Basin I – Unmetered Sanitary Sewer Flow Council Briefing

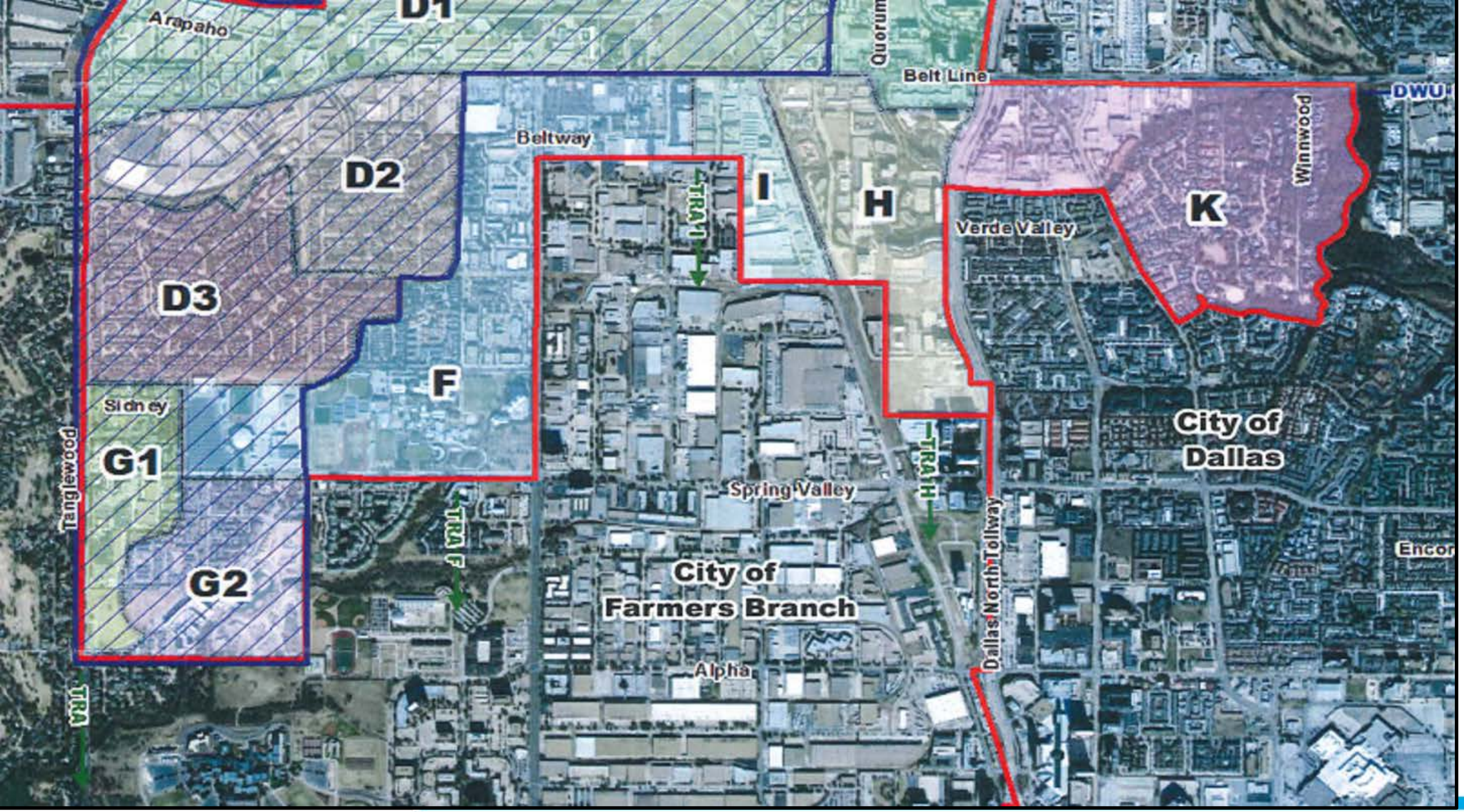
April 24, 2018

Background

- 1964 - 50-year Agreement between Farmers Branch and Addison allowing effluent from Addison into Farmers Branch's system
- Early 1990s - To accommodate increased development, Addison and Farmers Branch began talks for an interim agreement for the construction of a sanitary sewer tunnel
- 1991 - North Dallas County Water Supply Corporation was formed
  - For joint design, finance, construction, ownership, operation, and maintenance of Eastside Interceptor Sewer System
- 1996 - Construction of interceptor tunnel for sanitary sewer service was complete

Background

- One sanitary sewer basin in Addison remains unmetered – Basin I
- Sewage flow goes into Farmers Branch's system via an unmetered manhole
- Addison pays Farmers Branch for the use of their system per the terms of an interim agreement that expired on November 6, 1995
  - Addison pays FB a fee based on 80% of the water usage in the basin
  - Limits on amount of flow allowed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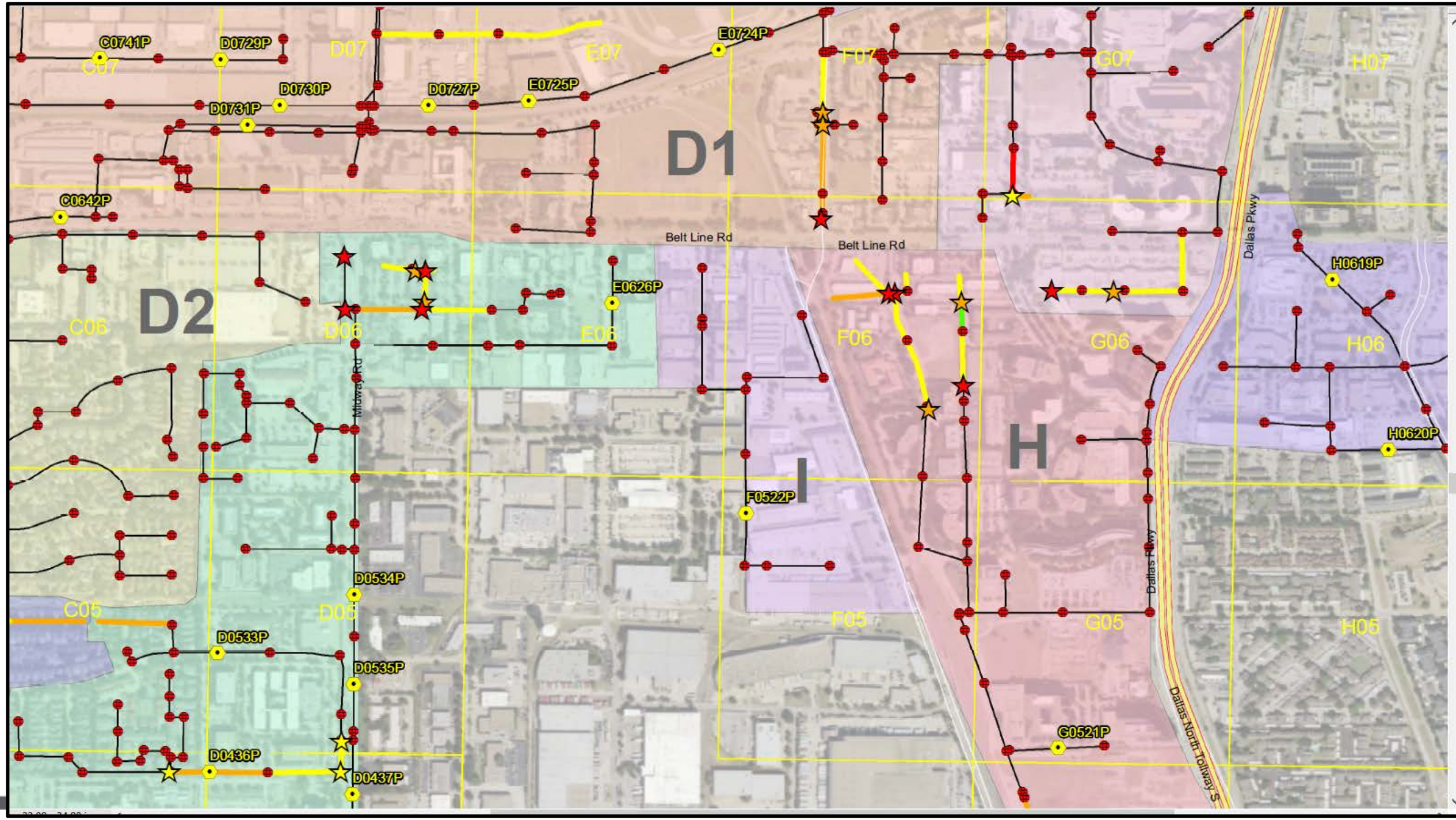
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Current Situation

- October 2017 – Farmers Branch notified Addison that the unmetered flows in Basin I will need to be metered or a new agreement with Farmers Branch will be needed.
- January 11, 2018 – Addison requested to begin discussions on a new agreement to allow Addison's sewage to flow through Farmers Branch's system to Trinity River Authority (TRA)
- January 15, 2018 – Farmers Branch notified Addison that they should work with TRA to install a metering station for the flow in Basin I
- Addison engaged a consultant to develop alternatives for metering the sanitary sewer flow
- Discussions with TRA's confirm the metering station must meet all TRA requirements

Three Alternatives Considered

- Alternative A:
  - New TRA approved metering station to measure sanitary sewer flows discharged into Farmers Branch's system
- Alternative B:
  - New gravity sewer collection line to re-route sewer flows away from Farmers Branch's system to adjacent Addison basin already connected to TRA meter station
- Alternative C:
  - New lift station and force main pipeline to re-route sewer flows away from Farmers Branch's system into an adjacent Addison sewer basin that is connected to a TRA meter station

Estimated Capital Cost of Each Alternative

Alternative	Description	Total Cost*
A-1	Construct Metering Station – Continue to use Farmers Branch's system to convey sewage flows	$1,377,388
B-1	Gravity Flow using Beltway Drive – redirects flow into existing TRA system	$1,617,513
B-2	Gravity Flow using easements – Redirects flow into existing TRA system; requires new easements	$1,466,714
C	Lift station, gravity flow line, and force main line – Requires new easements/property acquisition	$746,603 - $772,764

*Includes capital costs and design of plans and specifications, contract administration, construction testing and inspection, estimated land acquisition, and other related costs

Business Case Evaluation

Town of Addison
Basin 1 Service Area Wastewater Conveyance Options
Business Case Evaluation

		Sensitivity Adjustments (%)			Results ($000s)		
Organization:	Town of Addison						
Project/Problem:	Basin 1 Service Area Wastewater Conveyance Options	Benefits	Capital Costs	Running Costs	Capital Cost	60-yr NPV	Benefit
Option 1	B-1 Gravity sewer line				$1,617,513	($1,763,950)	
Option 2	C-1 Lift station at 15001 E. Beltwood Pkwy parking lot				$746,603	($2,551,905)	($787,955)
Option 3	C-2 Lift station at 15004 Beltway Drive parking lot				$772,764	($2,593,735)	($829,785)

Year of analysis:	2018
Escalation rate:	3.00%
Discount rate:	2.00%

Assessment of alternatives that do not require use of Farmers Branch's system:

- Over 60-year life cycle, Option B-1 is most cost effective option - $787,955 and $829,785 benefit over lift station option
- Lower on-going operations, maintenance, and refurbishment costs

Other Non-Financial Considerations

	Other Non-Financial Factors for Consideration
B-1: Gravity Sewer System	**Positive** • Underground, no going interference with above ground uses • No noise or smell • Very low maintenance **Negative** • Longer construction period compared to other options • Disruption of traffic at a Midway Road intersection • Greater impact on business disruption
C-1: New Lift Station at 15001 E. Beltwood Pkwy Parking Lot Location	**Positive** • Shorter construction time • Less impact on surrounding businesses
C-2: Construct a new lift station at 15004 Beltway Dr. (Addison Park Place Building 1 Parking Lot)	**Negative** • Not visually pleasing for neighbors • Potential for noise and smell complaints • More need for maintenance (e.g., gate, fence, paint) • More potential for failure (e.g., outage, leaks) • Potential issue with right-of-way • Requires property acquisition via easements or fee simple • Need for security to prevent vandalism and illegal entry • The system would either need to be over-sized now in anticipation of future growth along Inwood or would have to be made larger when growth occurs

Recommendation

Alternative B-1:

- Gravity system using Beltway Drive to connect with Addison system in Midway Road
- Redirects flow to an existing TRA metered basin
- Allows for future growth without constraints from other jurisdictions
- No agreement needed with Farmers Branch
- Long term maintenance of gravity system lower than lift station

Next Steps

- Consideration of contract for engineering design on May 22nd agenda
- Schedule for design and construction
  - Design – 6 months: land survey, subsurface utility exploration, geotechnical analysis, design, and property acquisition, if needed
  - Construction - 10 months
  - Anticipated in service summer 2019

Questions?