



I-45 NHHIP Meeting Our Commitments – Stormwater Resiliency

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I-45 NHHIP PROJECT SUPPORTS HOUSTON'S REGIONAL STORMWATER RESILIENCY

795

Acres of Flooding Prevented

1309

Acre/Feet of Water Detained

1525

Structures Saved

- 1 The I-45 NHHIP is designed to manage enough stormwater to fill the Astrodome 1.5 times.
- 2 Drainage improvements are a standard part of every TxDOT reconstruction project, ensuring effective stormwater management and flood mitigation.



TxDOT Drainage Commitments- New Criteria

- 1 An updated nationwide study, Atlas-14, integrates additional historical rainfall data, offering a more accurate representation of long-term rainfall patterns.
- 2 Atlas-14 includes significant rainfall data from Hurricane Harvey, enhancing the study's comprehensiveness.
- 3 TxDOT's I-45 NHHIP drainage models have been developed in collaboration with the Harris County Flood Control District (HCFCD) to ensure effective stormwater management.



How the Drainage Process Works



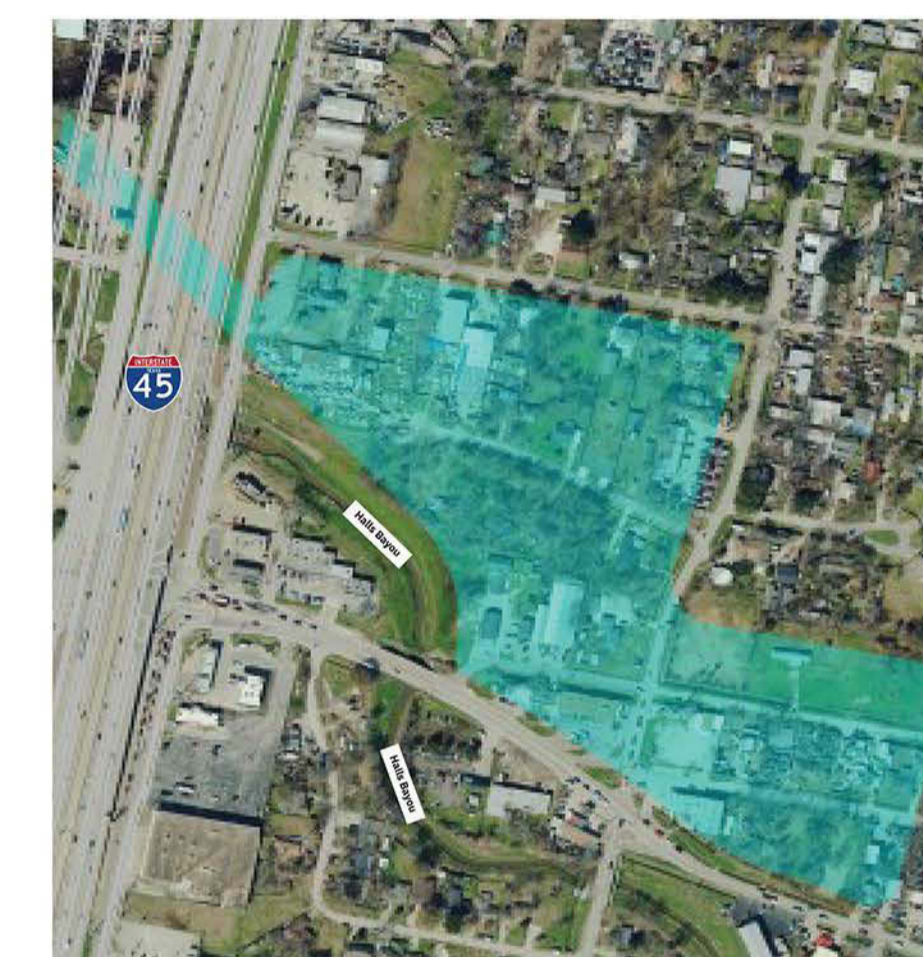
- 1 Stormwater flows into street drains.
- 2 Street drains channel the stormwater to detention ponds.
- 3 Detention ponds temporarily store the stormwater, allowing it to gradually flow into nearby bayous, reducing the risk of flooding.



A sample of Segment 1 detention ponds is shown in blue in the graphic above.



Segment 1 Detention Ponds – Halls Bayou



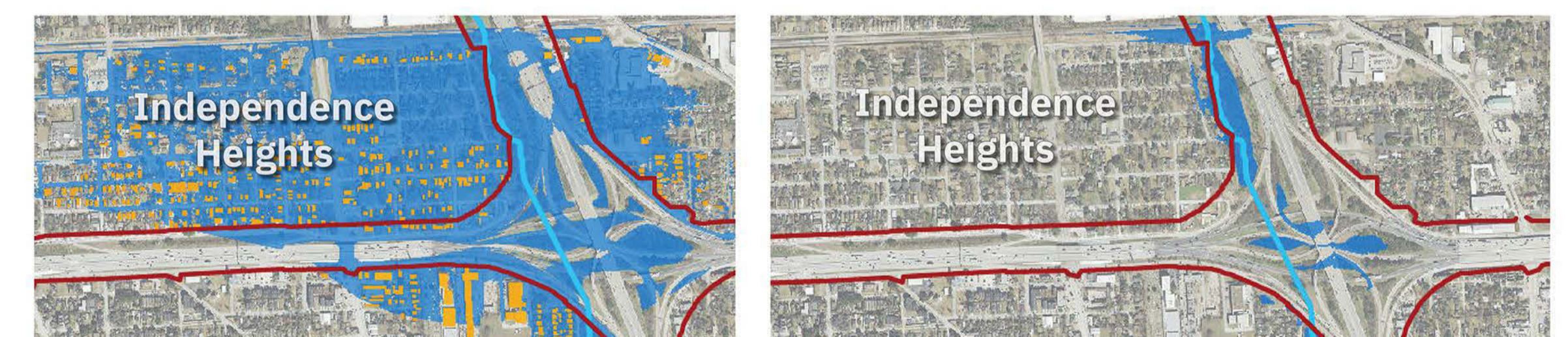
- 1 TxDOT is collaborating with the Harris County Flood Control District (HCFCD) to enhance detention and drainage at Halls Bayou and I-45.
- 2 The light blue in the image to the left shows the new detention ponds under consideration along Halls Bayou to support improved stormwater management and flood control.



Segment 2 Drainage Improvements- Independence Heights



Replacing concrete drain culverts with bridges will allow more stormwater to flow away from the Independence Heights neighborhood near I-45 and I-610.



The maps above illustrate the significant drainage improvements that will benefit Independence Heights.

- 1 The map on the left depicts the current state of the area, highlighted within the blue floodplain.
- 2 In contrast, the map on the right demonstrates a significant reduction in the blue area, projecting that the I-45 NHHIP drainage improvements will effectively remove most of the Independence Heights from the floodplain.

This transformation underscores the positive impact of these improvements on the community's resiliency against flooding.