

TIRZ 17 Regional Drainage Study Initial Results

September 28, 2010



Background for TIRZ 17 RDS

DRAFT-PRELIMINARY-
SUBJECT TO CHANGE
PENDING REVIEW BY
CITY OF HOUSTON
AND HCFCF

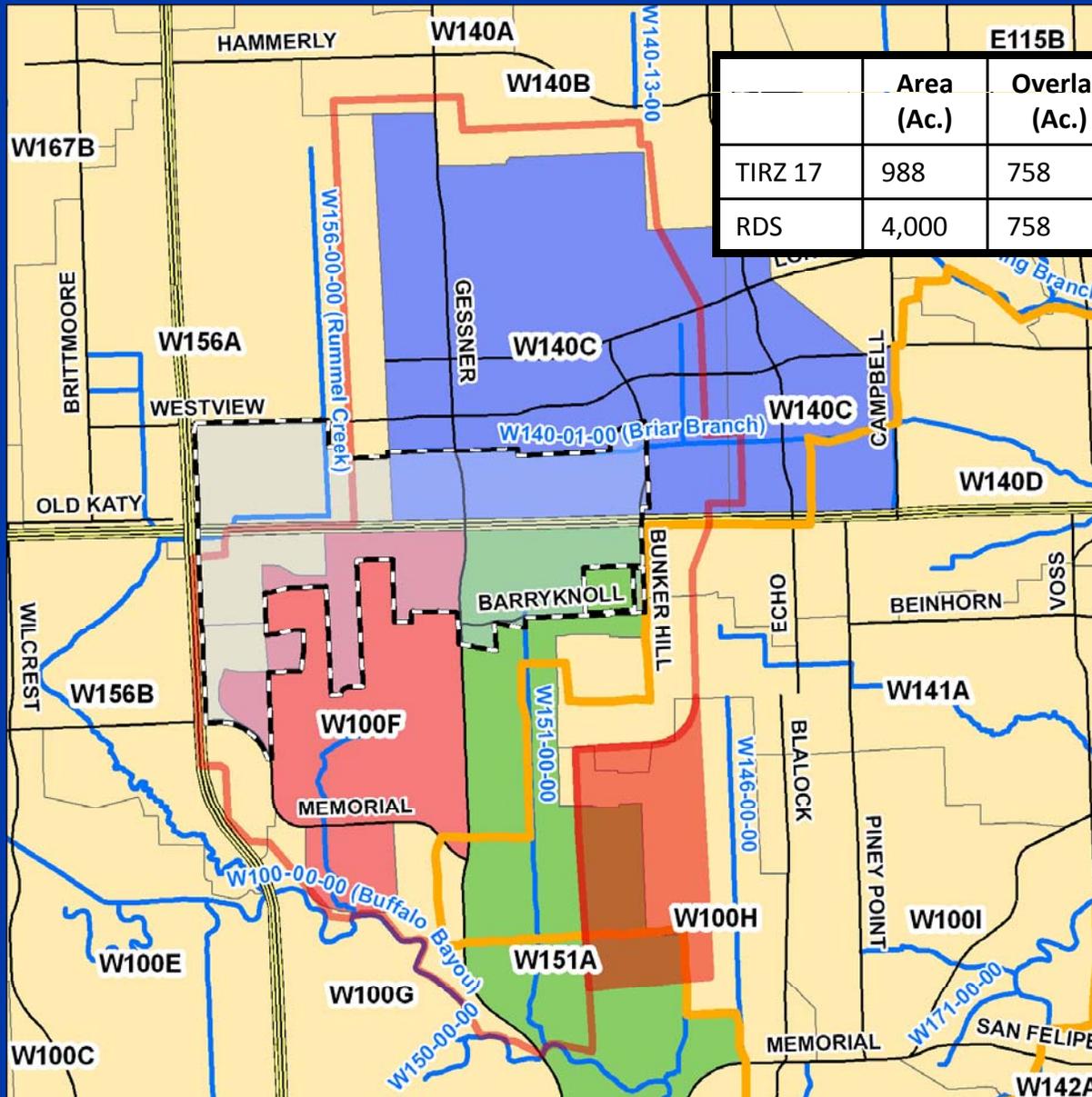
- **HCFCF Study - July 2009**
 - Focused W151 South of IH-10
- **Regional Drainage Issues**
 - Interconnected Systems
 - W151 and W140-01
 - System and Basin Overflow
 - W151 to W153
- **Improved Topographic Data (Aug. 2009)**
- **Revised City Project Sequencing**
 - Regional Feasibility Studies Have Become a Required Part of the Project Process
- **Improvement Demand Greater than Available TIRZ 17 Funding**

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TIRZ 17 Regional Drainage Study

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	Area (Ac.)	Overlap (Ac.)	% of Whole
TIRZ 17	988	758	77
RDS	4,000	758	19

Legend

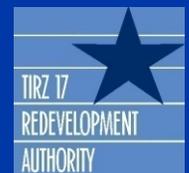
- TIRZ 17
- Houston City Limits

TSARP Catchments

Subbasin

- W100F
- W140C
- W151A
- HCFC D Channels

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Study Criteria

- **Study Design Event:**
 - 10-year HCFCO W151 Improvement Study
- **Identify Primary Drainage Improvements:**
 - Localized Improvements will Build on Primary improvements

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Results

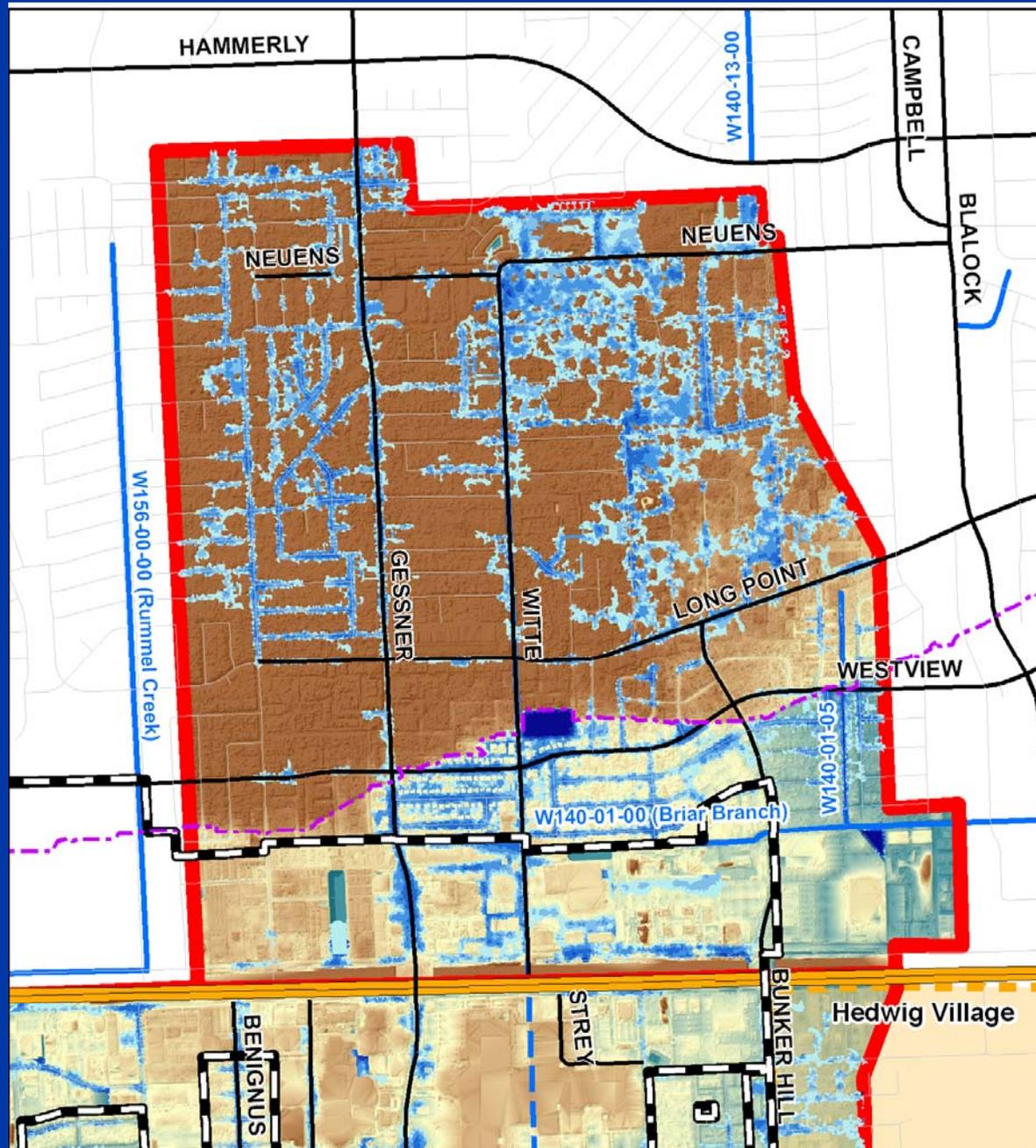
- **Evaluated Conveyance and Detention Alternatives**
- **Detention Maximizes Benefits of Proposed Conveyance Alternatives**
- **Evaluated Alternative for Improvements to W151 at HCFCFCD's Request**
- **Order of Projects Presented does not Represent Proposed Implementation Sequencing**

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North of IH-10 - 10-Year Event Existing Conditions - Topography



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Legend

- Long Point Fault
- TIRZ 17
- TIRZ 17 RDS Study Limits
- HCFCD Channels
- Freeway/Tollway
- Major
- Local

Ponding Depth

- <0.25 ft
- 0.25 ft - 0.50 ft
- 0.50 ft - 1.00 ft
- 1.00 ft - 2.00 ft
- 2.00 ft - 5.00 ft
- >5.00 ft

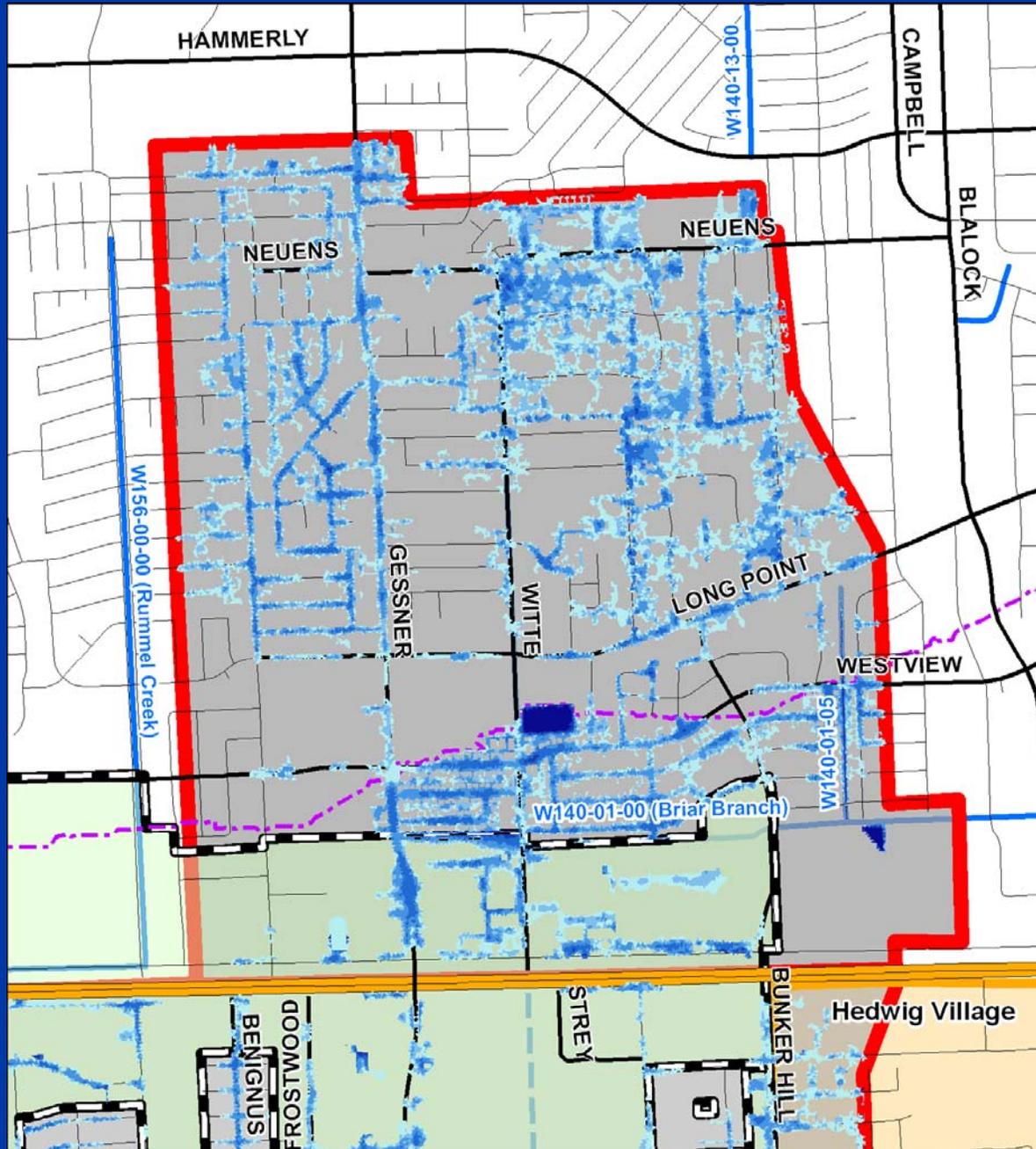
Elevation

- High : 85 ft
- Low : 75 ft

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North of IH-10 - 10-Year Event Existing Conditions



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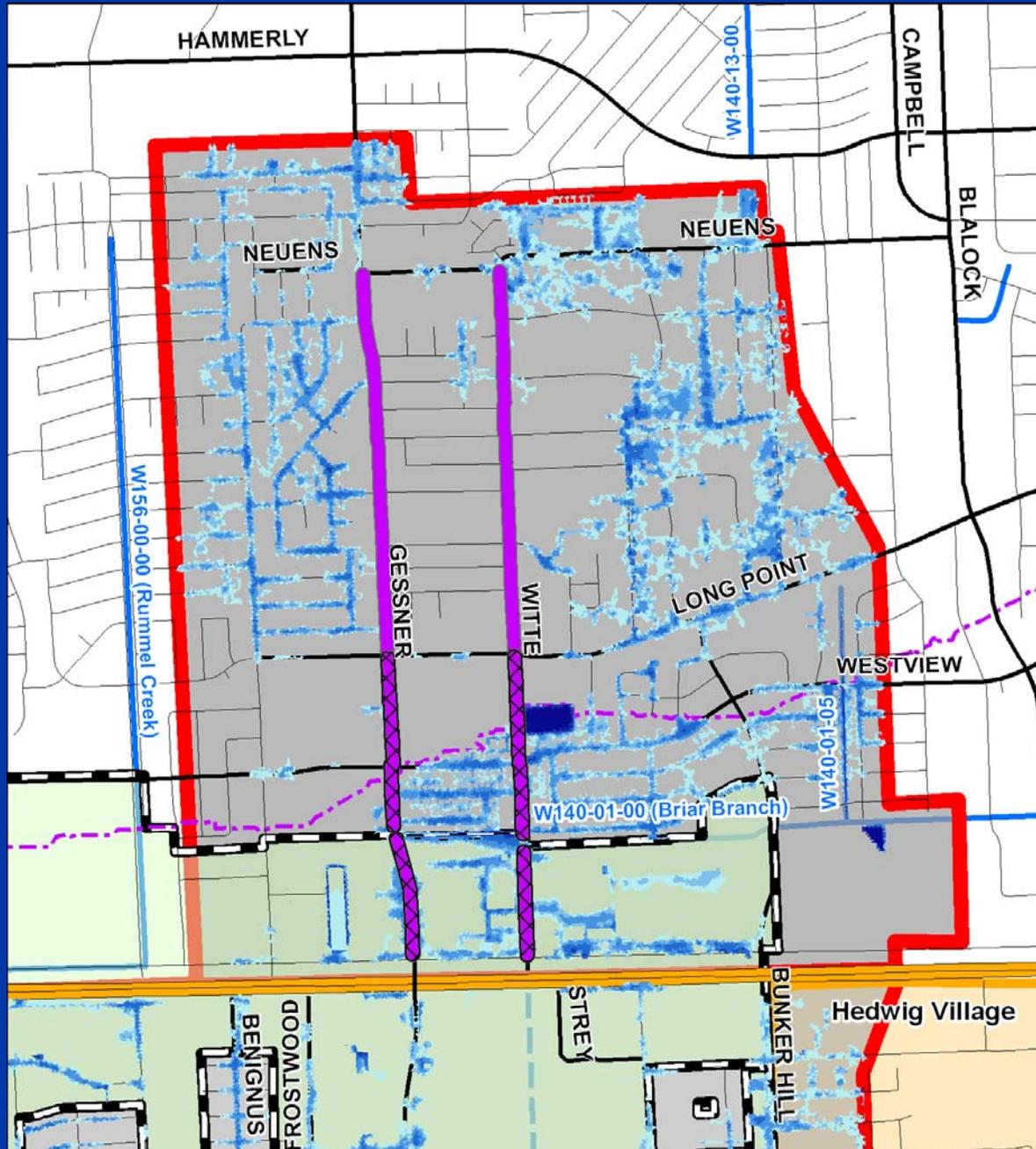
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- Houston City Limits
- HCFCD Channels
- TIRZ-17 Projects**
- Standard Conveyance
- Detention Locations
- Channel Improvements
- Projects to be Performed by Others**
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North of IH-10 - Gessner & Witte Improvements

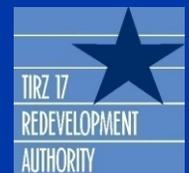


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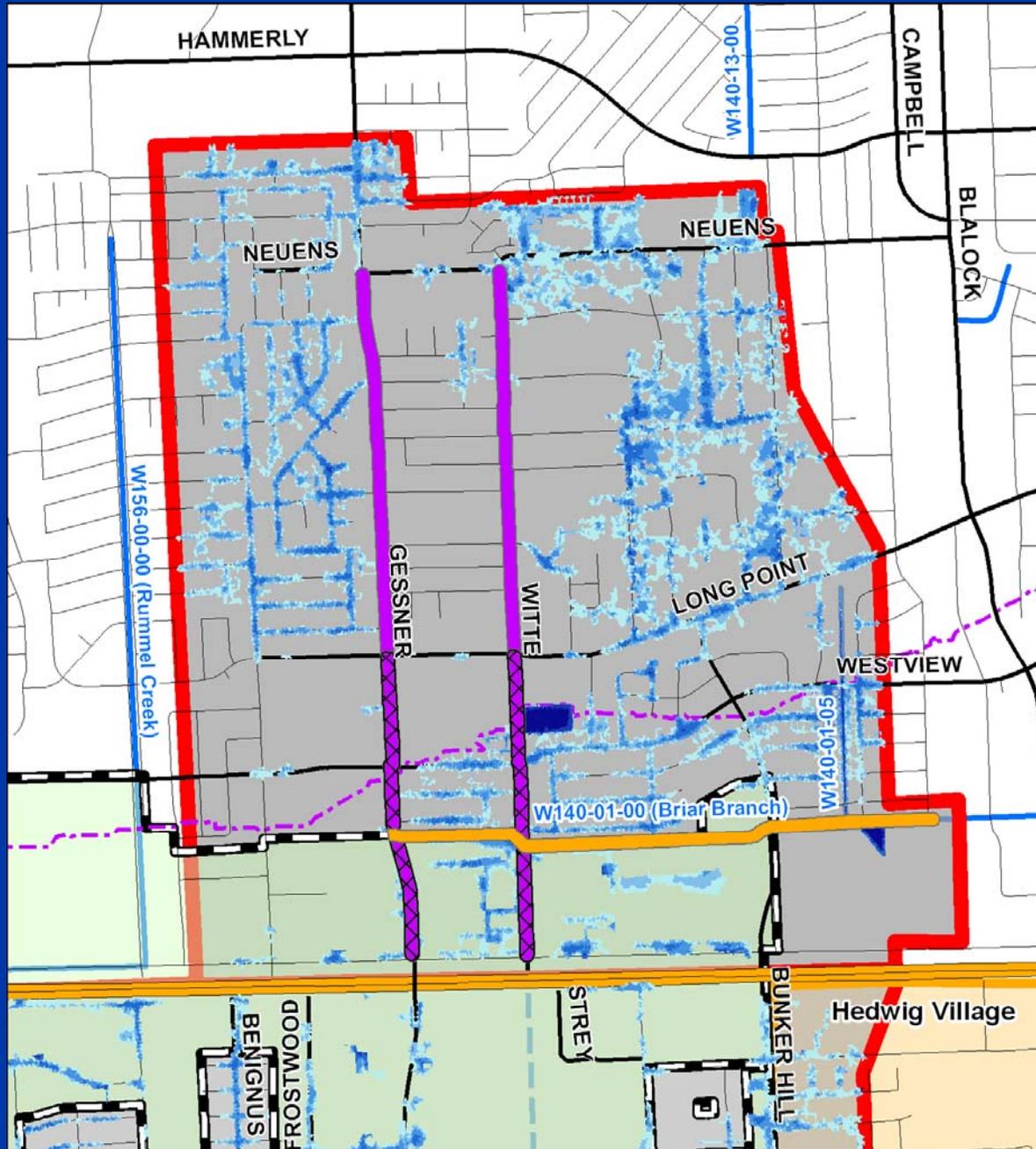
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North of IH-10 - Gessner, Witte, and Briar Branch Channel Improvements



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Projects to be Performed by Others

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Depth of Ponding (ft)

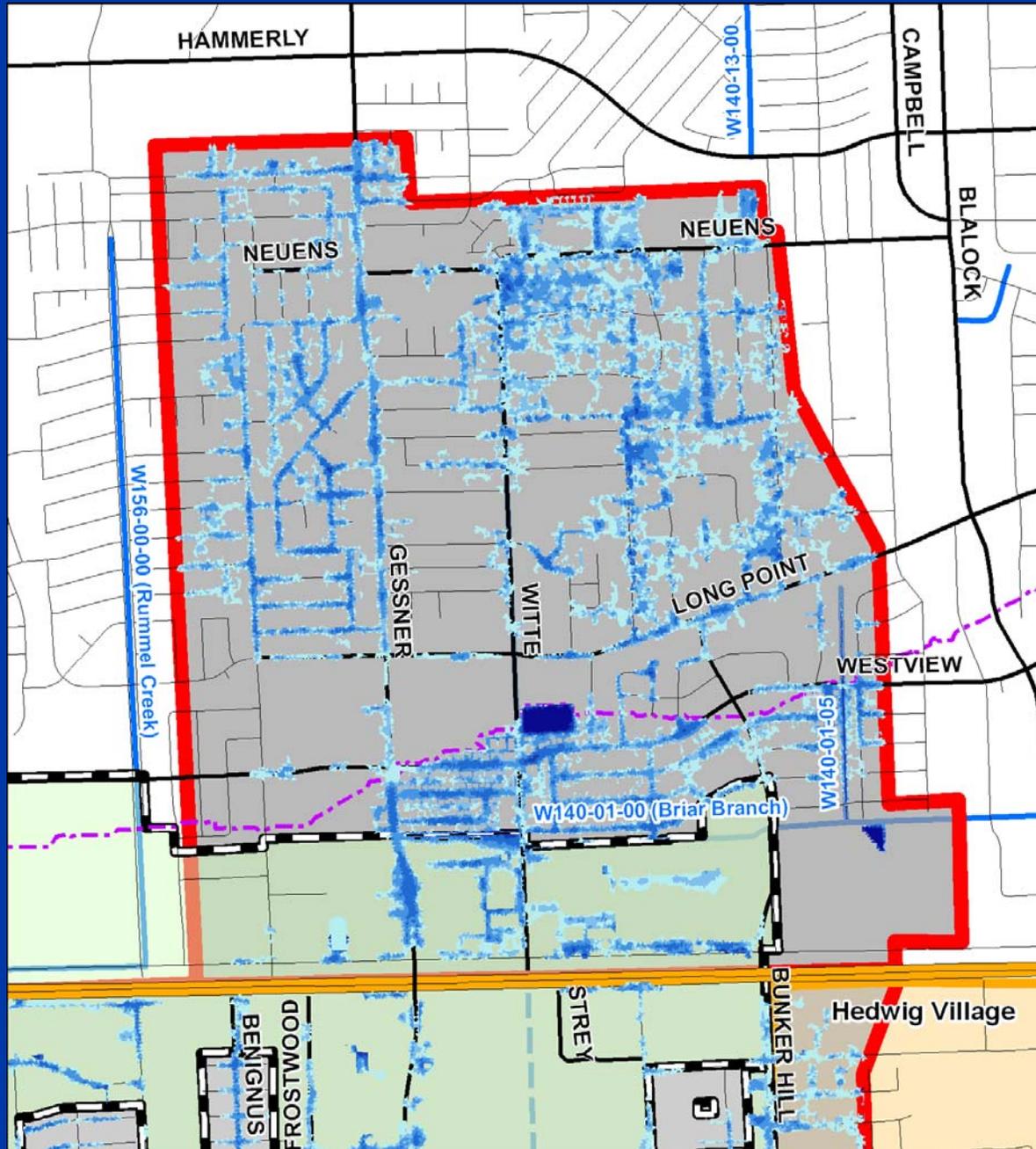
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North of IH-10 - 10-Year Event Existing Conditions

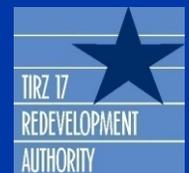
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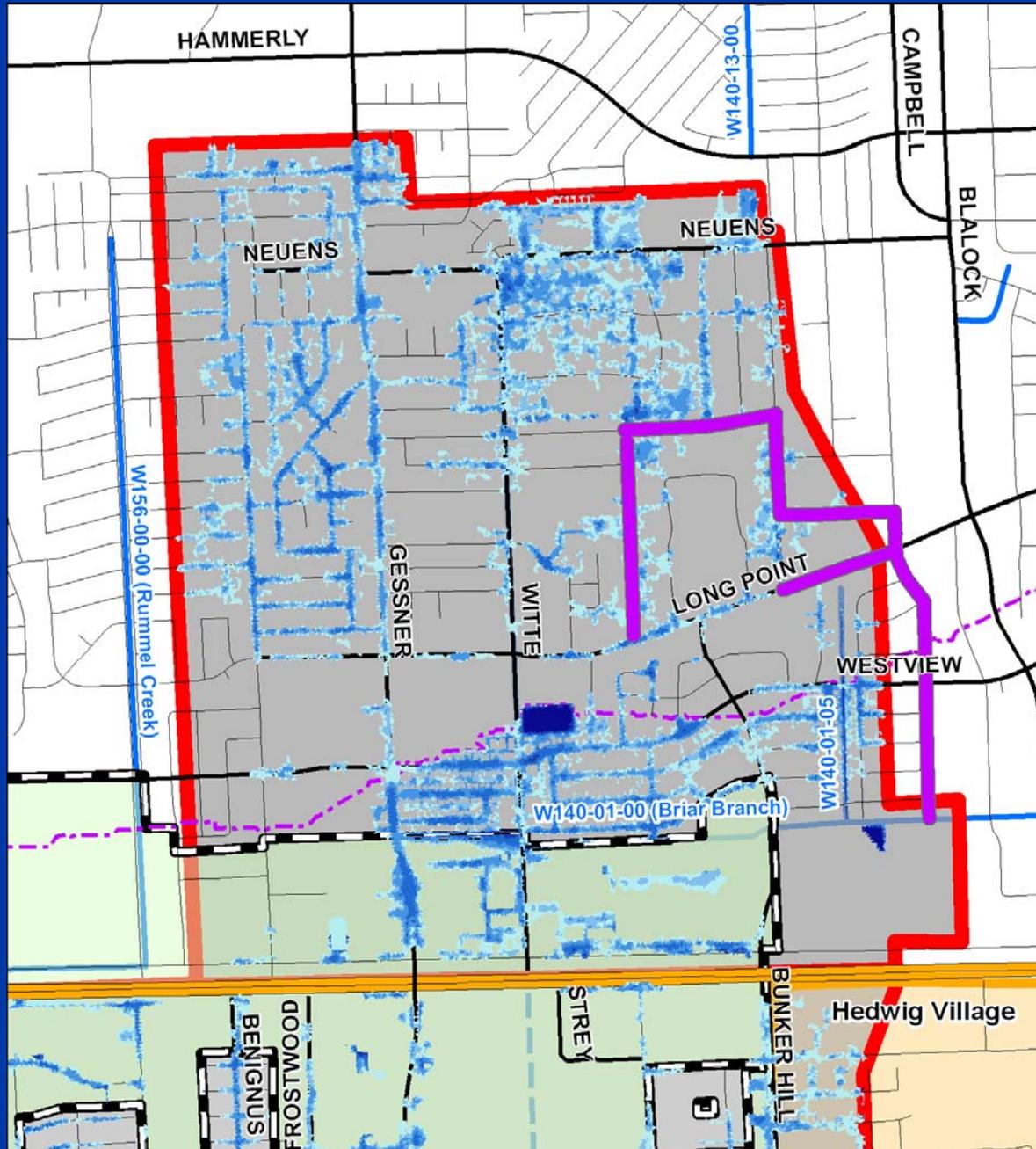
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North of IH-10 - Oak Tree & Longpoint Improvements



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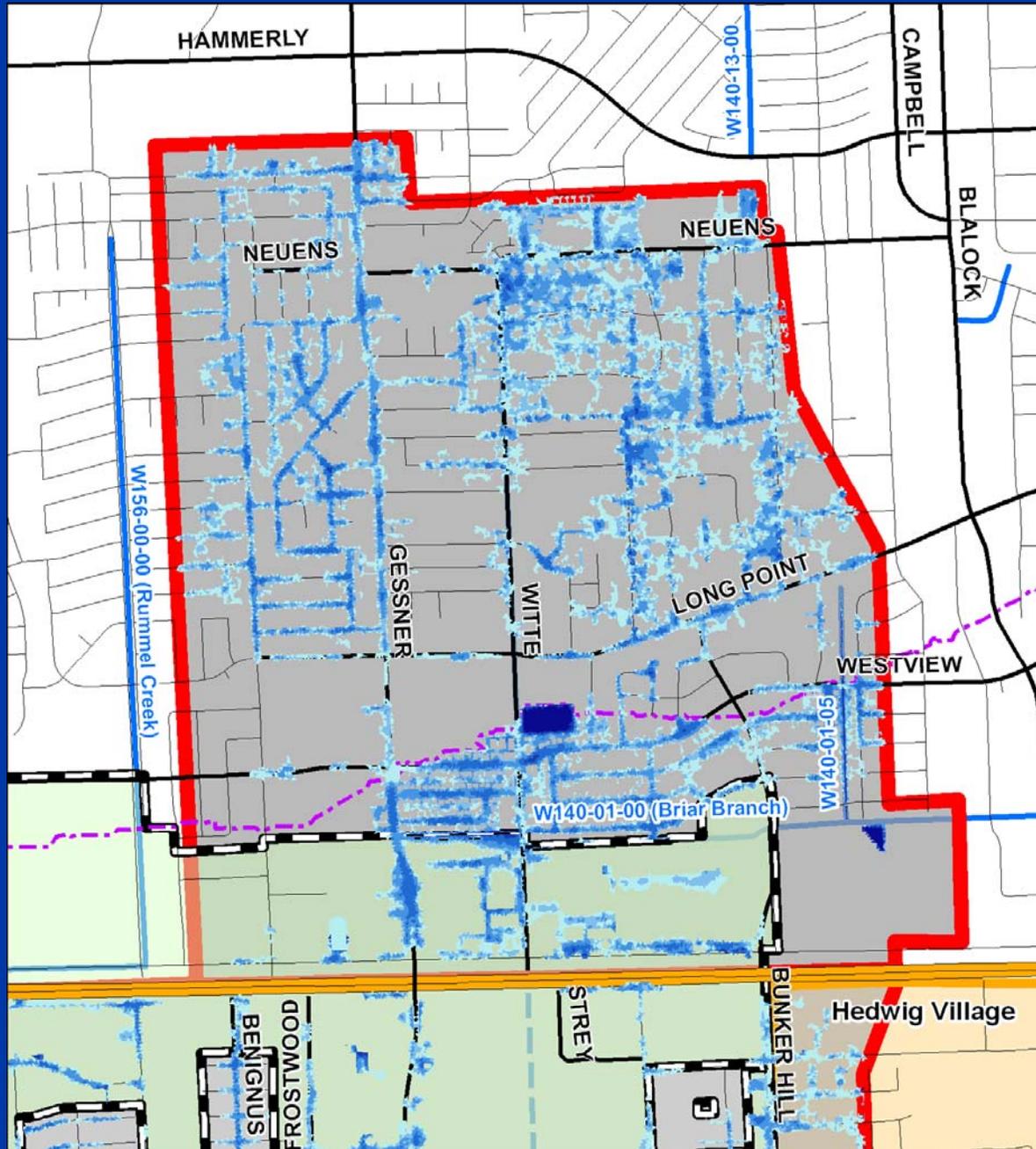
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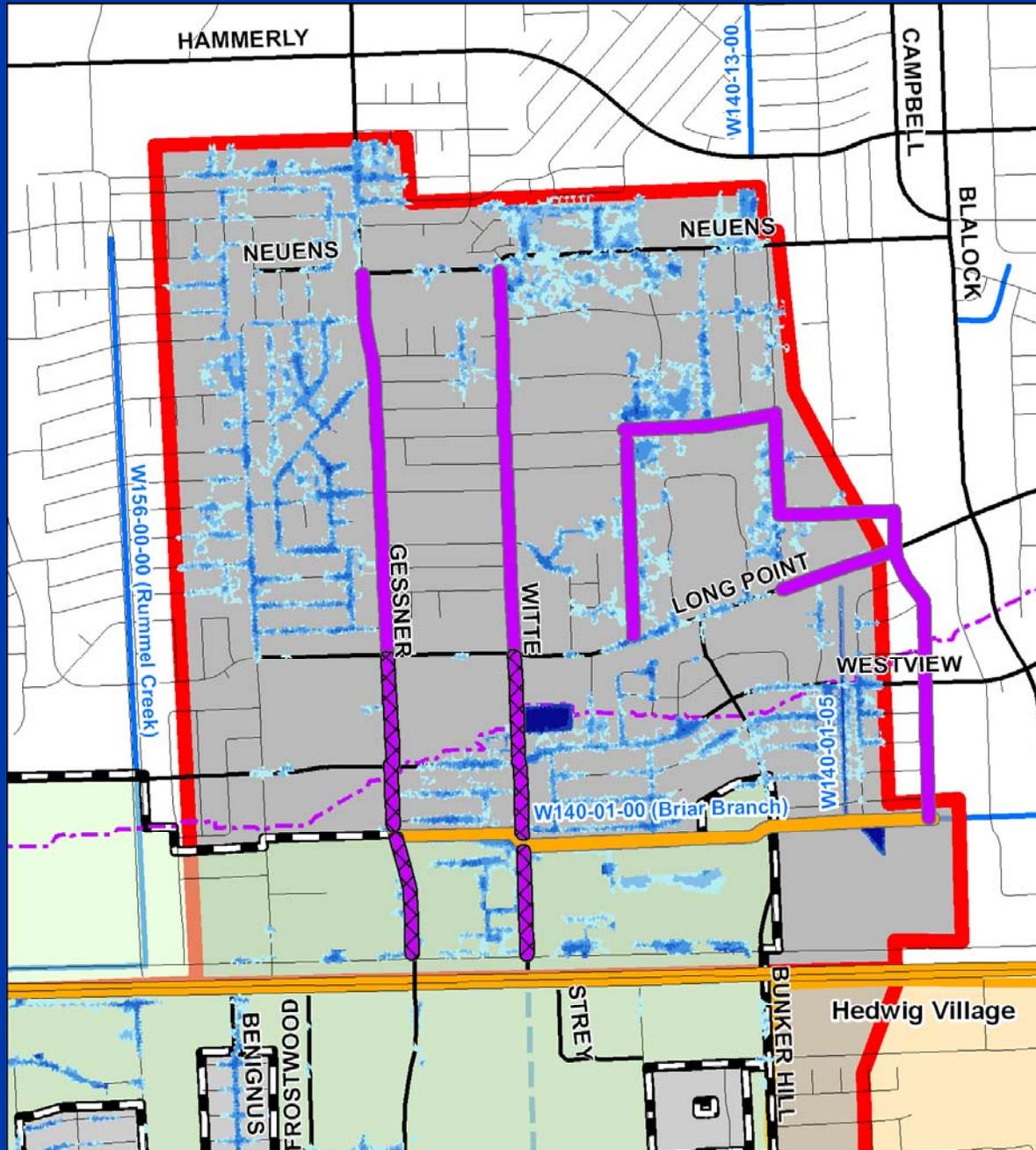
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North of IH-10 - Overall Improvement Options

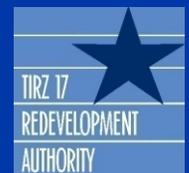


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North of IH-10 Summary

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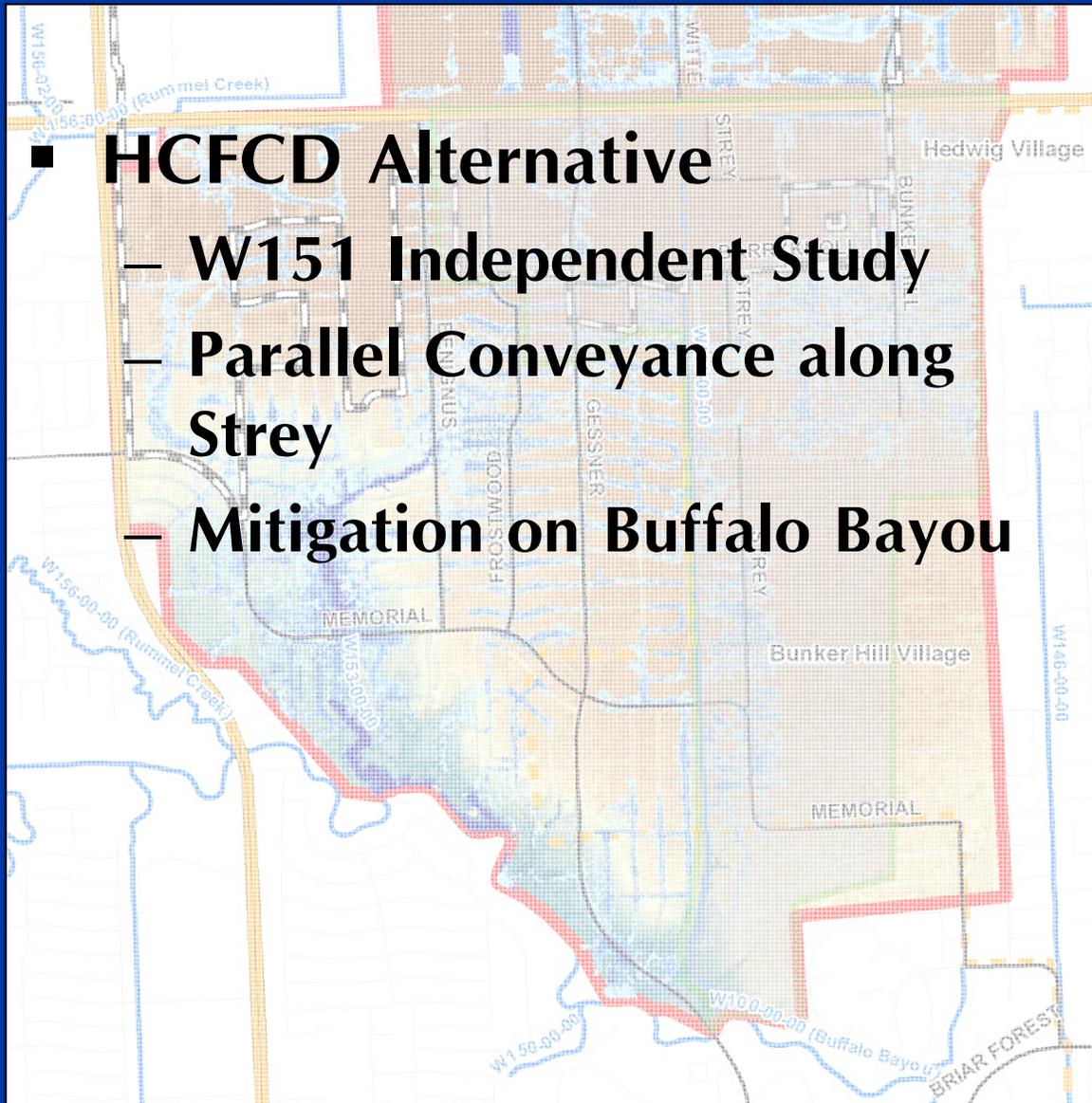
- **Conveyance:**
 - Identified Four (4) Alternatives
- **Detention:**
 - No Functional and Operational Detention Site within TIRZ Boundary
 - Exploring Detention Opportunities Outside Boundaries with Partnering Agencies

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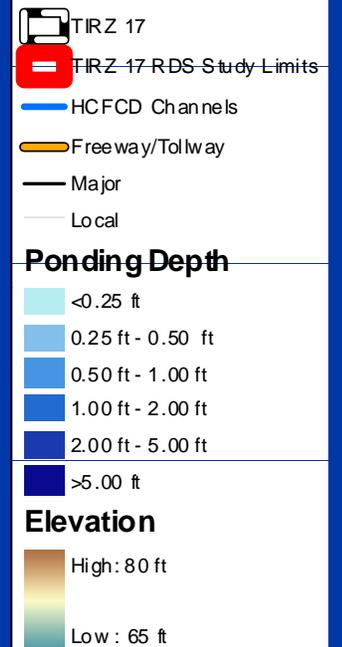
South IH-10

- **HCFCFCD Alternative**
 - **W151 Independent Study**
 - **Parallel Conveyance along Strey**
 - **Mitigation on Buffalo Bayou**



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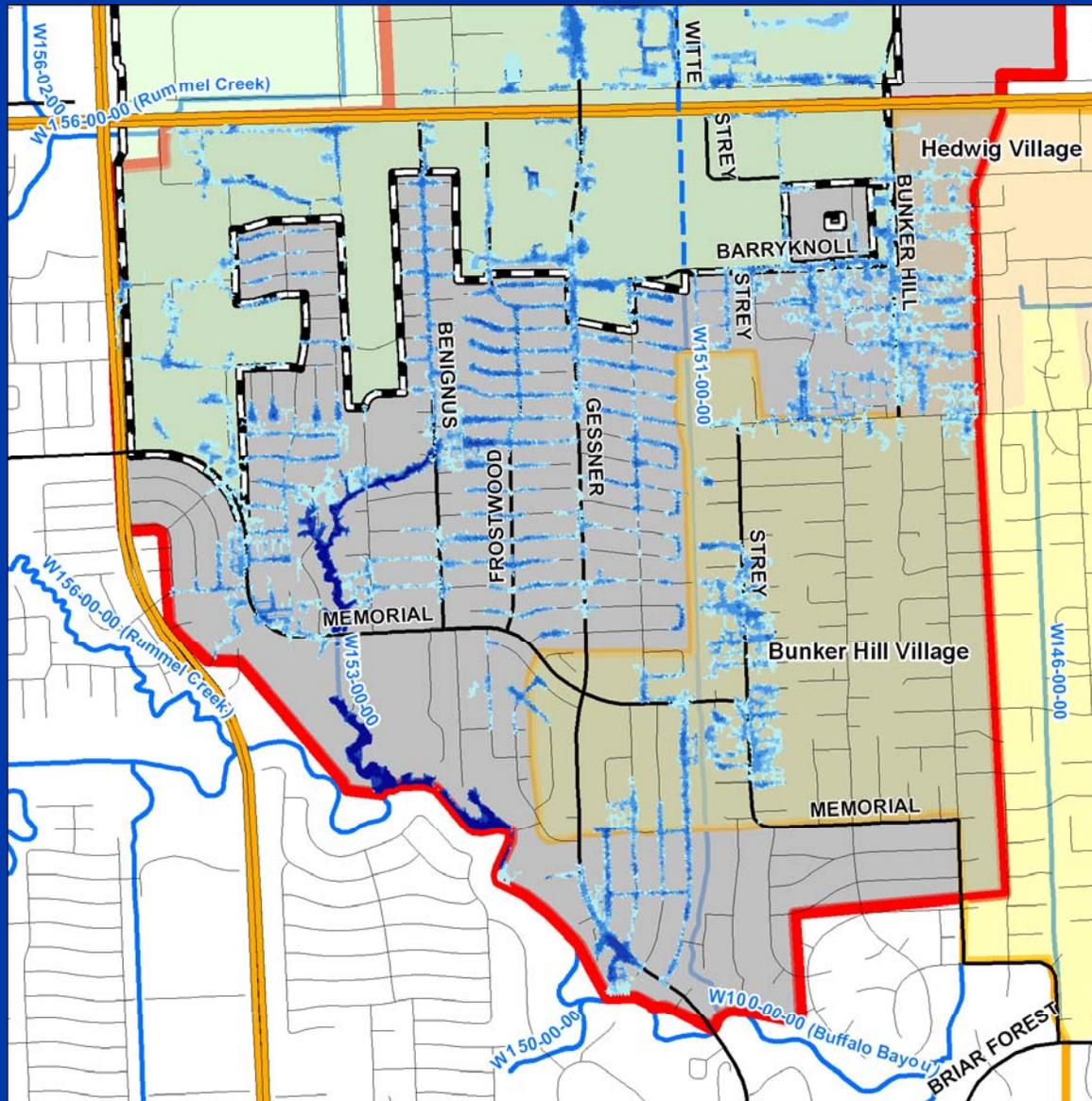


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South of IH-10 - 10-Year Event Existing Conditions

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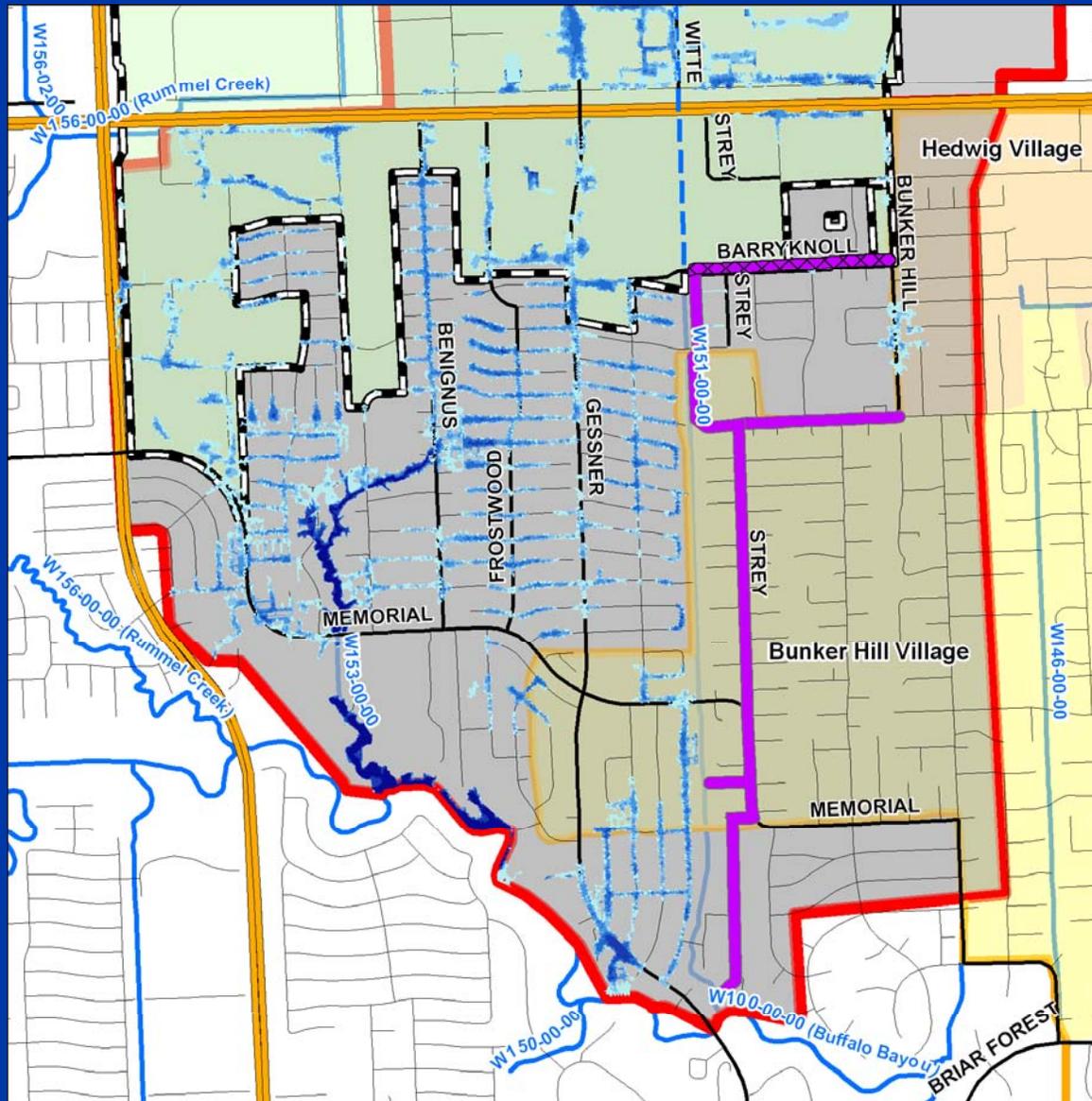
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South of IH-10 - Strey Lane, Barryknoll East, and Taylorcrest Improvements

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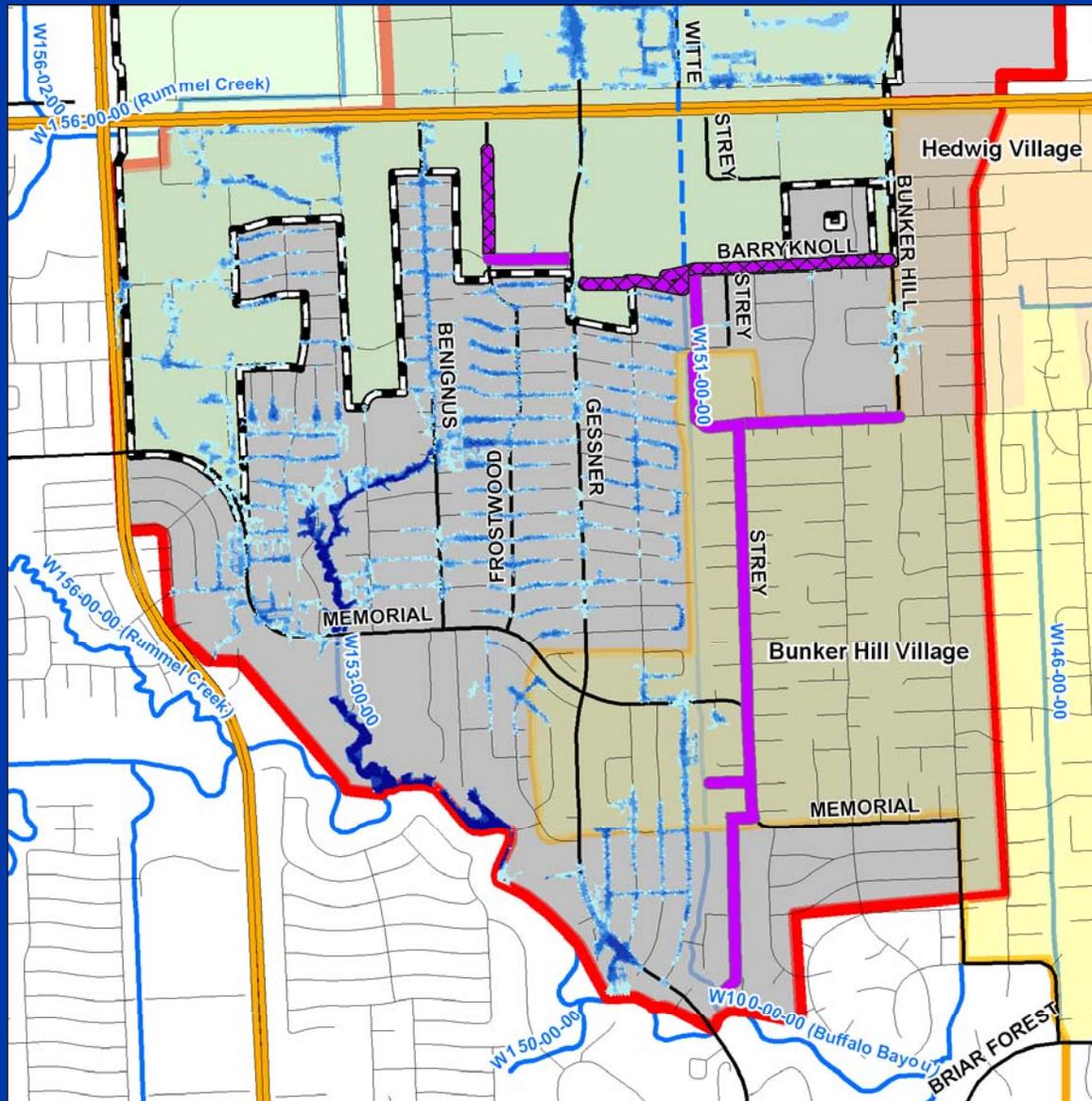
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South of IH-10 - Strey Lane, Barryknoll East and West, and Taylorcrest Improvements

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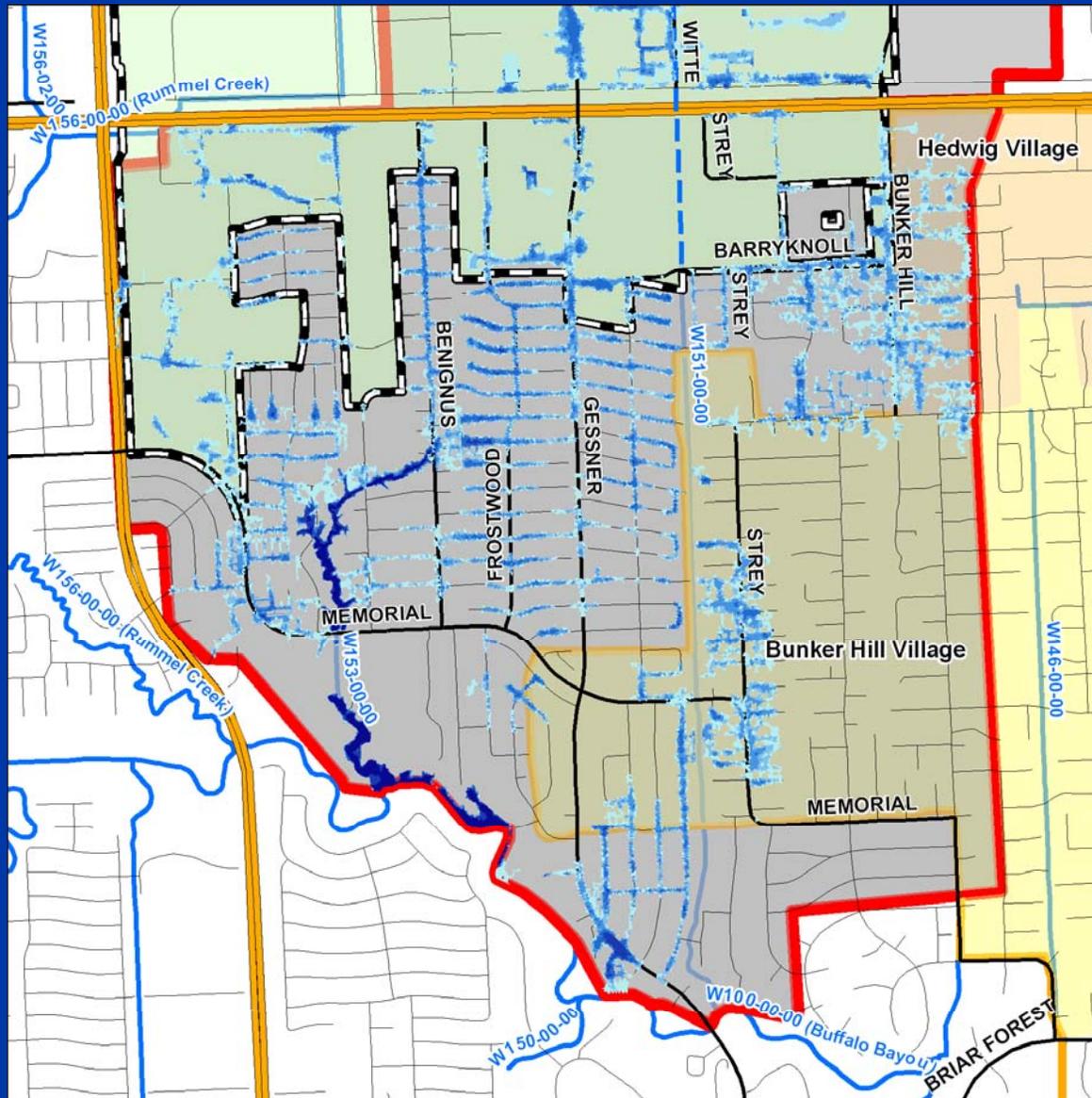
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South of IH-10 - 10-Year Event Existing Conditions

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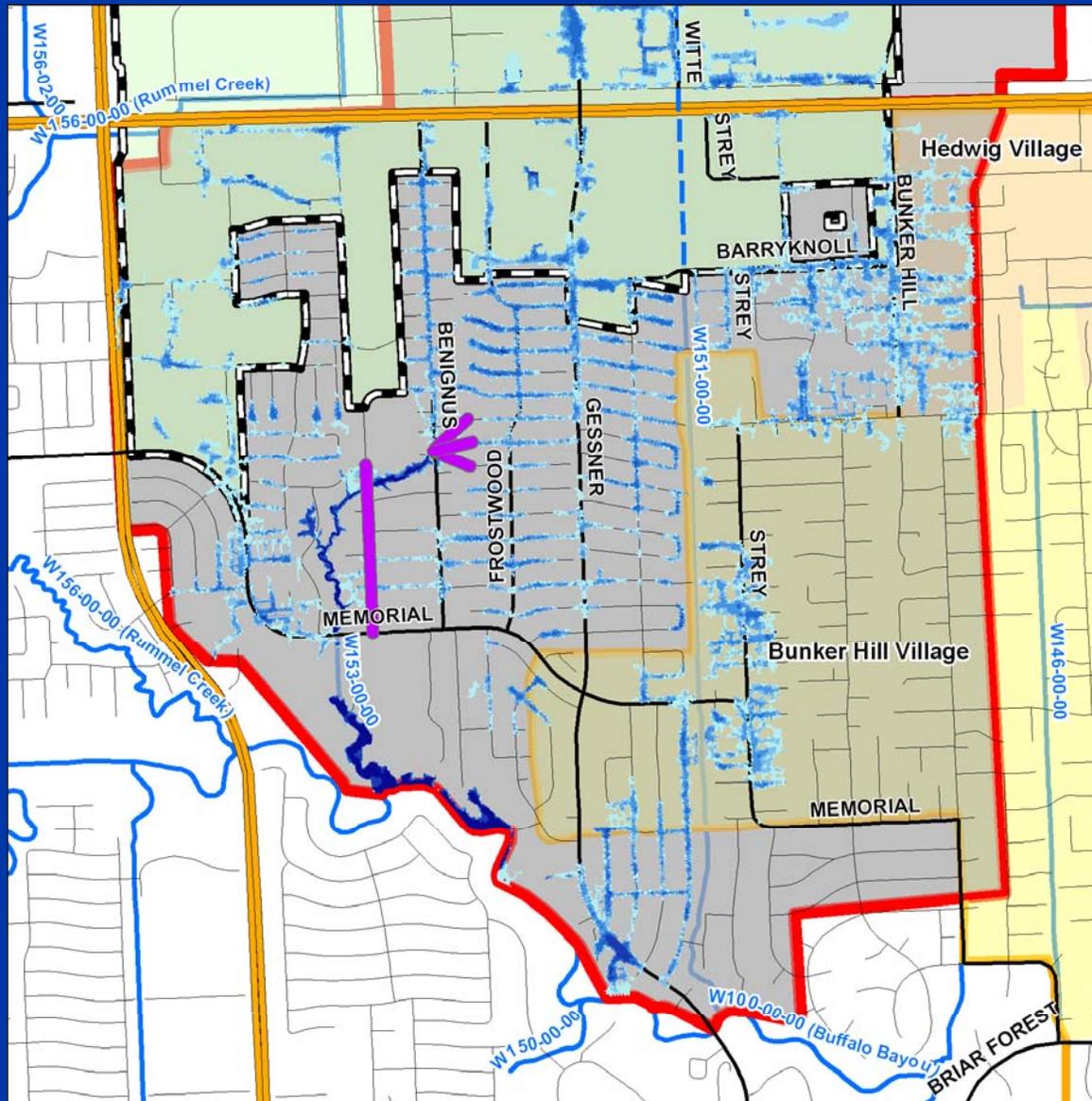
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South of IH-10 - W153 Frostwood & Tallowood Improvements

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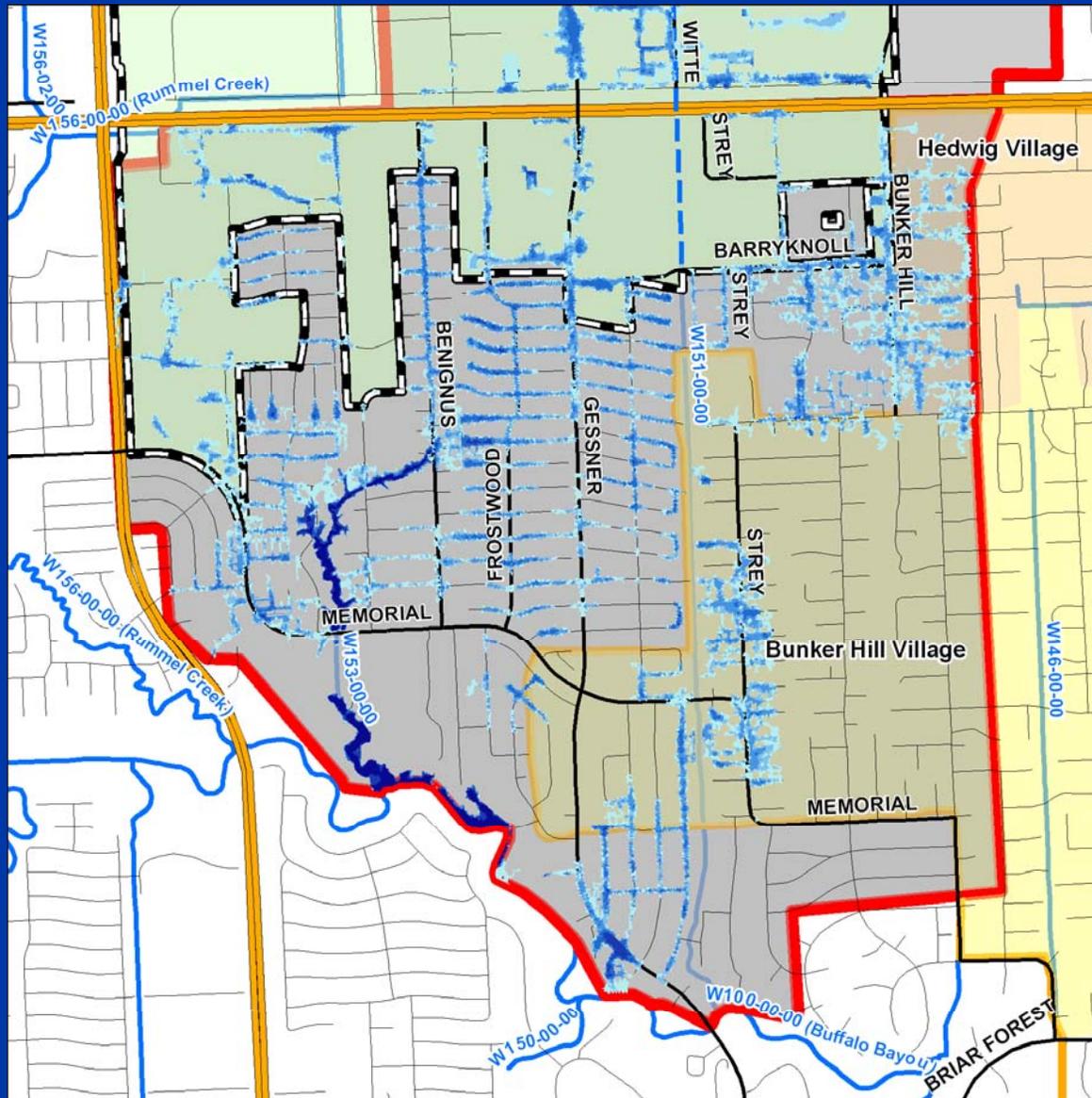
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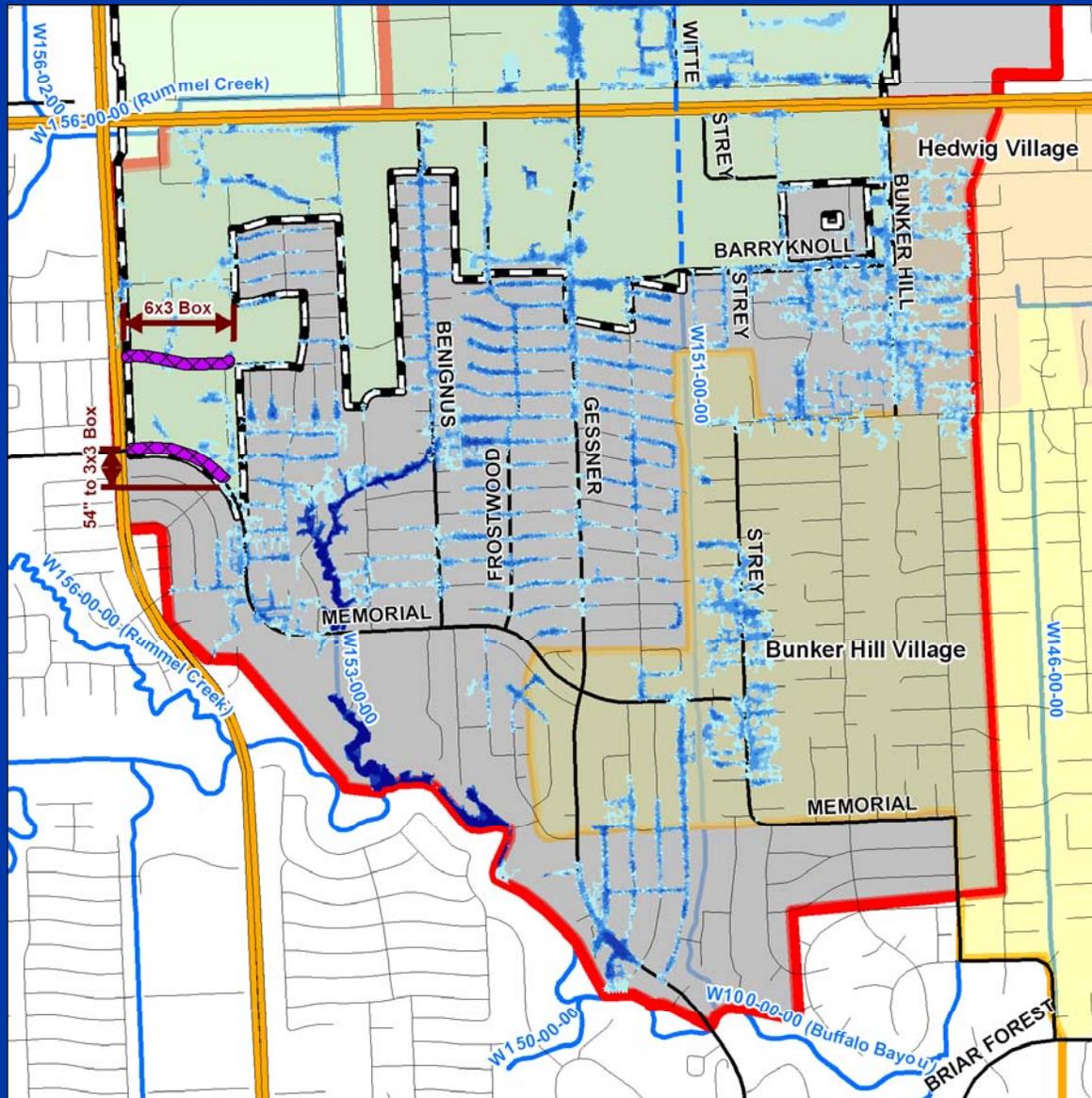
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South of IH-10 - Kimberley & Memorial West Improvements

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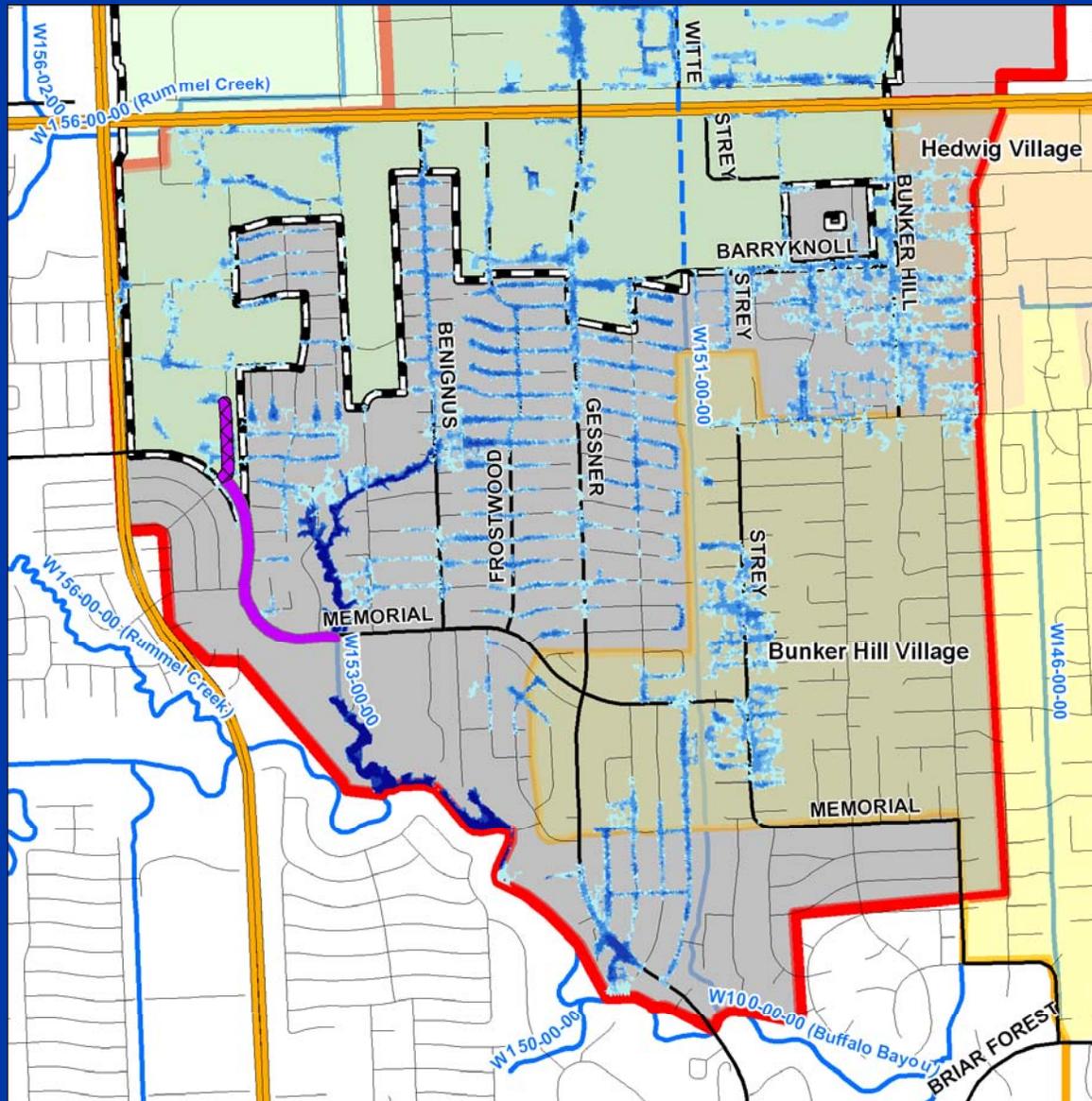
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South of IH-10 - Memorial West & West Bough Improvements

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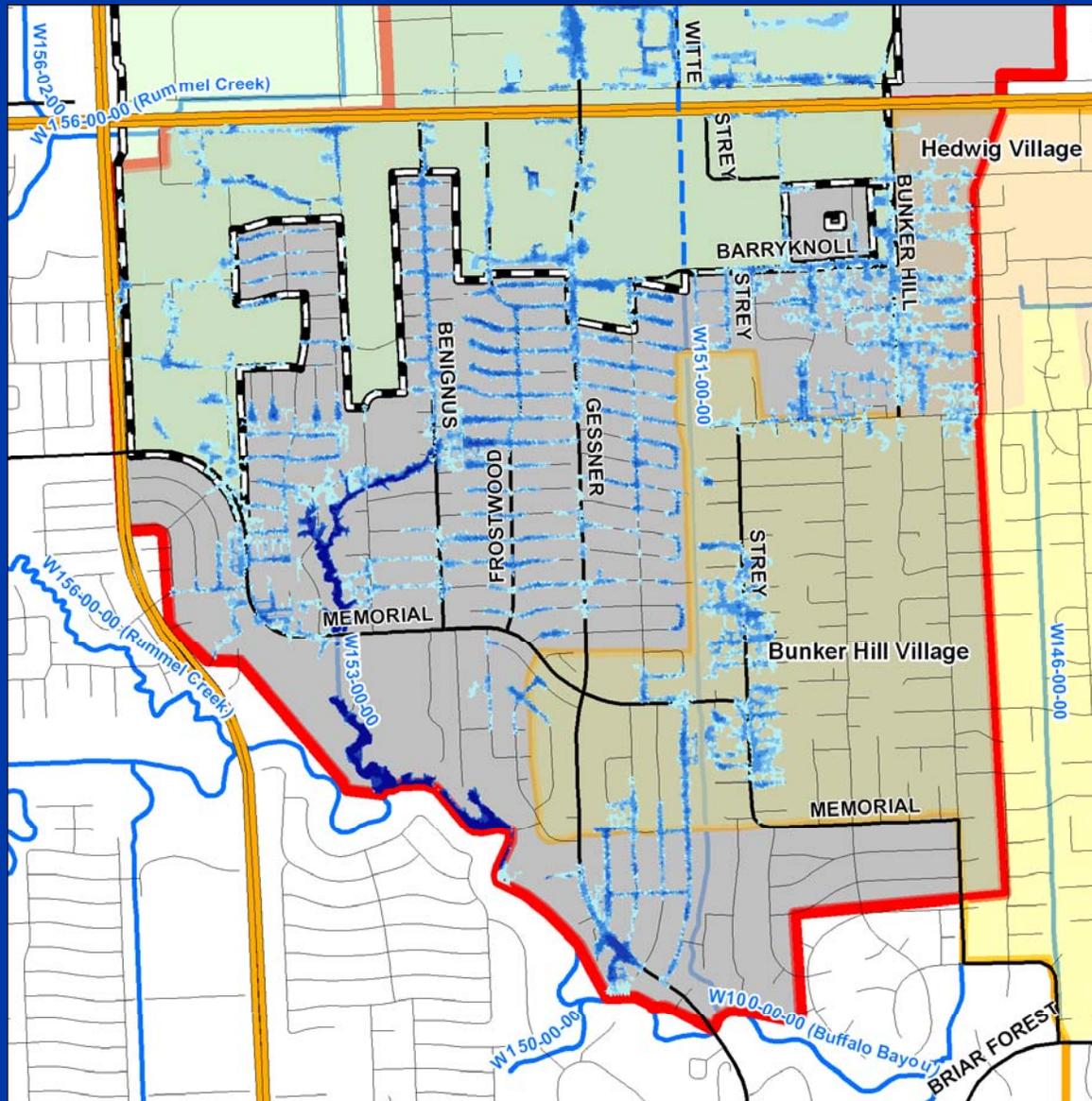
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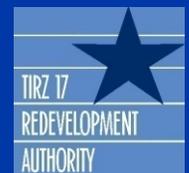
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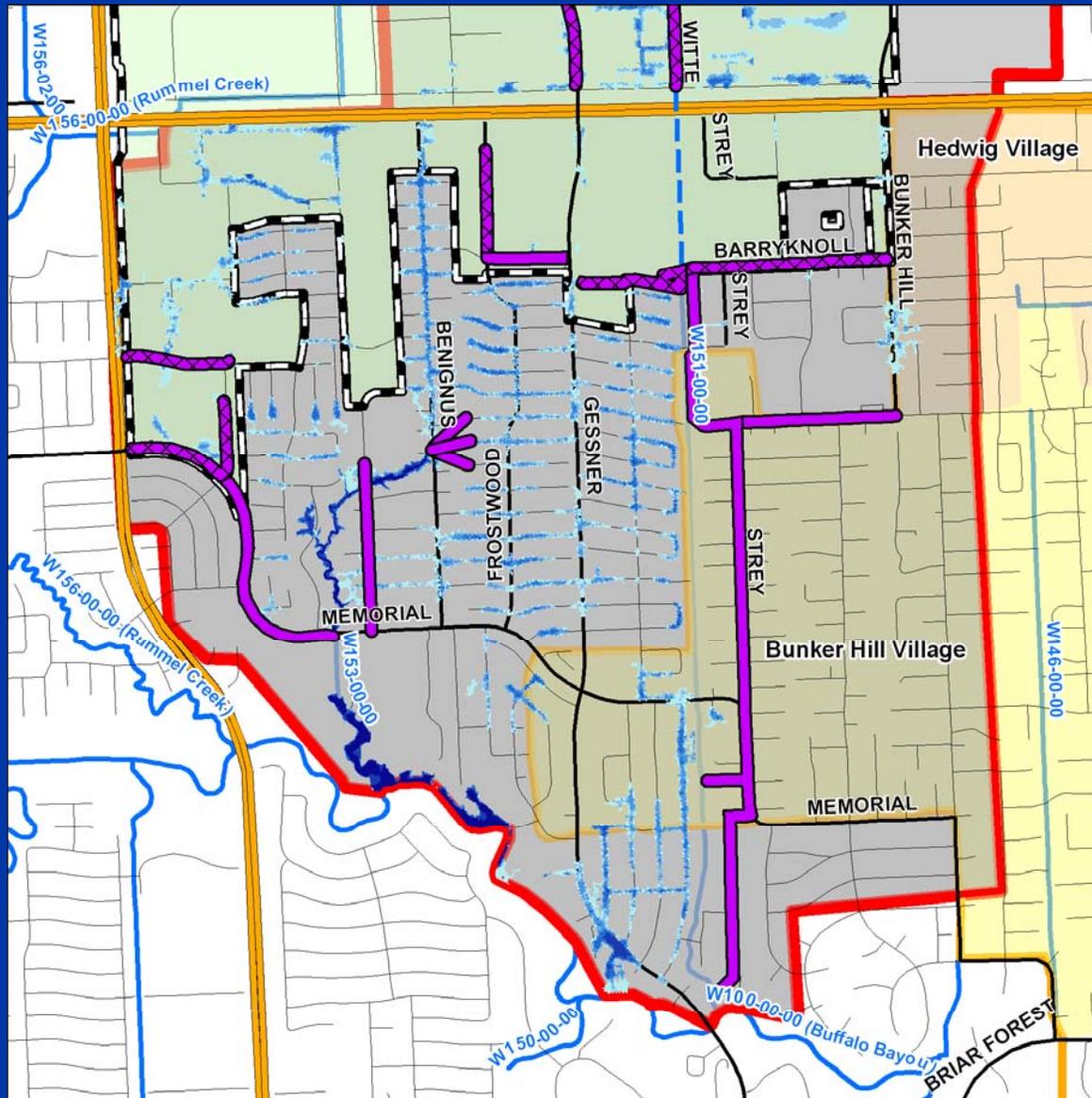
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South of IH-10 Overall Improvements

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South of IH-10 Summary

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- **HCFCD Strey Alternative Provides Higher Benefit vs. Original W151 Implementation Alternative**
- **Coordinating with HCFCD on Potential Detention on Buffalo Bayou**
- **Overall Solution Requires Construction of Existing TIRZ CIP Projects**
- **Study Confirmed**
 - Recommended Sizes for Kimberley and Memorial (West)
 - Both Projects Independent from other Proposed Drainage Improvements

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Next Steps

- **Continue to Identify Partners for Detention Opportunities North IH-10**
- **Continue to Work with HCFCFCD to Further Explore Detention Opportunities South of IH-10**
- **Finalize Design for TIRZ 17 Kimberley CIP Project and Proceed with Memorial CIP Project**

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Questions

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