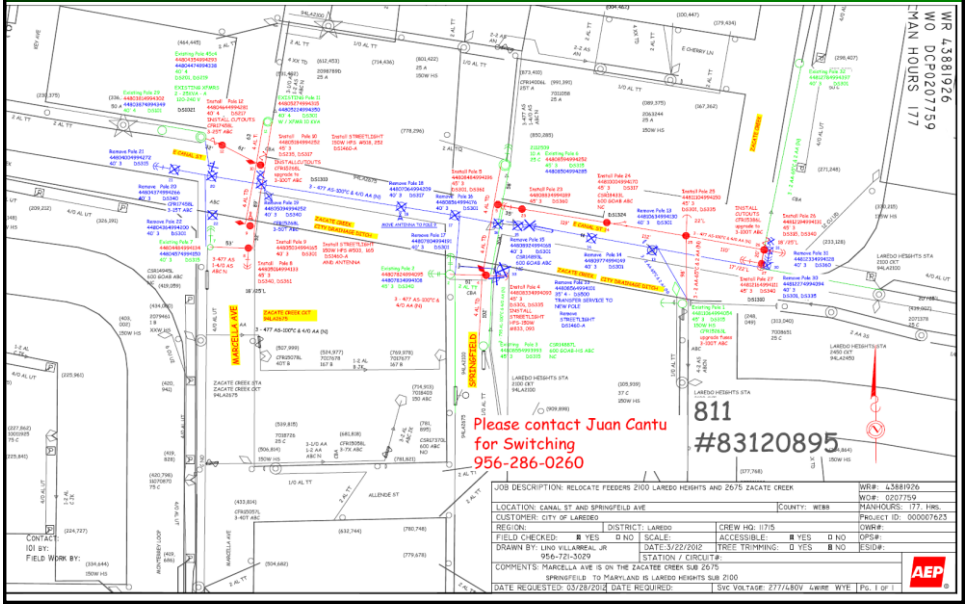
Construction Challenges - WATER

Electrical Pole Relocation



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Construction Challenges

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Final Project Costs

• Engineering	$ 442,000.00
• Testing	$ 33,000.00
• AEP	$ 60,000.00
• Cable	$ 30,000.00
• Phase-2 cont.	$2,971,700.00
• Phase-3 cont.	$ 727,400.00
• Total	$4,264,100.00

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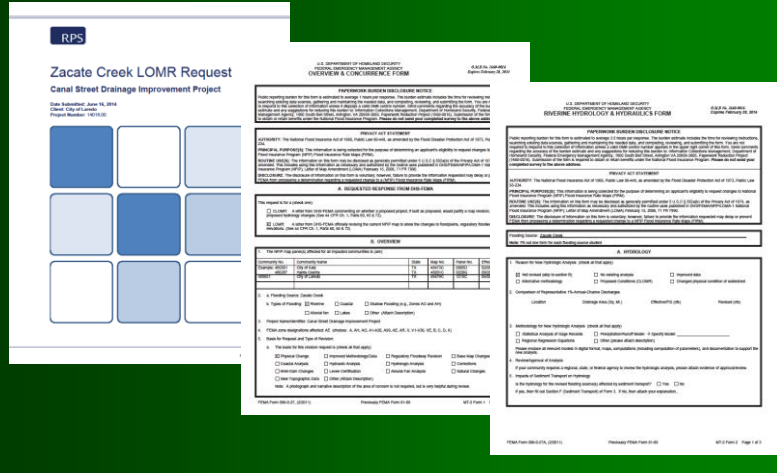
Next Step – FEMA LOMR



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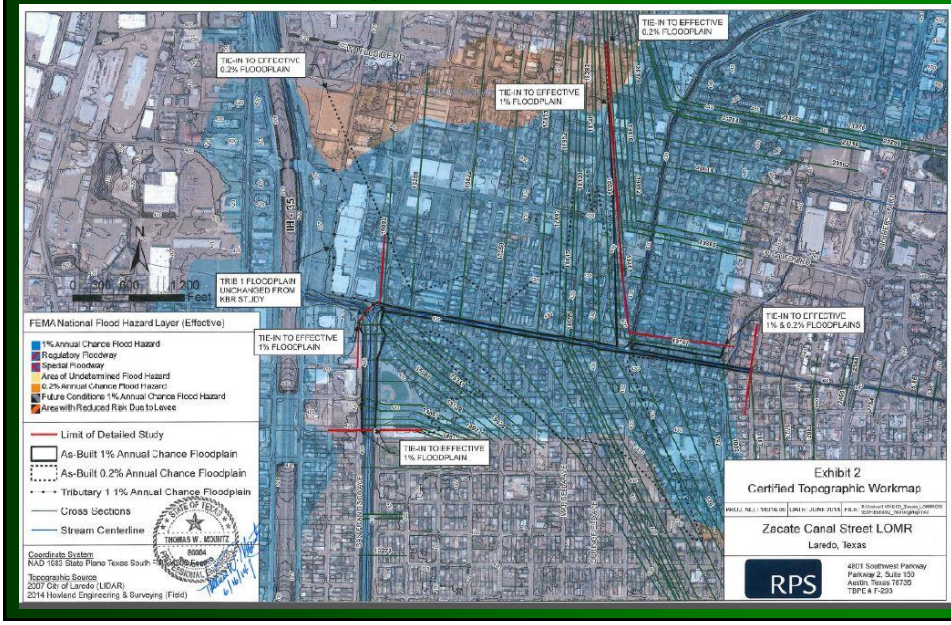

Questions?

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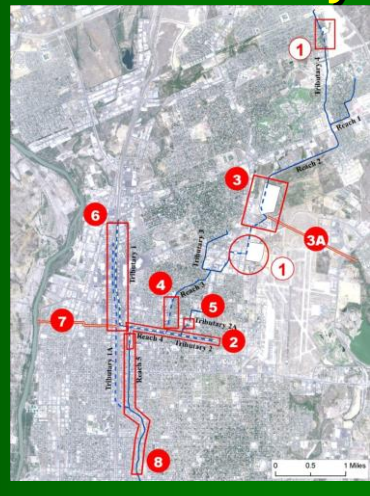
Zacate Creek FPP Study



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