

# Brazos Electric's Cooke County Resiliency Project



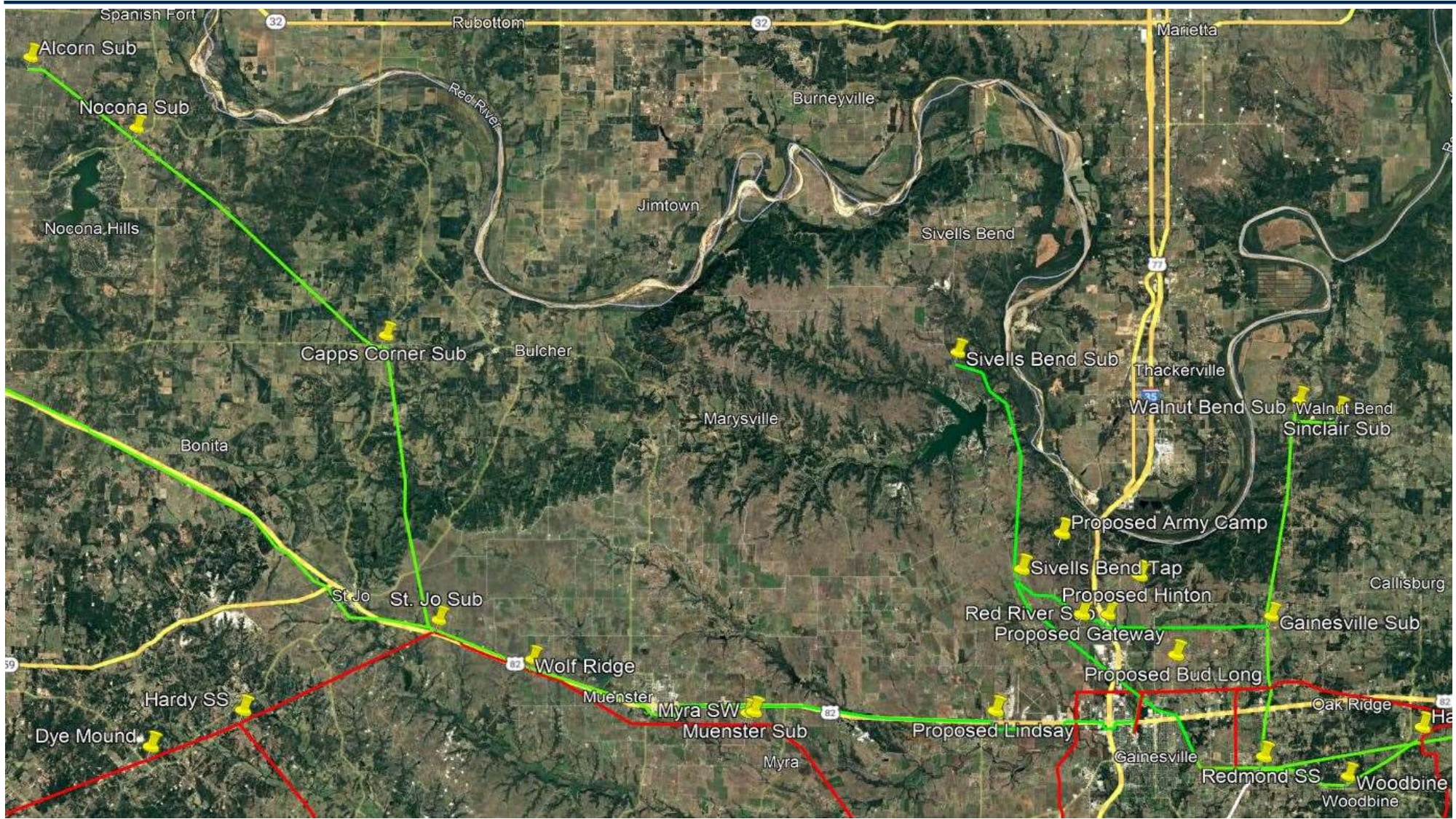
# Justification

## (Brazos Electric Planning Procedures)

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- ▶ **Transmission line sections shall be investigated for reliability and customer impact if 2 or more conditions exist:**
  - **Greater than four taps or inline substations between breakers**
  - **Single contingency loss of 5% or more of distribution cooperative's total load with a minimum of 5 MW**
  - **Single contingency loss of 10% or more of distribution cooperative's total customer count**
  - **Double contingency loss of 20% or more of distribution cooperative's total load**
  - **Double contingency loss of 20% or more of distribution cooperative's total customer count**
  - **Age of line approaches or exceeds initial lifespan or if annual O&M costs exceed 5% of the cost to replace the line**

# Cooke County Area Transmission Lines

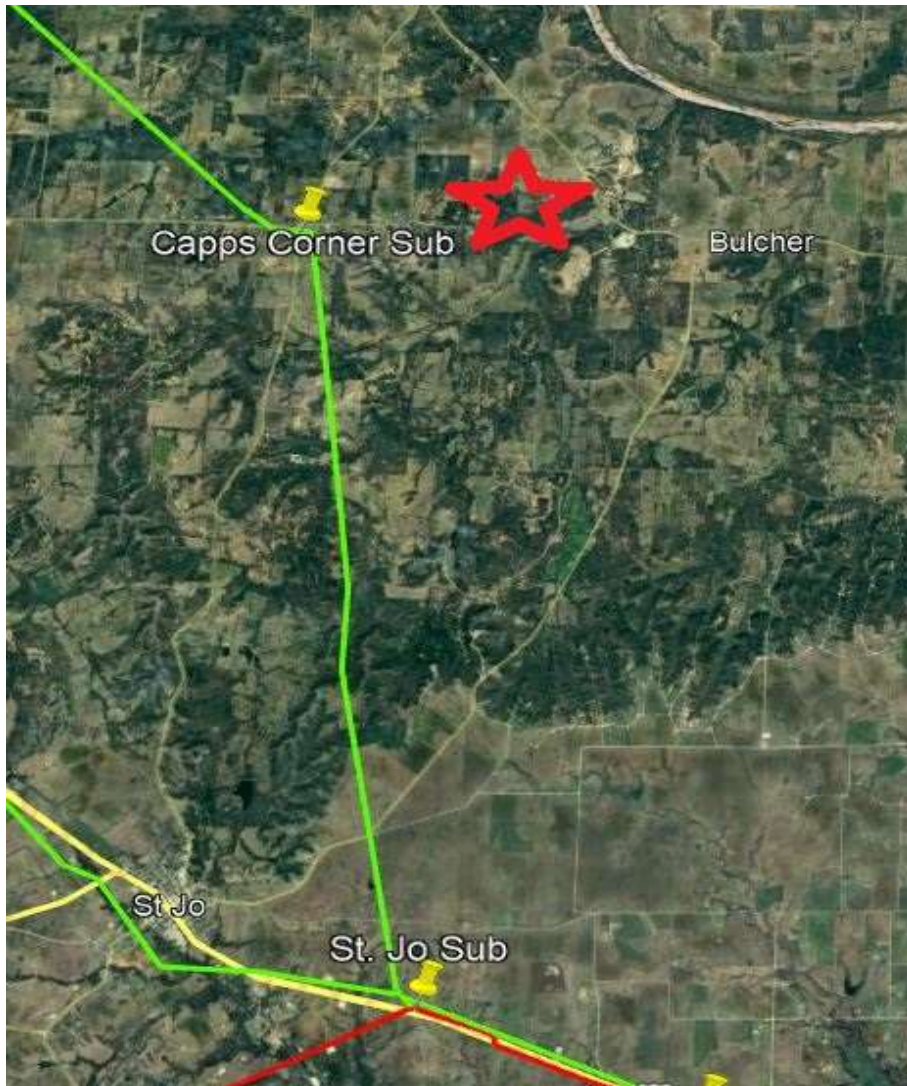


# Proposed Solution

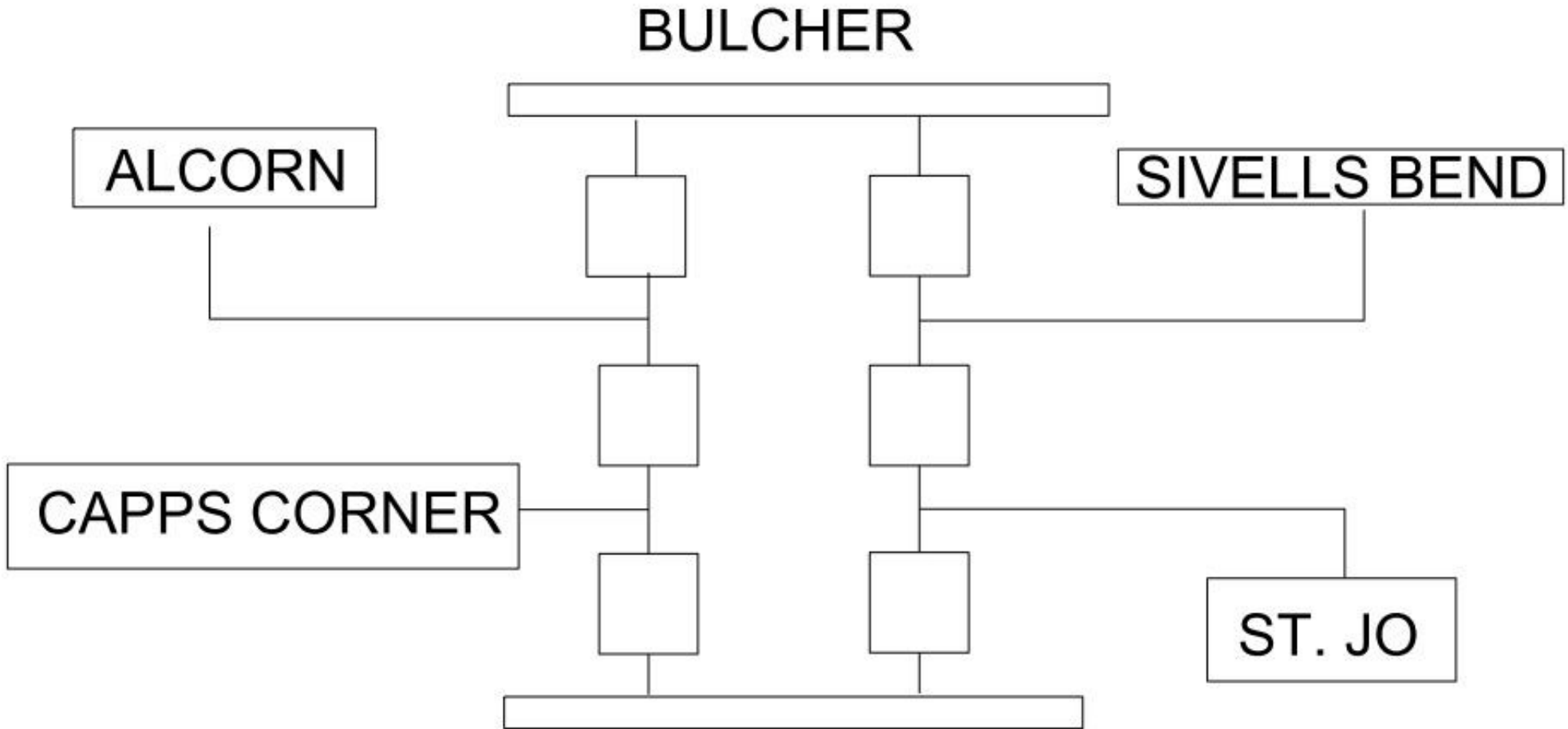
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- ▶ 1. Build a switch station near Bulcher, TX (Near Capps Corner)
- ▶ 2. Make a tie-line from Bulcher to Capps Corner
- ▶ 3. Make a tie-line from Bulcher to Sivells Bend
- ▶ 4. Rebuild Sivells Bend Tap to Sivells Bend with 1433 ACSS
- ▶ 5. Rebuild St. Jo to Alcorn with 1433 ACSS
  - Rebuild St. Jo to Bulcher
  - Build new line from Bulcher to Alcorn
- ▶ 6. Convert from Gainesville to St Jo. To 138kV

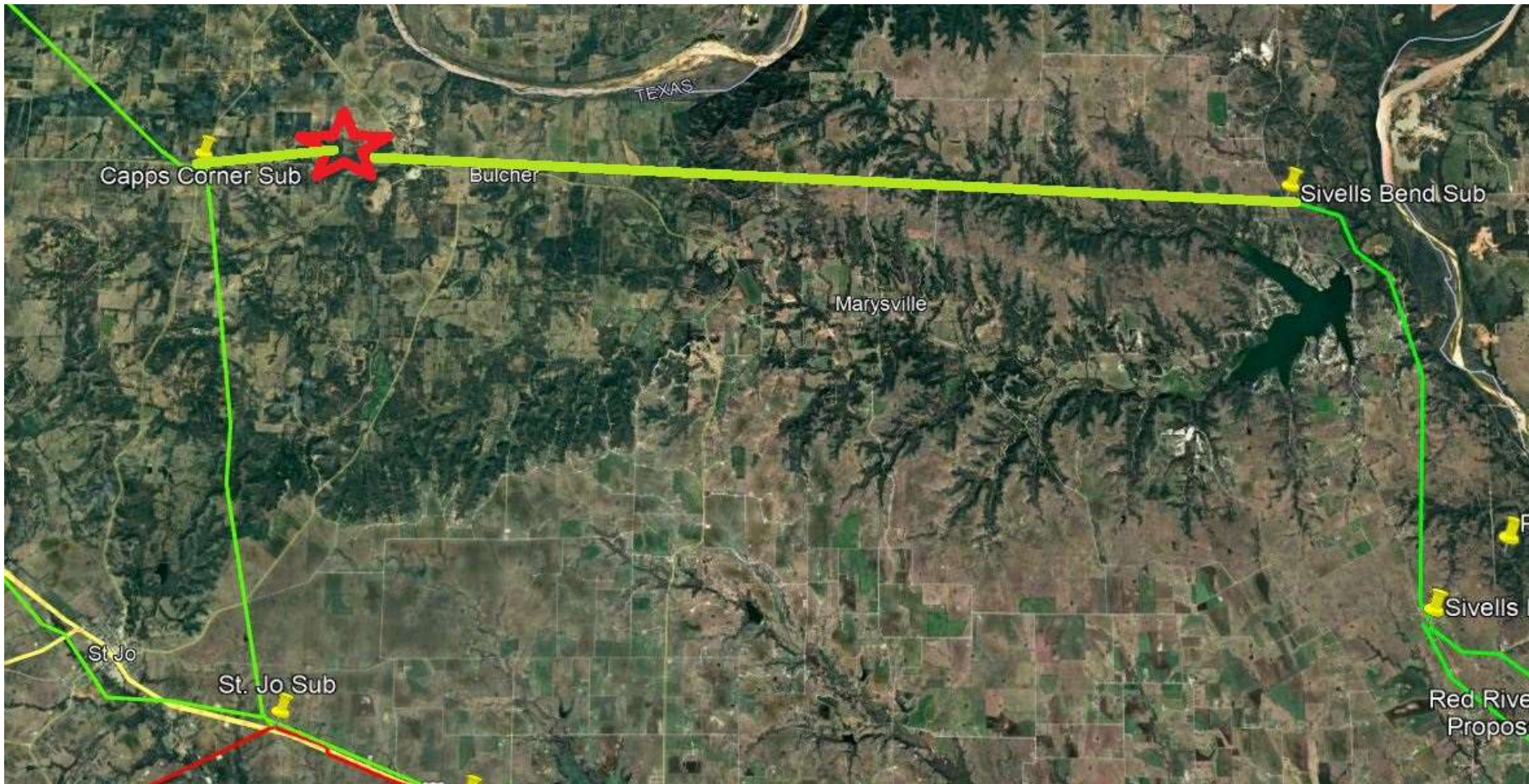
# Steps 1 and 2



# Bulcher Switch Station Layout

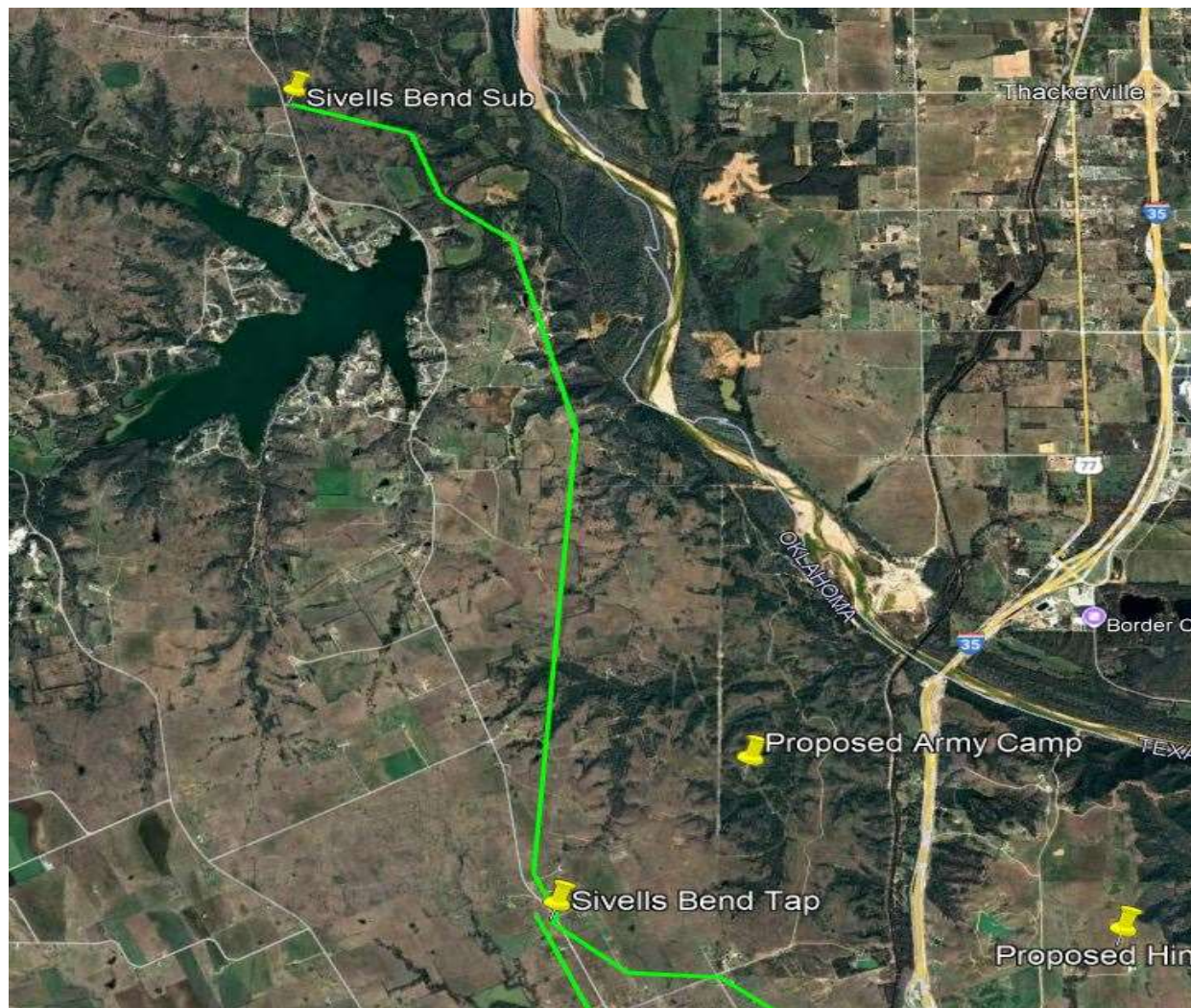


# Step 3



- ▶ Approximate 15 mile tie-line between Bulcher and Sivell's Bend Sub

# Step 4



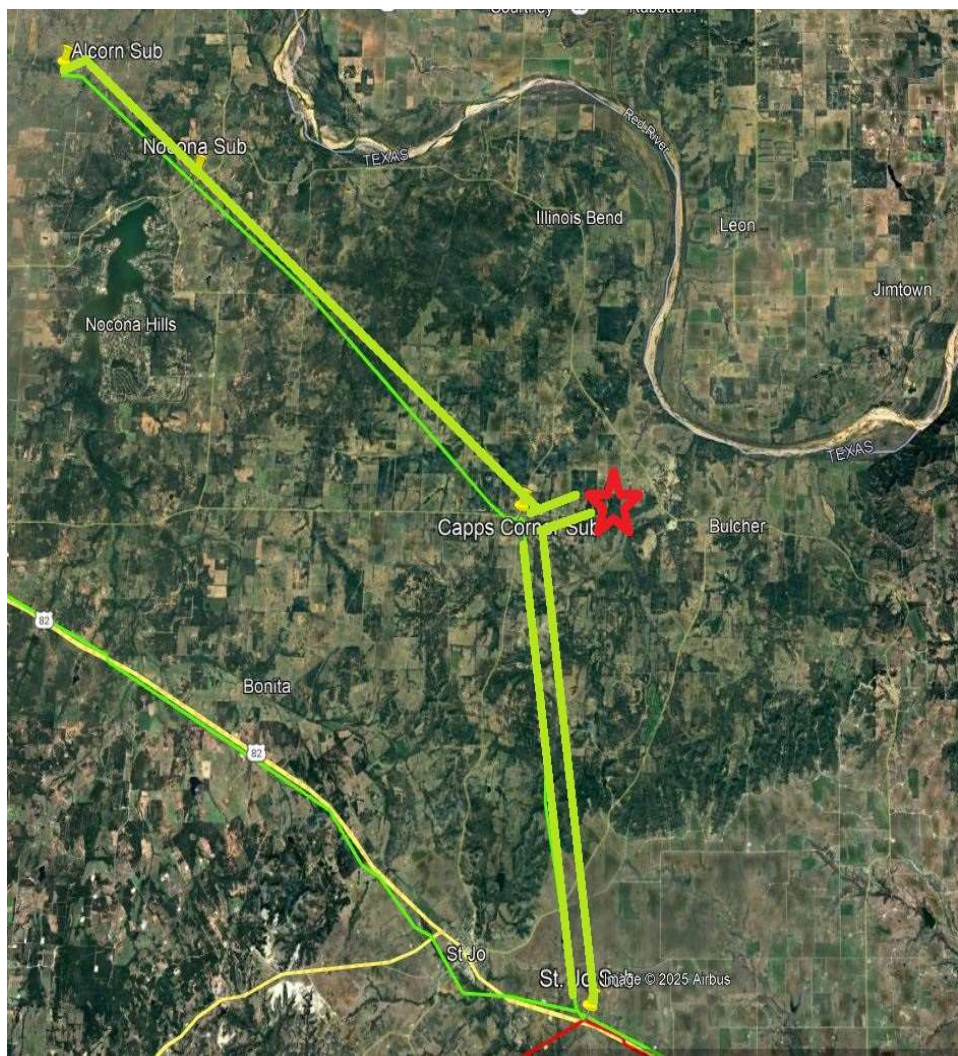
- ▶ Rebuild approximately 7.5 miles of line from Sivells Bend Sub to Sivells Bend Tap
- ▶ Existing line is 4/0 ACSR built in 1967
- ▶ The rebuilt line will be constructed with 1433 ACCS double circuited

# Step 5



- ▶ Rebuild 8.55 miles of line from St. Jo to Capps Corner
- ▶ Existing line is 4/0 ACSR built in 1961
- ▶ The rebuilt line will be constructed with 1433 ACCS double circuited

# Step 5



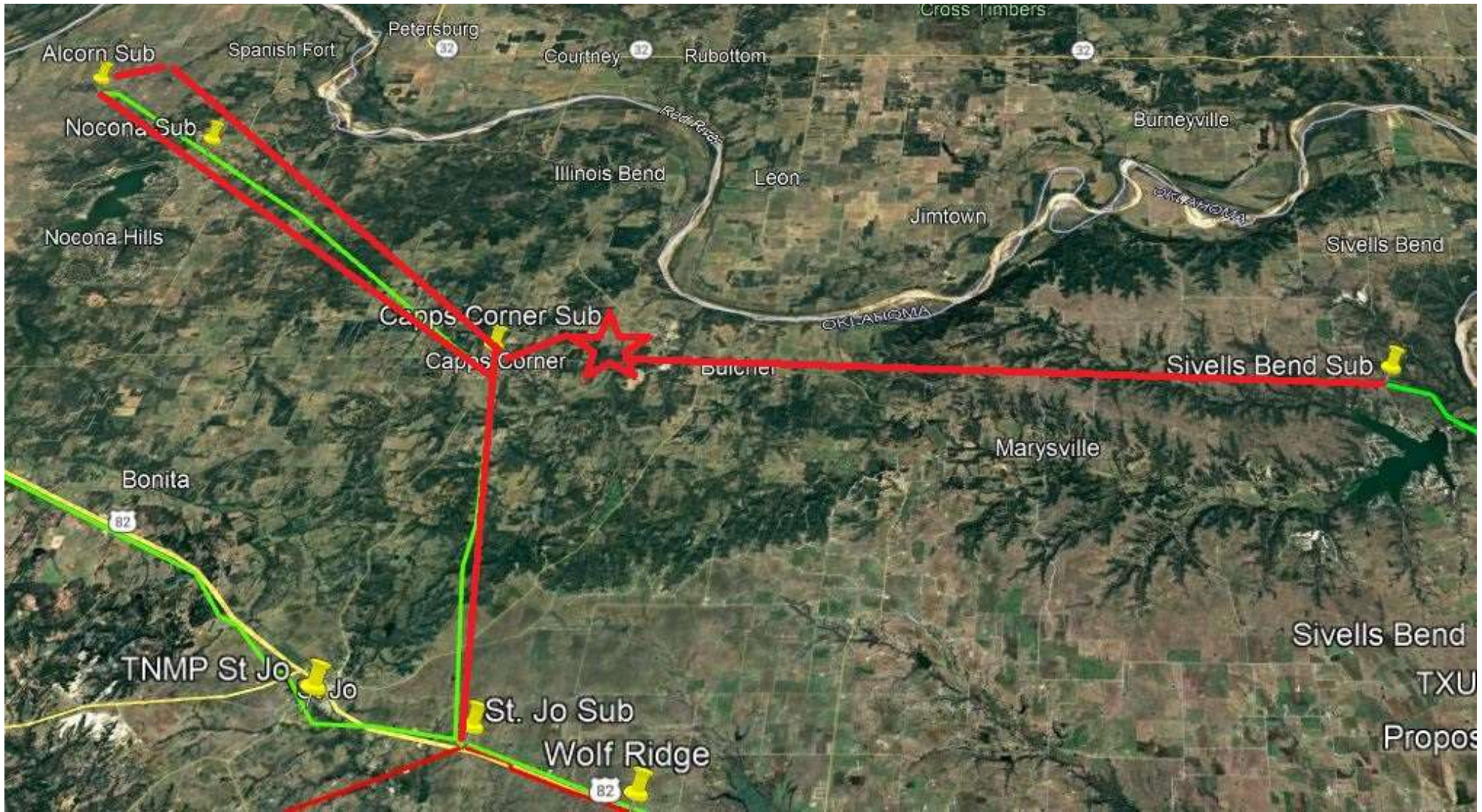
- ▶ Build a new circuit from Bulcher to Acorn with 1433 ACSS
- ▶ Rebuild existing line from Capps Corner to Nocona with 1433 ACSS
  - Built in 1961 with 4/0 ACSR
- ▶ Rebuild existing line from Nocona to Alcorn with 1433 ACSS
  - Built in 1961 with 4/0 ACSR

# Step 6

- Convert from Gainesville to St. Jo to 138 kV

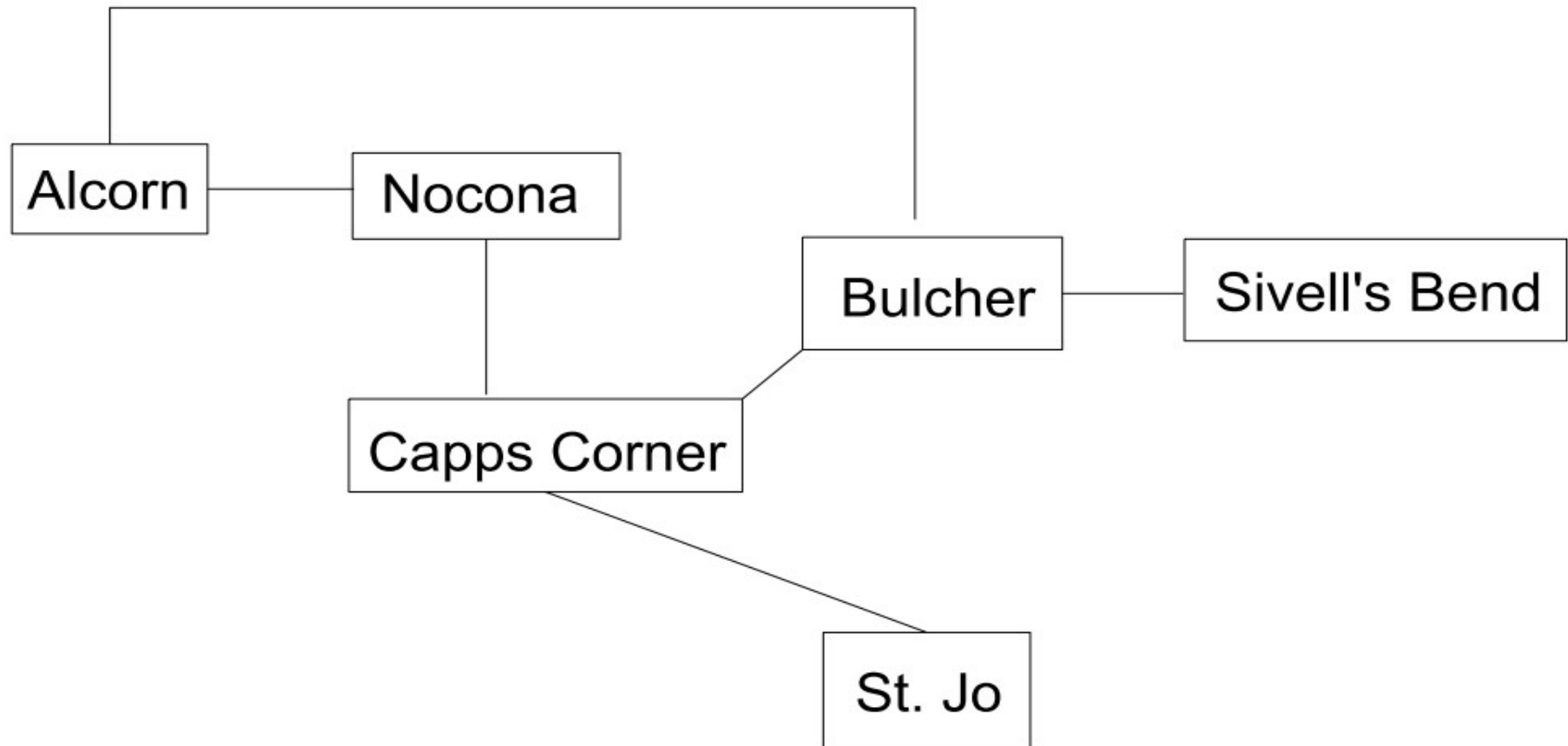


# Step 6



# Cooke County Single Line

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# Questions?