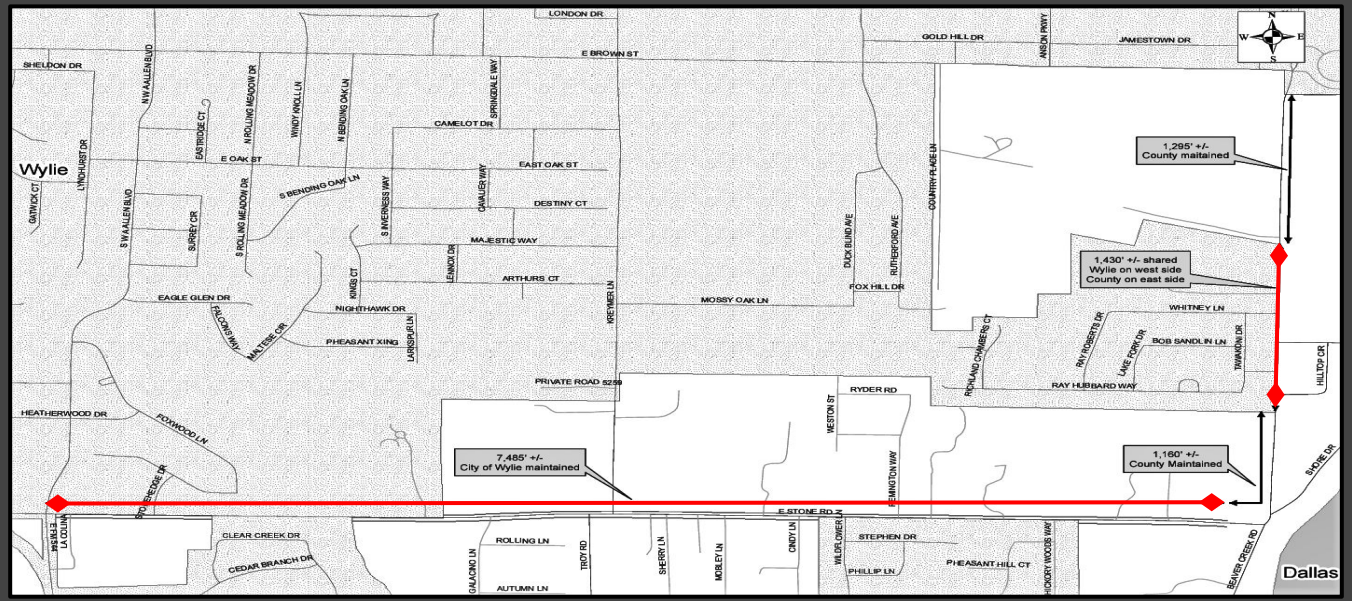
CITY OF WYLIE PUBLIC WORKS

Stone Road Improvements

Overview

- E Stone Road Traffic: 2,127- 5,167 vehicles per day (Brinkley & Barfield August 24 to 26, 2021)
- Pavement consists of 2-4 inches of asphalt
- 3-10 inches of sand and gravel
- Below gravel layer clay was encountered



Current Conditions

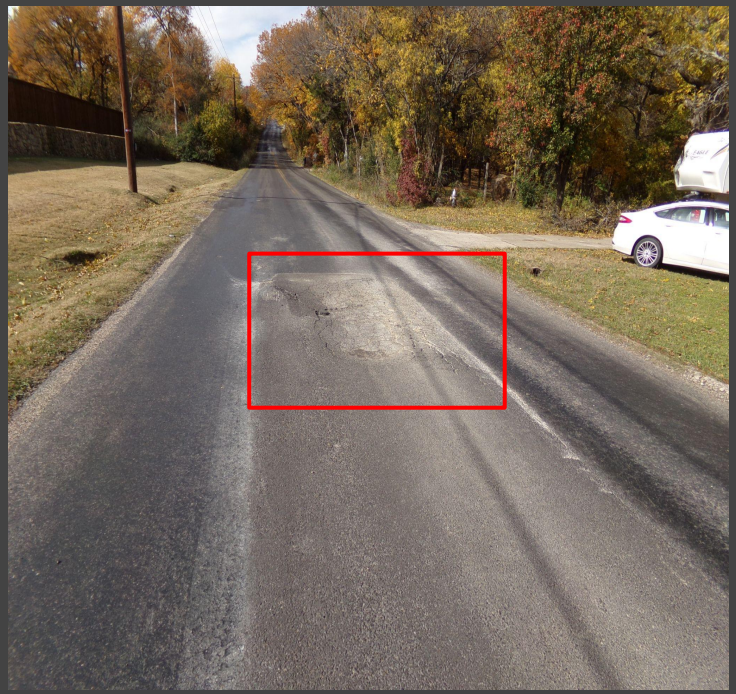
- Potholes

Current Conditions

- Edge Cracking/ Longitudinal Cracking

Current Conditions

- **Asphalt Repair Failure**



Current Conditions

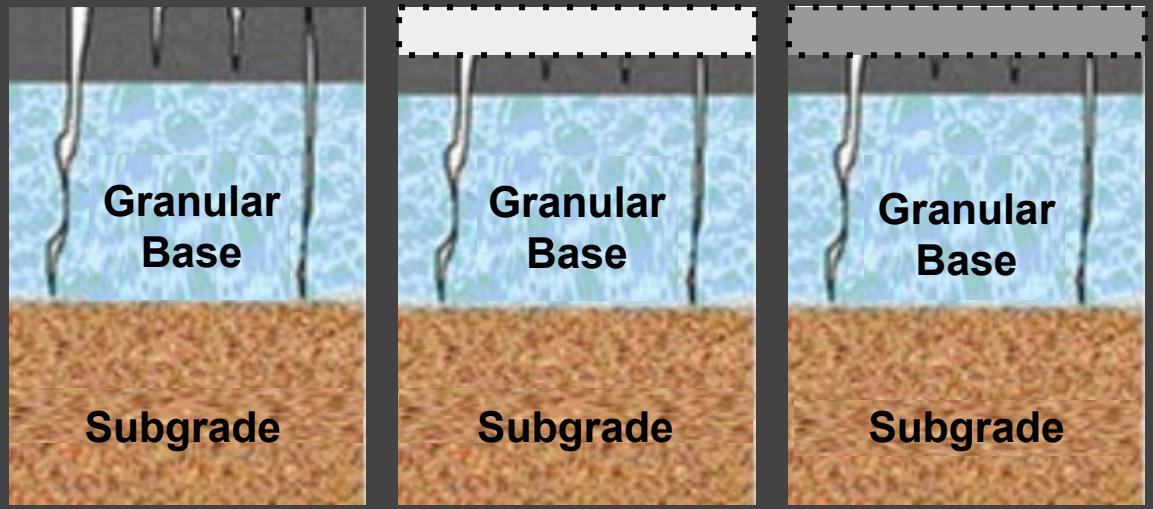
- Transitions From Incoming Streets/ Driveways

Roadway Repair

- Asphalt milling as needed
- Full Depth Reclamation (FDR)
- Build a 25 Year Design Life Road according to the GeoTech Report from 2022

Roadway Repair

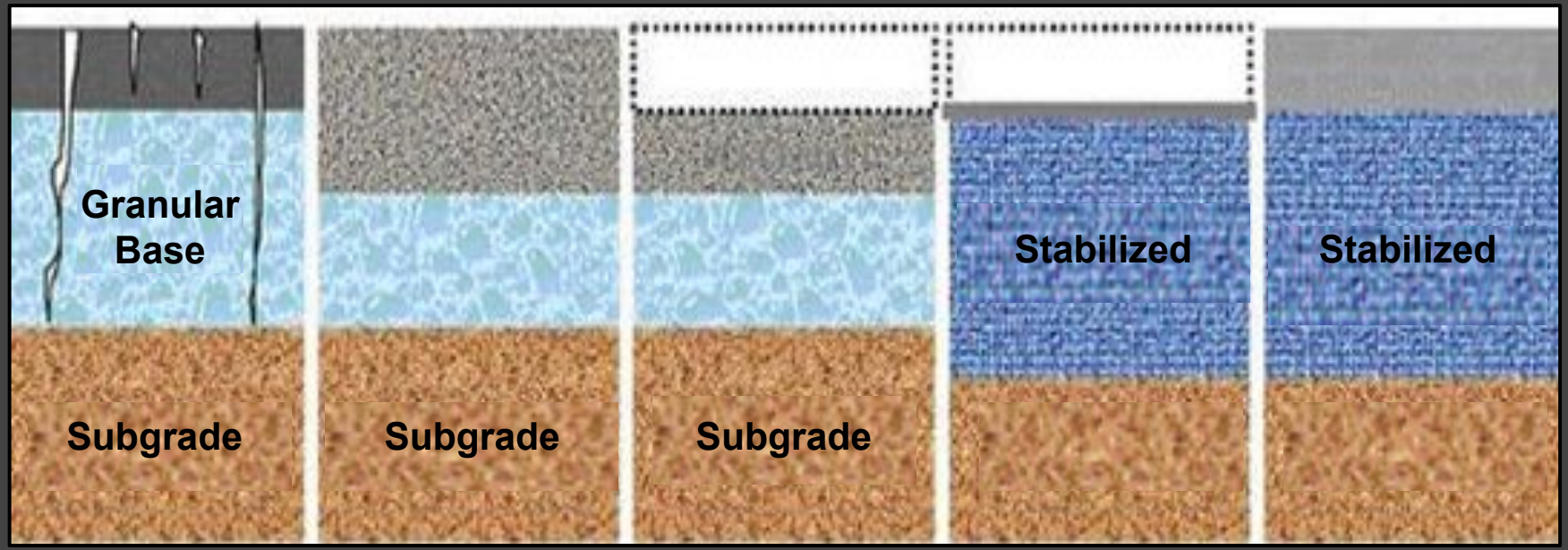
Asphalt Milling: Process of removing the top layer of existing pavement surface to help restore it to a uniform texture to repave. This process does not affect the subgrade.
(As seen in Downtown Wylie 2022)



Roadway Repair

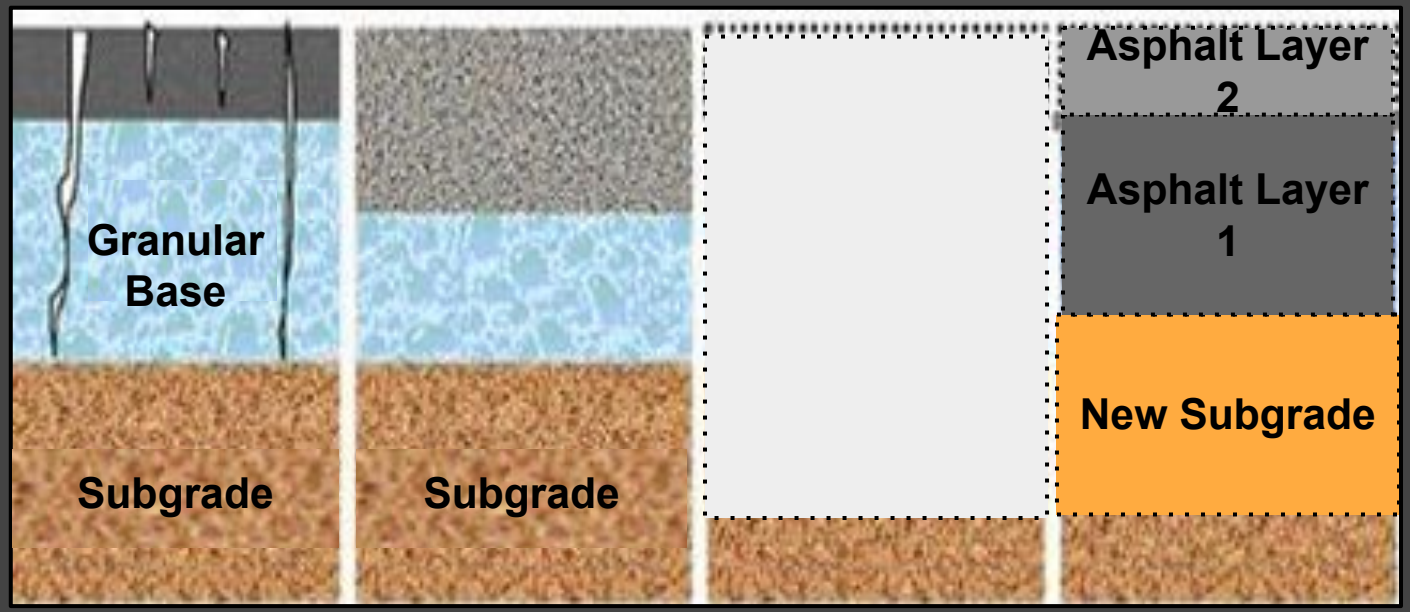
Full Depth Reclamation (FDR): In-place recycling method for reconstruction of existing flexible pavements using a mixture of existing pavement material and cement as the base for the new roadway.

(Seen on Skyview Dr, Forrest Ross Rd, Eubanks Ln 2022)



Roadway Repair

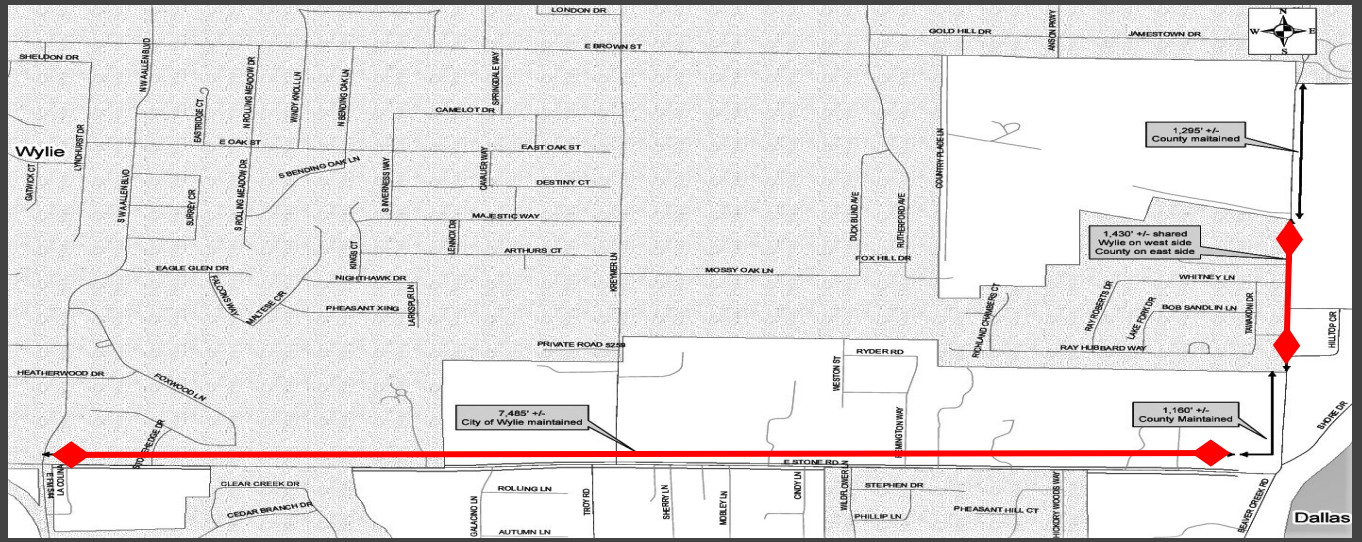
25 Year Design Life Road: Consists of milling and removing existing pavement and some gravel, introducing lime or cement stabilized subgrade to a depth of 8 inches, adding 2 courses of asphalt totaling 9 inches thick.



Roadway Repair

Option 1: Asphalt Milling

- Wylie Maintained Sections (7,485’ +/- East/West) (1,430’ +/- North/South)
- Mix of Full Depth Reclamation (FDR) and Coldplane and Overlay
- Budgeted yearly as needed



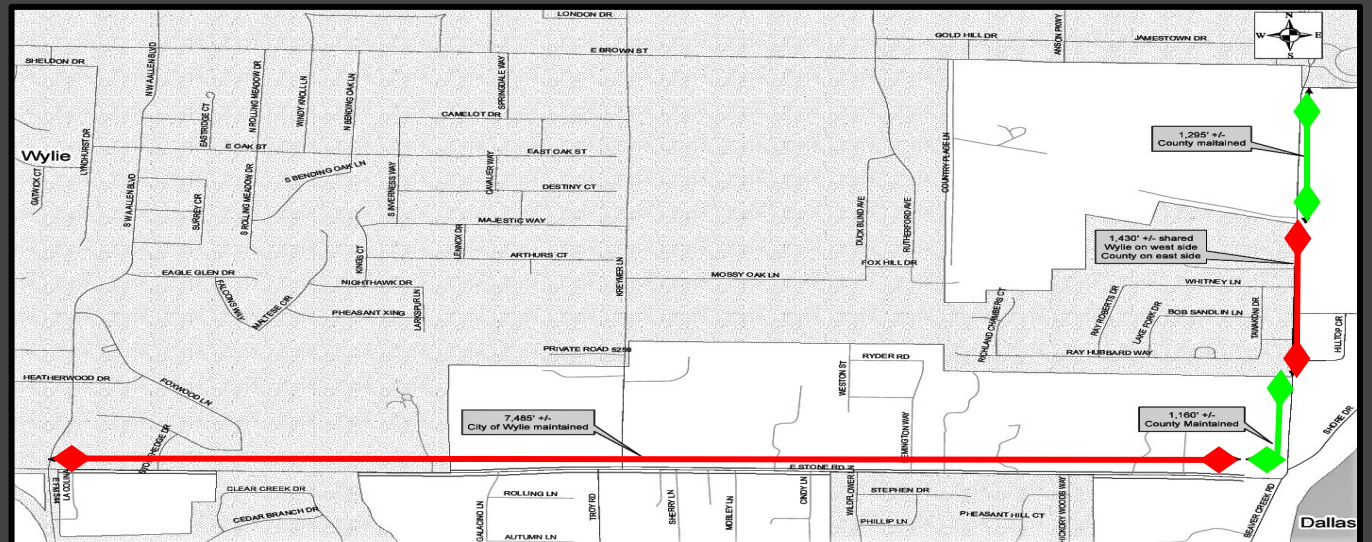
Roadway Repair

Option 2: Full Depth Reclamation

- Wylie Maintained Sections (8,915’ +/-) x2
- Mill roadway, rework existing subgrade mixing in portland cement
- Add 3” of asphalt
- $1Mil (quoted September 2022)

Option 3: Full Depth Reclamation

- WA Allen to Wylie East (11,370’ +/-) x2
- Mill roadway, rework existing subgrade mixing in portland cement
- Add 3” of asphalt
- $1.5Mil (quoted September 2022)



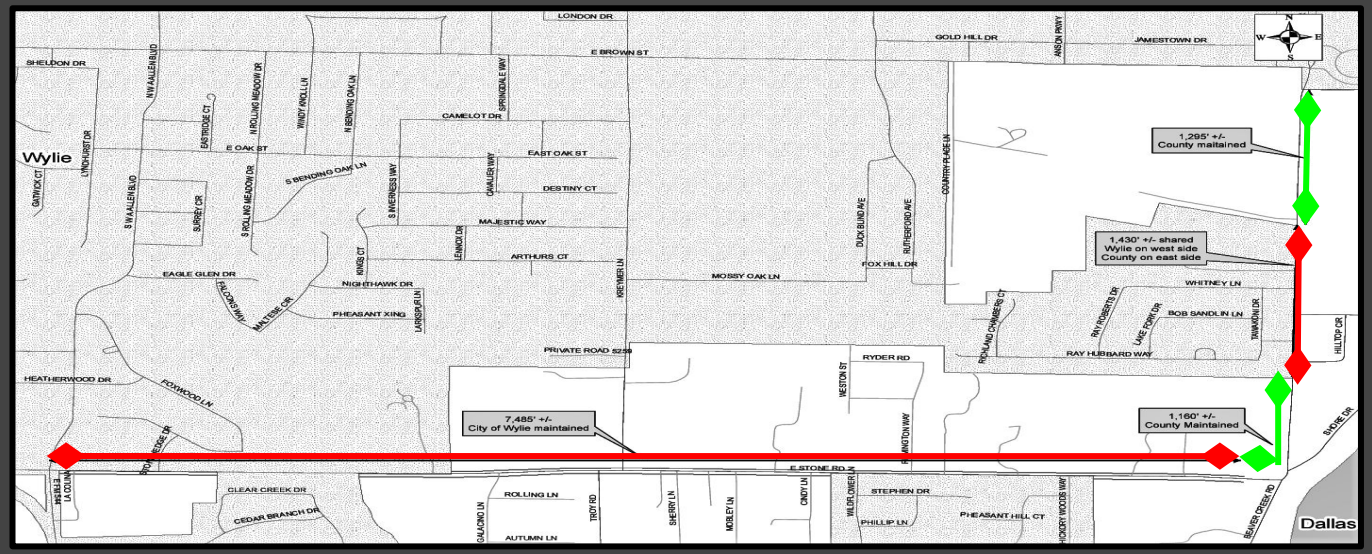
Roadway Repair

Option 4: 25 Year Road

- Wylie Maintained Sections (8,915’ +/-) x2
- Build according to GeoTech Report
- 2” Type C, 7” Type B Asphalt
- $2.4Mil (quoted September 2022)

Option5: 25 Year Road

- WA Allen to Wylie East (11,370’ +/-) x2
- Build according to GeoTech Report
- 2” Type C, 7” Type B Asphalt
- $3Mil (quoted September 2022)



Other Considerations

- **Future Underground Utilities**
  - Water (Provided by Eastfork SUD) (No future plans)
  - Wastewater (2 Roadway Crossings)
  - Electric (Overhead)
  - Gas

- **Drainage**
  - Six Major Roadway Crossings

Stormwater Crossings

Crossing 1 (1530 E. Stone Rd):

- Steel Headwall
- Corrugated metal pipe crossing

Stormwater Crossings

Crossing 2 (1610 E. Stone Rd):

- Steel/ Metal Tin Headwall
- Corrugated metal pipe crossing

Stormwater Crossings

Crossing 3 (2205 E. Stone Rd):

- Steel Headwall
- Washout under drainage pipe
- Roadway cracking

Stormwater Crossings

Crossing 4 (Beaver Creek and E. Stone Rd):

- No Headwall
- Corrugated metal pipe crossing

Stormwater Crossings

Crossing 5 (Near Grayhawk Dr.):

- Corrugated metal pipe crossing

Stormwater Crossings

Crossing 6 (2600 E. Stone Rd):

- Wood headwall
- Corrugated metal pipe crossing

Drainage Repair Costs

Number of Crossings	6 Major/ Multiple driveway crossings
Size Range (Diameter)	12”-78”
Cost Estimate	$3 Mil

Recap on Possible Roadway Repairs

Option 1	Option 2	Option 3	Option 4	Option 5
Asphalt Milling	Full-Depth Reclamation (FDR)	Full-Depth Reclamation (FDR)	Build asphalt road according to GeoTech Report	Build asphalt road according to GeoTech Report
Wylie Maintained Sections	Wylie Maintained Sections	WA Allen to Wylie East	Wylie Maintained Sections	WA Allen to Wylie East
1-5 Years	3+ Years	3+ Years	Up to 25 years	Up to 25 years
$50,000-$75,000 annually	**$1Mil** (Sept 2022)	**$1.5Mil** (Sept 2022)	**$2.4Mil** (Sept 2022)	**$3Mil** (Sept 2022)