North Central Texas Council of Governments

Technical Advisory Group Meeting #4

February 5, 2024

Welcome & Introductions

- Thanks for attending!
- Please introduce yourself in the chat box.
- Please mute your line and unmute your line when you would like to speak.
- We will also watch the chat box for questions

Agenda

I. Introduction

II. Recap of October 23rd Meeting

III. Update on Current Project Progress
   a. Updates since Last Meeting
   b. Proposed Dates For Grant Extension

IV. Technical Advisory Group Action Items
   a. Education and Outreach
   b. Funding
   c. Policy
   d. H&H
   e. Environmental

V. Next Steps

Recap of October 23rd Meeting

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October Meeting

Meeting Notes

- Presented an overview of the Stakeholder Engagement Plan efforts to date.
- Updated the group on Transportation funding opportunities and eligibility
- Provided progress report on the H&H Bridgeport Pilot Study
- Summarized project team's research on aquifer storage and recovery
- Reviewed new Texas legislation and Water Rights topics

Action Items

- Draft Stakeholder Engagement Plan
- Plan additional workshops
- Begin environmental planning work and Environmental Literature Review
- Apply modeling findings from the Pilot Study to the larger Study Area
- Project future stormwater fees

Update on Current Project Progress

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Progress to Date

2 Rounds of meetings with stakeholders in the study area

3 Technical Advisory Group meetings

2 Steering Committee meeting

15 Communities have provided GIS and non-GIS data

2 Workshops conducted

- Beginning planning for **2** additional workshops

2 Visits to observe challenges faced by small but developing cities

2 meetings with ULI's Mini-TAP Program

SME for Transportation has kicked off work

Submitted scope for GLO grant

Equity Engagement Plan written for North Study Area (FEMA)

Literature review has been completed and is under review

1D H&H Pilot Study completed

Proposals for H&H consultant being scored

Proposed Dates For Grant Extension

The project team is working with its funders to finalize the deliverable timeline for the project. Below are the proposed dates for the project's completion. The below dates are currently under review by the funders:

Draft Report	Project Completion	Final Report	Contract Expiration
July 10, 2026	August 31, 2026	November 20, 2026	April 30, 2027

Action Items

Stakeholder Engagement

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Stakeholder Engagement Plan

1. Identifying Stakeholders
2. Prioritizing Local Governments for Outreach
3. Preparing for Outreach to Local Government Staff
4. Following Up After Outreach to Local Government Staff
5. Addressing Equity
6. Reaching Rural and Agricultural Audiences
7. Reaching Business Audiences

1. Identifying Stakeholders

- Municipality and County Staff
- Municipality and County Elected Officials
- Rural and Agricultural Stakeholders
- Business Stakeholders
- NCTCOG Emergency Preparedness and Economic Development Departments
- **Additional audiences?**

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2. Prioritizing Local Governments for Outreach

- Flood history
- Growth rate and control over growth
- Presence of relevant ordinances or other flood mitigation activity
- Participation or non-participation in National Flood Insurance Program
- Resources and professional capacity to address flood mitigation
- Interest in TSI study and goals
- Existing flood mitigation infrastructure
- **Additional priorities?**

3. Preparing for Outreach to Local Government Staff

- Update contact lists
- Conduct preliminary outreach and identify preferred means of communication
- Provide TSI overview
- Share information gathered in Step 2, Prioritizing Local Governments for Outreach
- Schedule site visit and windshield tour
- Develop custom presentation
- Conduct visit
- Prepare follow-up questions
- **Additional preparation?**

4. Following Up After Outreach to Local Government Staff

- Seek meeting with elected officials
- Plan to meet with elected officials multiple times over project
- Provide quarterly follow-up communications
- Develop factsheet or other summary of site visit and meeting with elected officials
- **Additional follow up?**

5. Addressing Equity

- FEMA grant for equity-based outreach in North Central Texas
- FEMA equity definition
  - Communities of color
  - LGBTQ+
  - Persons with disabilities
  - Religion, national origin, Limited English Proficiency
  - Rural residents
- Flood risk faced by these groups
- Greater participation
- Equity-related discussions
- **Additional ways to incorporate equity?**

6. Reaching Rural and Agricultural Audiences

- Identify stakeholders
  - AgriLife Extension Service
  - Natural Resources Conservation Service
  - Soil and Water Conservation Districts
- Attend existing meetings of these groups
- **Additional ideas?**

7. Reaching Business Audiences

- NCTCOG's Economic Development Department
- Real estate councils
- Chambers of commerce
- Independent flood insurance providers
  - Contacts from NCTCOG's Emergency Preparedness Department
- **Additional ideas?**

Funding

FUNDING STRATEGIES FOR FLOOD MITIGATION

Where can we get the money?

LOCAL REVENUE

Common Funding Sources	Amount	Benefits & Challenges	Community Examples
Direct User Charges	$ - $$	+ Predictable revenue – Challenging to determine acceptable fees – Fees based on impervious surface have higher administrative overhead than flat fees	
Local Sales Taxes	$ - $$	+ Predictable revenue – Politically challenging: Requires State and voter approval	
Shared Costs and Joint Agreements	$ - $$	+ Spreads cost among partners + Adding partners can increase funding availability and capacity – Collaborative process can be time-consuming	
Special Assessment Districts	$ - $$	+ Raises revenue without adding a new tax – Shifts municipal finance allocations in ways that may be controversial	

FUNDING STRATEGIES FOR FLOOD MITIGATION

Where can we get the money?

PRIVATE & PHILANTHROPIC

Common Funding Sources	Amount	Benefits & Challenges	Community Examples
Affect Investing and Environmental Impact Bonds	$$$	+ Provides upfront money – Hinges on investors being repaid by entities who benefits from predictable cost savings – Less commonly used and will require explanation to public and decision makers	
Public-Private Partnerships (P3s)	$$ - $$$	+ Leverages private money for public projects + Shares risks and benefits – Susceptible to economic downturns – Less commonly used and will require explanation to public and decision makers	
Community and Corporate Foundations	$$	+ Grants (as opposed to loans to be paid back) – Every foundation has different processes – Competitive, and timing/availability may be inconsistent	

FUNDING STRATEGIES FOR FLOOD MITIGATION

Where can we get the money?

FEDERAL GRANTS & LOANS

Common Funding Sources	Amount	Grant Program (* Local Match Required)	Benefits & Challenges
Federal Emergency Management Agency (FEMA)	$$$	• Hazard Mitigation Grant Program * • Flood Mitigation Assistance Program * • Building Resilient Infrastructure and Communities Program (BRIC) *	+ May be necessary for larger-scale projects + Includes some low-interest loans and grants (money that does not need to be paid back) – Very competitive – Local match sometimes required, and leveraging of added local/non-Federal resources may be measured criteria – Time consuming processes for application development and reporting requirements
Housing & Urban Development (HUD)	$ - $$	• Community Development Block Grant Program (CDBG)	
Department of Agriculture	$$$	• Community Facilities Direct Loans and Grants * • Water & Waste Disposal Loan and Grant Program • Conservation Innovation Grants * • Special Evaluation Assistance for Rural Communities • Small Business Innovation Research	
US Fish & Wildlife Service	$$$	• North American Wetlands Conversation Small Grant & Standard Grant Programs * • National Urban and Community Forestry Challenge *	

FUNDING STRATEGIES FOR FLOOD MITIGATION

Where can we get the money?

FEDERAL GRANTS & LOANS (cont.)

Common Funding Sources	Amount	Grant Program (* Local Match Required)	Benefits & Challenges
Department of Transportation (USDOT)	$ - $$$	• Promoting Resilient Operations for Transformative, Efficient, & Cost-Saving Transportation (PROTECT) * • National Culvert Removal, Replacement, & Restoration Grant Program * • Thriving Communities Program * • Nationally Significant Federal Lands & Tribal Projects Program (NSFLTP) * • Port Infrastructure Development Grant Program (PIDG) * • Bridge Investment Program (BIP) * • Healthy Streets Program * • Reconnecting Communities & Neighborhoods Program * • Advanced Transportation Technology & Innovation Program (ATTAIN) * • Strengthening Mobility & Revolutionizing Transportation Program (SMART) * • Assistance for Local Emergency Response Training (ALERT) Grant Program	+ May be necessary for larger-scale projects + Includes some low-interest loans and grants (money that does not need to be paid back) – Very competitive – Local match sometimes required, and leveraging of added local/non-Federal resources may be measured criteria – Time consuming processes for application development and reporting requirements

FUNDING STRATEGIES FOR FLOOD MITIGATION

Where can we get the money?

FEDERAL GRANTS & LOANS (cont.)

Common Funding Sources	Amount	Grant Program (* Local Match Required)	Benefits & Challenges
Environmental Protection Agency (EPA)	$ - $$$	• Climate Pollution Reduction Grant Program (CPRG) * • Source Reduction Assistance Program * • Urban Waters Small Grants • Greening America's Communities • Environmental Justice Collaborative Problem-Solving • Diesel Emissions Reduction Act (DERA) National Grants Program *	+ May be necessary for larger-scale projects + Includes some low-interest loans and grants (money that does not need to be paid back) – Very competitive – Local match sometimes required, and leveraging of added local/non-Federal resources may be measured criteria – Time consuming processes for application development and reporting requirements
Economic Development Administration (EDA)	$$ - $$$	• Economic Adjustment Assistance (EAA) Program * • Public Works Program *	

FUNDING STRATEGIES FOR FLOOD MITIGATION

How can we get the money?

Who do we need to convince?	What matters to these folks? Example pitches.	What evidence can we use? $ (least expensive) – $$$ (most expensive)
 Local Elected Officials	Community health, safety, & welfare; competing demands & priorities; budgets; electability • Project creates jobs and brings new funding to the area • Protecting the community is worth the cost • Project is a "win-win" for all affected parties • Project complements municipal plans & departmental strategies • Project reduces climate changes impacts on underserved populations and/or communities	$ Show budget & planning process impacts $$ Use neighborhood-level data and from familiar peer municipalities $$$ Estimate budget savings with built alternative
 Local Taxpayers	Fees; taxes; quality of life; community/economic stability & vitality • Small investment now will avoid tragedy with big future loss • Our neighbors are participating • Project will provide safe & reliable transportation • Project will improve neighborhood safety	$ Show similar projects have increased property values $$ Identify savings from decreased flood risk and lowered insurance premiums $$$ Share data from questionnaires, surveys, & public meeting comments
 Local Business Owners	Regulation predictability; economic impacts/efficiency; avoid debt • Project creates jobs and brings new people/investment to the area • Good return on investment (ROI) • Local economic drivers may be sustained or enhanced	$ Identify population/employment data trends to explain how project can contribute to economic development $$ Estimate protected or created jobs & income resulting from the completed project

FUNDING STRATEGIES FOR FLOOD MITIGATION

How can we get the money?

Who do we need to convince?	What matters to these folks? Example pitches.	What evidence can we use? $ (least expensive) – $$$ (most expensive)
State/Federal Agency Partners	Quantifiable costs/benefits; reliable & logical data/methodologies • Protecting the community is worth the cost • Doing "Y" will most likely result in "Z" • Avoidance of damage and expenses from natural hazards • Project increases safety for both people and infrastructure	$ Get letters of support to demonstrate buy-in $$ Compare costs of different actions to achieve a specific goal $$$ Estimate cost-effectiveness through a benefit-cost analysis (BCA) $$$ Estimate positive impacts on amenities people value (health, clean air, recreation, etc.)
Foundations, Philanthropy, & Impact Investors	Climate change impacts on people/environment; future generation obligations; equitable outcomes; environmental stewardship • Climate change threatens the world as we know it – we must act • Project improves racial and environmental justice • Project improves clean air/water & fosters abundant wildlife • Project provides green infrastructure & alternative energy uses • Project is the right thing to do for future generations • Project supports neighborhood decision-making	$ Show how project will benefit underserve individuals & neighborhoods $ Take compelling photos, organize site visits, get quotes from community members who will benefit $ Show how philanthropic investment will catalyze or leverage additional funding $$ Explain who will bear costs & who will receive potential benefits

Policy

Policy

Water Rights Workshop Update

- Planning meeting with potential speakers next week
- Topics of interest:
  - Water rights application to TSI strategies e.g., green stormwater infrastructure, nature-based solutions
  - Certificates of Convenience and Necessity
  - Other water rights suggestions related to stormwater/flooding?
- Target Date May 2024

Source: Dr. Fouad Jaber, Texas AgriLife

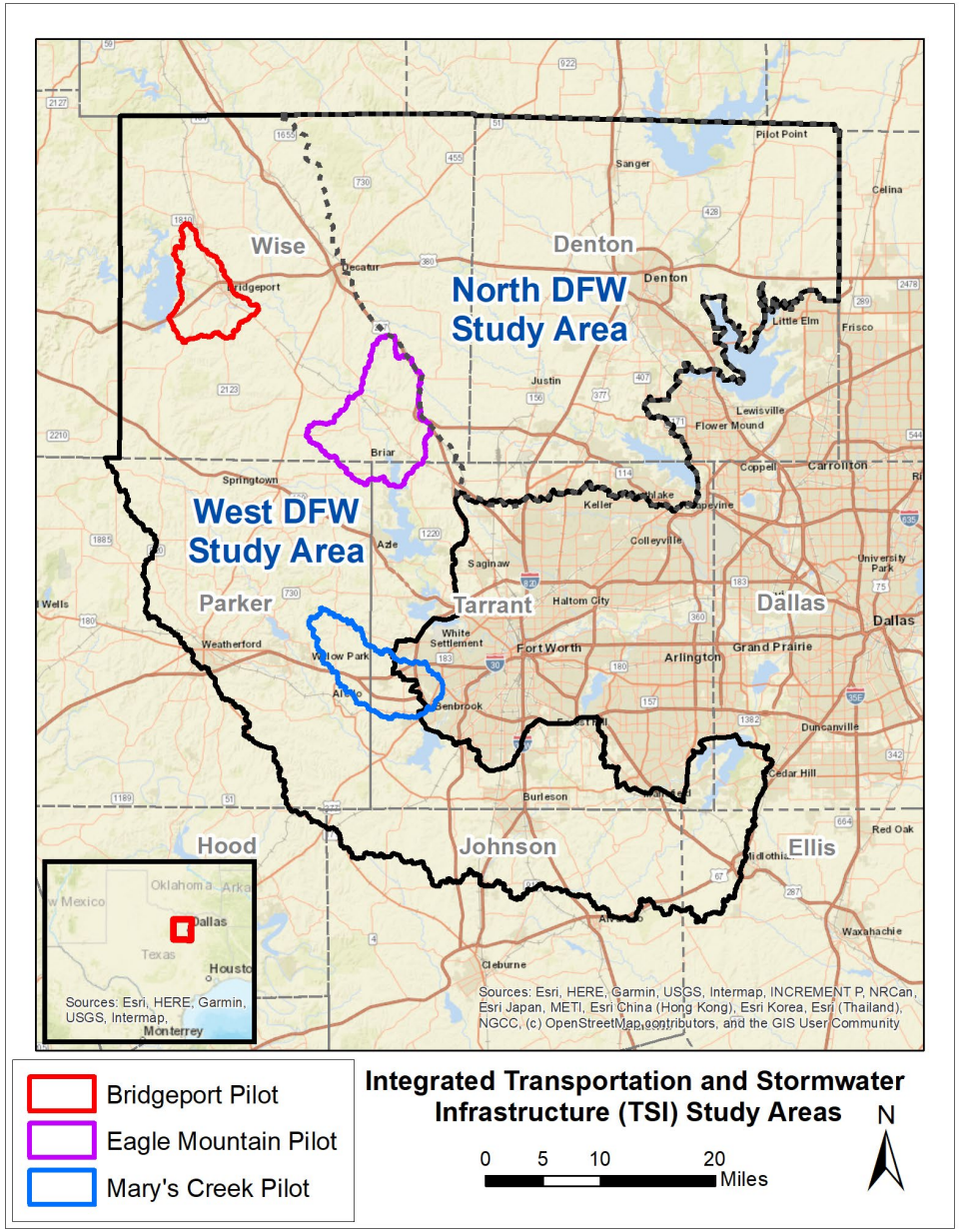
Hydrology & Hydraulics

Data and Technical Topics

H&H Pilot Study Update

Pilot Study Locations and Updates:

- **Intent:** to develop and test approach for larger effort
- Bridgeport:
  - Finalized initial H&H pilot study in late 2023
- Eagle Mountain and Mary's Creek:
  - Completing more comprehensive H&H pilot studies, including:
    - Hydrology approach development and technical enhancements
    - Hydraulics approach development and technical enhancements
    - Optimization study and urban drainage methodology refinement



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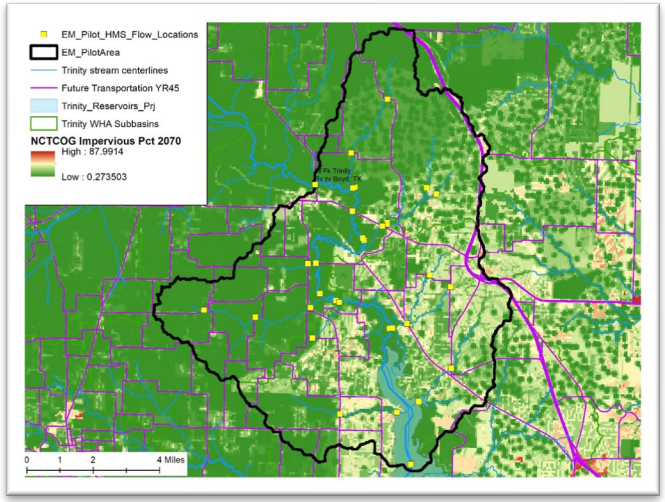
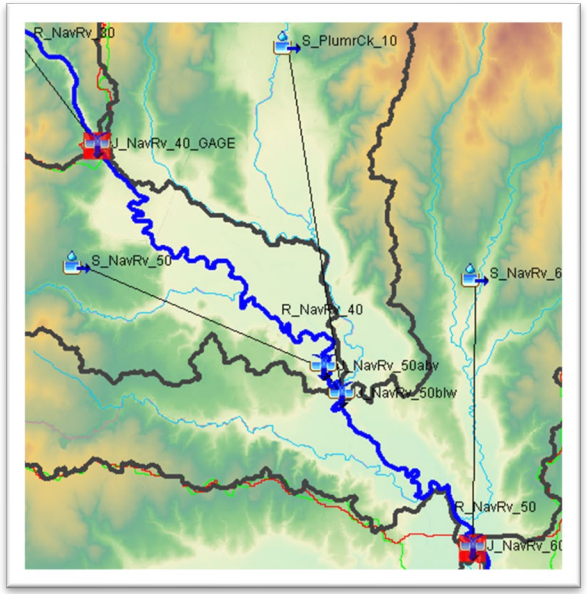
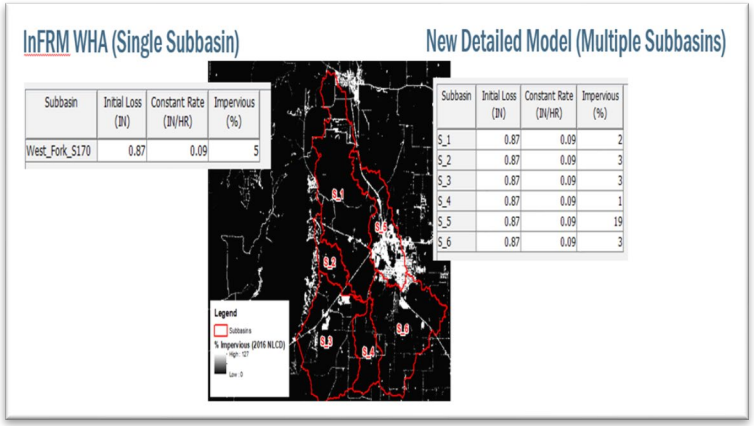
Data and Technical Topics

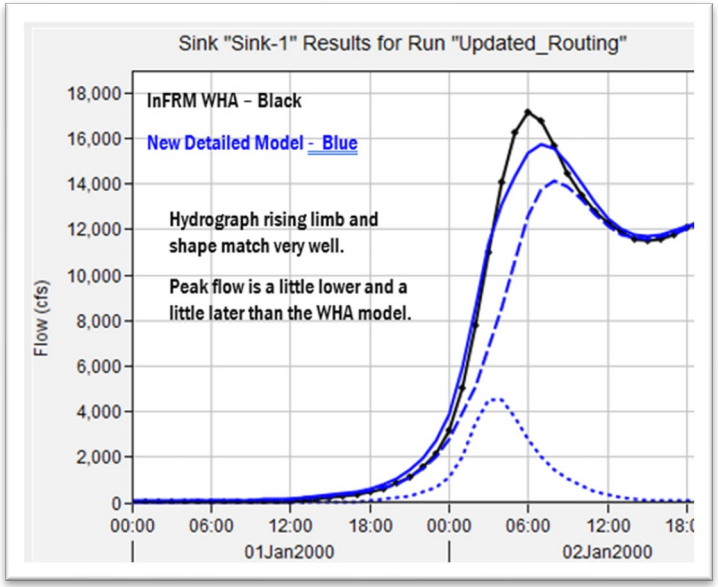
Hydrology Approach

- Testing and refining enhancements of InFRM Watershed Hydrology Assessment (WHA) to ensure quality & applicability:
    1. Delineate additional subbasins in HEC-HMS
    2. Update HMS element names and descriptions
    3. Calculate initial HMS parameters
    4. Calibrate to InFRM WHA results
    5. Update the HMS basin model for TSI current and future conditions
    6. Run TSI storm scenarios
    7. Model documentation
    8. Submit final HMS model for review and use for team members









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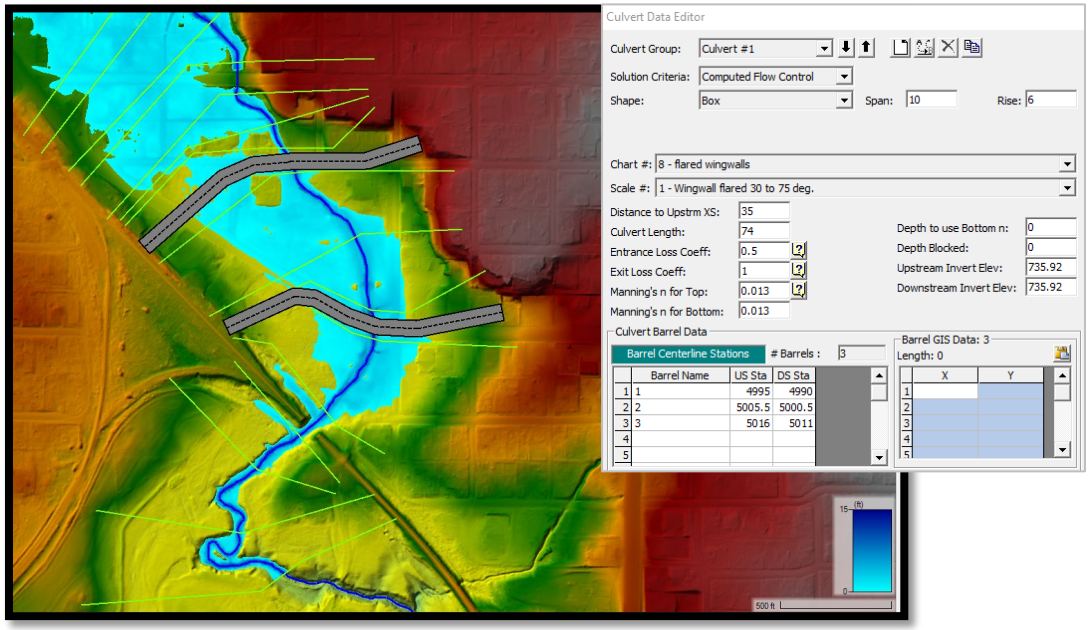
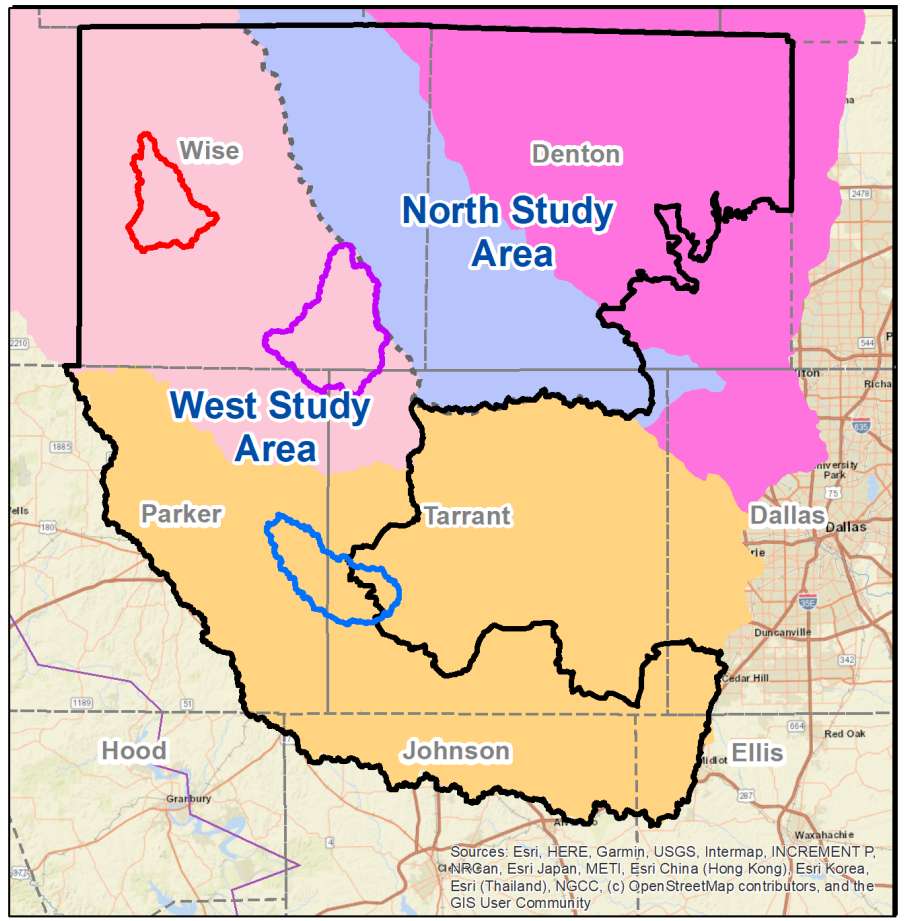
Data and Technical Topics

Hydraulics Approach

- Enhance hydraulic models to ensure accuracy and usability:
  - Reviewing and defining approach for enhancing Base Level Engineering (BLE) & potentially other hydraulic models
    - Exploring 1D vs 2D model considerations
    - Testing approaches, adding detail (such as hydraulic structures), urban drainage, determine environmental constraints, establish recurrence intervals, incorporate current/future flows, optimization scripting, etc.





TSI Pilot Areas with BLE (as of FEB 2024)

- Eagle Mountain Pilot Area
- Mary's Creek Pilot Area)
- Bridgeport Pilot Area
- Denton: BLE AVAILABLE ON VIEWER (1D STUDY)
- Elm Fork Trinity: BLE AVAILABLE ON VIEWER (1D STUDY)
- Lower West Fork Trinity: BLE COMPLETE & ON VIEWER SOON (2D STUDY)
- Upper West Fork Trinity: BLE AVAILABLE ON VIEWER (1D STUDY)

0 5 10 20 Miles

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BLE Viewer Link: https://webapps.usgs.gov/infrm/estBFE/

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Data & Technical Topics

- Data to support riverine modeling
- Downstream release from reservoirs, detention ponds
  - Any factors that could increase flow or affect aquatic populations
- Streams
  - Channelized or natural?
  - Width of riparian area?

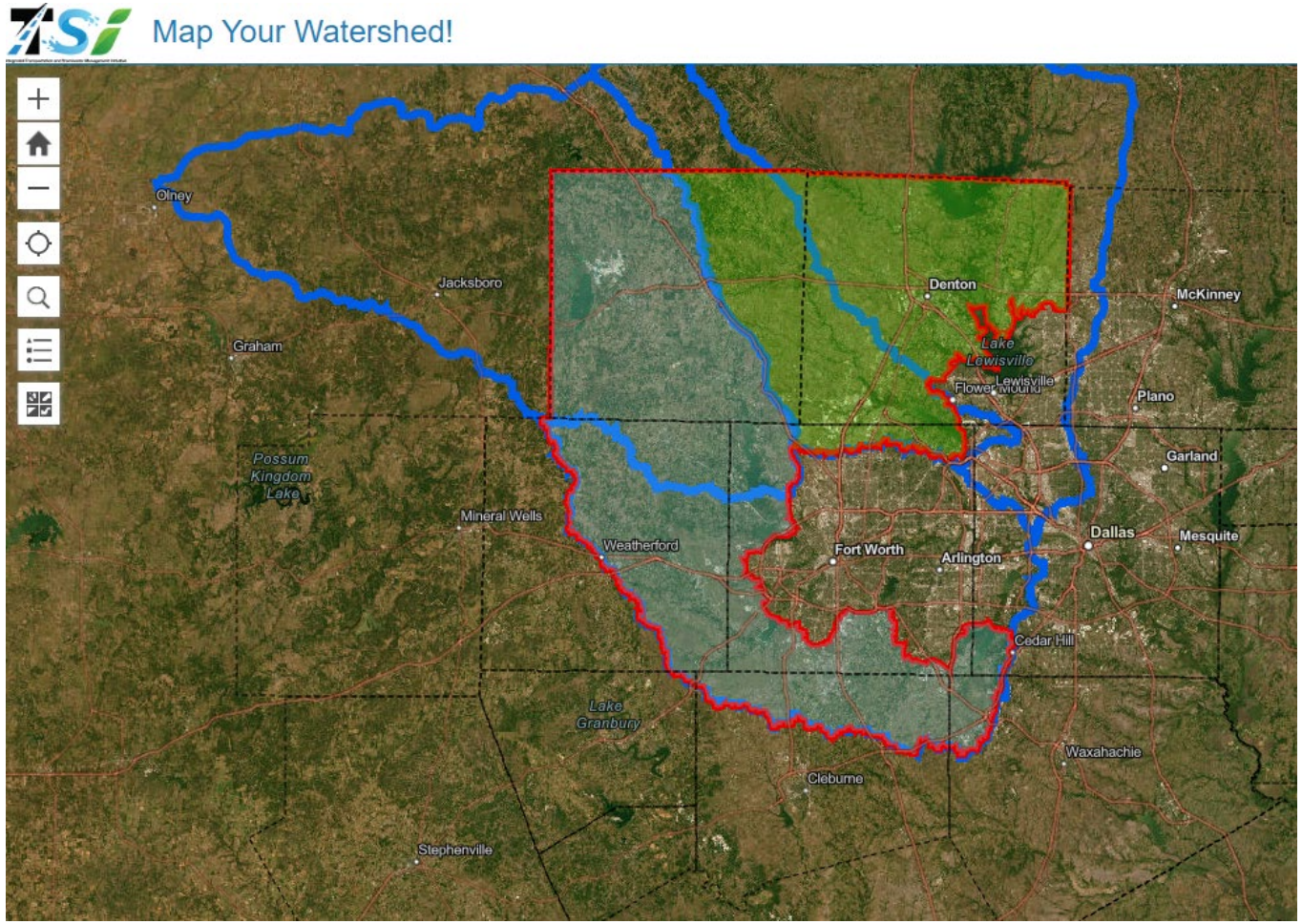
Data & Technical Topics

- Data to support urban drainage modeling
- Gray infrastructure
- Inputs to models of soil and water assessment, ecosystem functioning, and storm water management, including locations of:
  - Detention ponds
  - Nature based solutions
  - Green stormwater infrastructure
  - Velocity control efforts
  - Erosion control efforts
  - BMPs

Environmental

Community Input With: Map Your Watershed!

Map Your Watershed! allows users to identify infrastructure and environmental features that face frequent flooding and mitigate flooding. These features include low water crossings; green infrastructure, such as detention ponds; or open space planned for enhancement, such as recreation trails. Please identify any other features you believe are relevant to the TSI project.



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Next Steps

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Technical Advisory Group Survey

- The TSI project team is looking for input from the Technical Advisory Group on best practices to demonstrate the value of this project to the study area communities as well as implement the findings of the research.
- We are also seeking input and suggestion on what changes can be made to increase engagement in the program.
- We will send out a survey to be filled out before our next meeting.

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