

CHAPTER 1

1. PURPOSE OF AND NEED FOR ACTION

1.1. Proposed Action: Improve Power Supply

Tennessee Valley Authority's (TVA) proposed action is to serve Middle Tennessee Electric Membership Corporation's (MTEMC) planned Westhaven Substation by building a new 5.25 mile 161-kilovolt (kV) transmission line connection from MTEMC's Aspen Grove Substation to the new substation by 2005. TVA also proposes to purchase the transmission line tap into the Aspen Grove Substation from MTEMC.

1.2. Need

The western portion of Williamson County, Tennessee, is served electrically by MTEMC through its Henpeck, Jingo, Thompsons Station, Aspen Grove, and Grassland Substations. The growth of electric load over the past decade in Williamson County, as a whole, and in the area west of the city of Franklin in particular, has been rapid. Annual load growths of 12 percent have occurred in recent years. Residential and commercial development already planned in the middle and western portion of the county coupled with future development that will utilize the expanding sewage and road infrastructure are expected to continue this trend.

In addition to the growth west of Franklin, growth is continuing in the immediate vicinity of the substations listed above, thus limiting the electrical capacity available to serve loads in the western portion of the county. Despite recent upgrades to its distribution system, MTEMC studies show that the capacity of its system to meet the load in the West Franklin area will be exceeded as early as 2005 (Appendix I). Based on the current system capacity and planned development, MTEMC announced in January 2004 that a freeze on new electricity hookups would be probable by the end of 2004.

In addition to capacity, reliability and safety are concerns in providing adequate service to the area. Only three relatively long distribution circuits now serve the area. Service in the area already averages an annual outage rate about 30 percent higher than the remainder of the MTEMC system. These three lines are heavily loaded at present, and their loading is projected to continue to increase. Since reliability decreases as loading increases, the peak load conditions predicted for the end of 2004 would result in a system even more likely to experience outage. See Appendix I for additional details. To address these issues, MTEMC decided to build a new 161-kV substation west of the city of Franklin near the Westhaven Subdivision, which would be connected to the Aspen Grove Substation.

1.3. Objectives of the Aspen Grove - Westhaven 161-kV Transmission Line - Williamson County, Tennessee, Power Supply Improvement Project

To serve the new Westhaven Substation planned by MTEMC, TVA proposes to build a new 161-kV transmission line from MTEMC's Aspen Grove Substation to the substation. One of the objectives of this new transmission line would be to supply additional electric load capacity to the MTEMC system in West Franklin and the adjacent parts of Williamson County where residential and commercial growth have increased the load demand.

Another objective of TVA's proposed new 161-kV transmission line would be to increase the system reliability and reduce outages. Outage rates are measured by MTEMC as the average number of minutes a typical customer experiences without power in a year (Appendix I). With better access to western Williamson County through new roads and sewer line capabilities, development of the area will continue to increase. Current growth projections anticipate an overloading of the MTEMC system by ongoing and already planned development in this area. As early as 2004, power demand increases will reduce the MTEMC system reliability resulting in increased chances of system outages, especially at times of high electricity use.

1.4. Decisions That Must Be Made

TVA must decide whether to build a new 161-kV transmission line to serve MTEMC's new Westhaven Substation and help improve electrical service in the area west of the city of Franklin. This is described in detail in Section 2.2.

If service is improved, other specific decisions involve:

- Timing of the transmission line.
- Selecting a route for the transmission line.
- What mitigation and/or monitoring measures to implement to meet TVA standards and reduce resource damage.

TVA must also determine whether the proposed action is a major Federal action significantly affecting the human environment. If TVA determines that the proposed action would significantly affect the quality of the human environment, an Environmental Impact Statement (EIS) must be prepared evaluating the action and its alternatives in greater detail.

1.5. Public Involvement

The proposed action has been coordinated with the following Federal, state, and local agencies and other organizations.

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. National Park Service
- U.S. and State Senators and Representatives from the study area
- Tennessee Department of Environment and Conservation
- Tennessee Department of Transportation
- Tennessee Historical Commission
- Tennessee Wildlife Resources Agency
- Eastern Band of the Cherokee Indians
- The Muscogee (Creek) Nation of Oklahoma
- The Franklin, Tennessee, City Government
- The Williamson County, Tennessee, Government
- Harpeth River Watershed Association
- The Heritage Foundation of Franklin and Williamson County
- Fernvale Valley Community Association

This proposal was reviewed for consistency with Executive Order (EO) 11988 (Floodplain Management), EO 11990 (Protection of Wetlands), Farmland Protection Policy Act, National Historic Preservation Act (NHPA), Endangered Species Act, Section 404 of the Clean Water Act, and EO 12372 (Intergovernmental Review). Correspondence received related to this coordination is contained in Appendix II.

TVA held a series of public meetings in the project vicinity on June 13, 14, and 15, 2000, presenting four potential corridor alternatives to provide service to a substation at a site near Leipers Fork, designated as the Bingham site. These are described in Section 2.5.3 of this document as Options A, B, C, and D (Figure 1-1).

Public officials and about 1000 potentially affected property owners within these corridor routes were specifically invited, and newspaper advertisements invited any interested public as well. TVA issued a news release to local news outlets. Total attendance at the three meetings was 345.

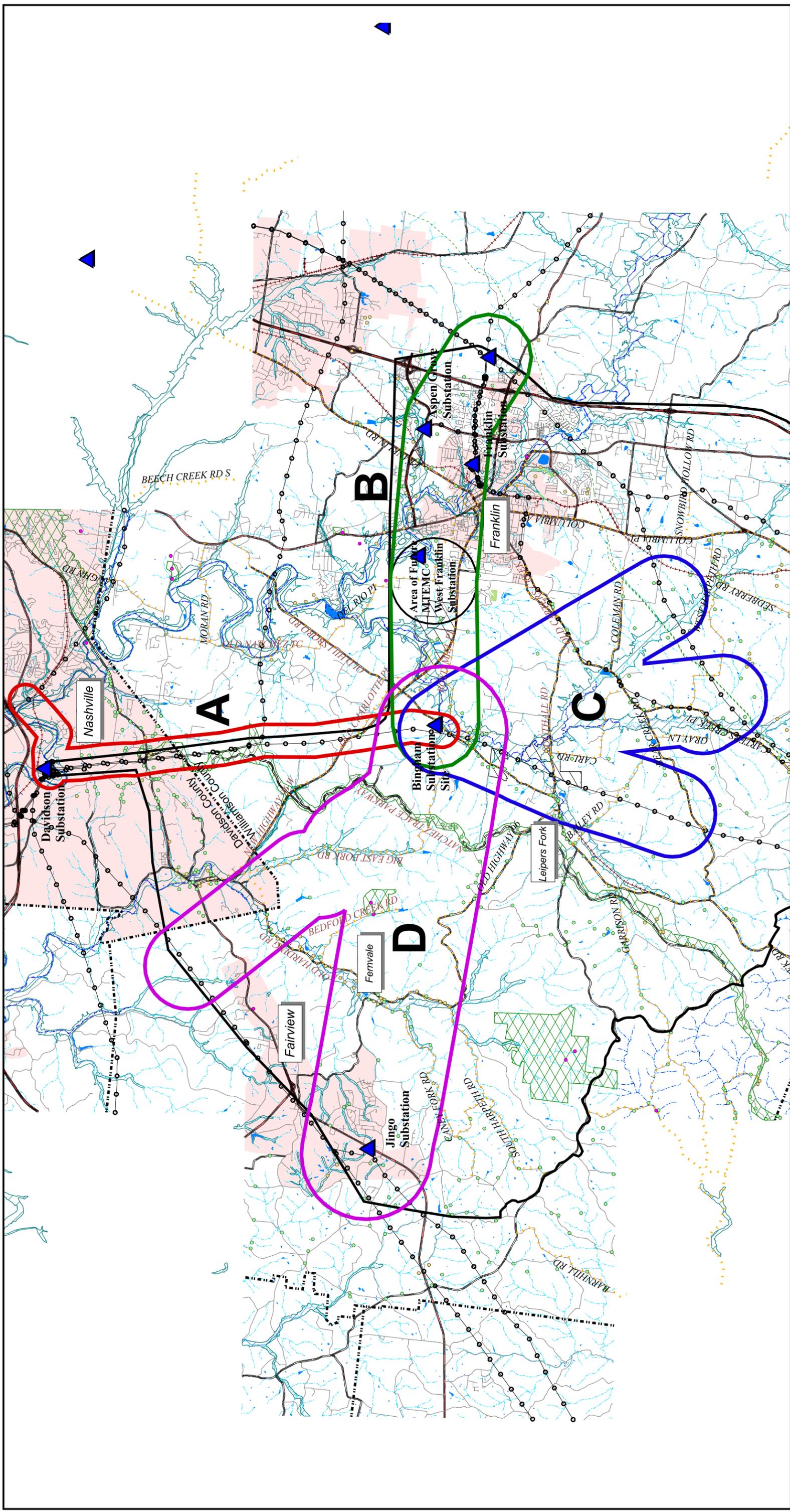
During a 30-day comment period following the public meetings, TVA accepted public comments on potential line routes and other issues. A toll-free phone number and fax number were made available to facilitate comments. Numerous comments were received (see Appendix II). Of the overall routing options presented at the first set of meetings, Option A was the preference of a plurality of those expressing an opinion. Following in order were Options B, D, and C. A number of commenters were opposed to the project because of concerns that it might facilitate further development in the area. Others expressed concern for various resources including wildlife, visual aesthetics, and historic buildings.

TVA held another public meeting to present the Main Corridor Alternative and other transmission line route alternatives for Option B (Figure 1-2) on September 21, 2000. Public officials and about 150 potentially affected property owners on all segments of the identified routes were specifically invited. Notice of the meeting was provided in local newspapers, and TVA issued a news release to local news outlets about the meeting. Attendance at this meeting was 110.

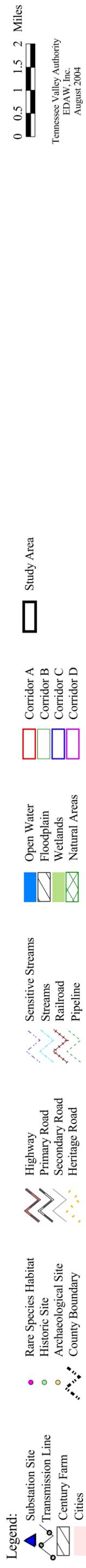
Again, a 30-day comment period followed the open house. Comments were primarily related to the location of the transmission line relative to current or planned land uses.

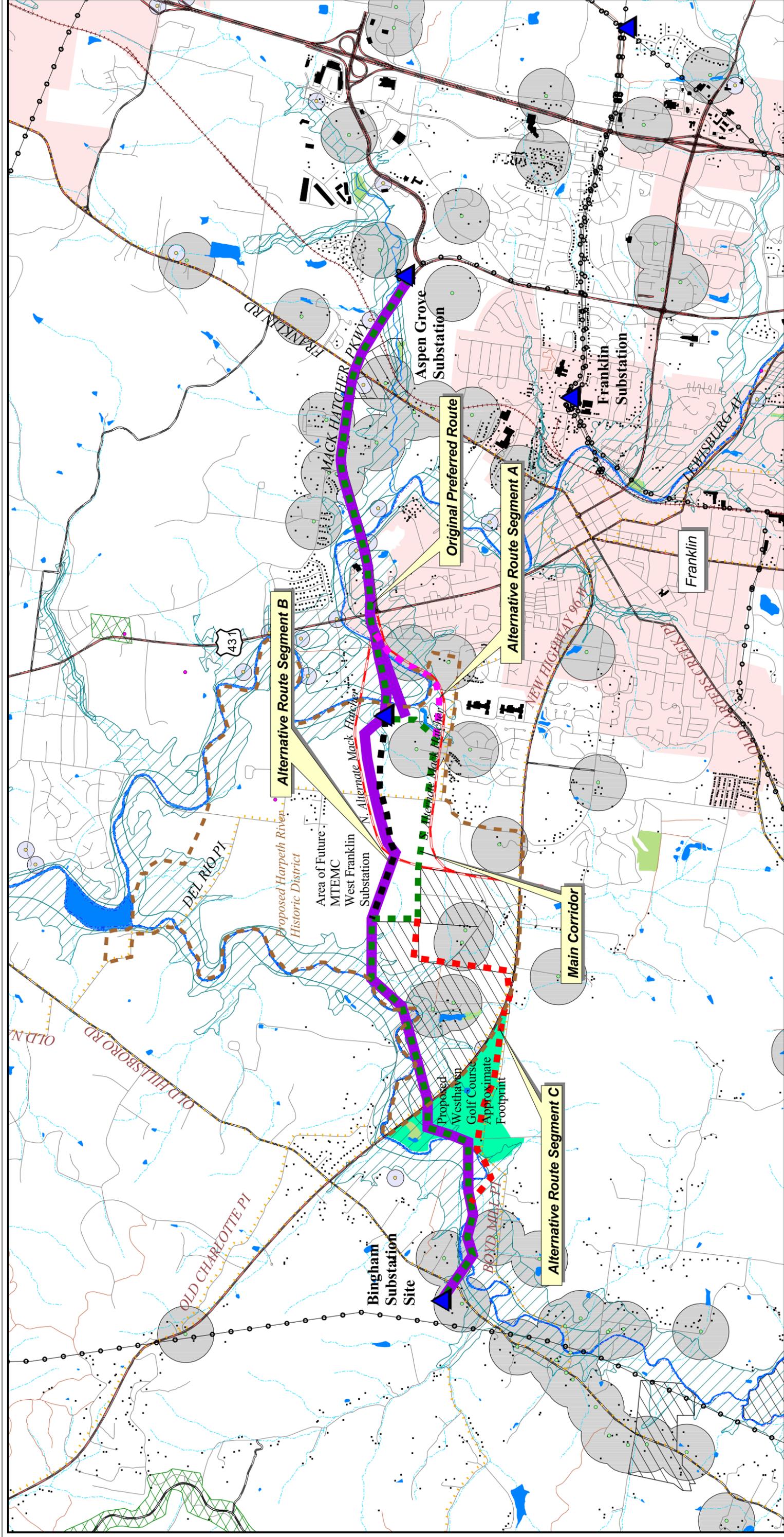
The route alternatives were again addressed at a public meeting sponsored by the Franklin City Board of Aldermen on February 27, 2001. Most questions centered on the need for the project and the possibility of transmission line routes from sources other than Aspen Grove. Attendance at this meeting was approximately 50.

In response to the comments it received, TVA modified the proposed project alternative (Main Corridor) and developed three alternative route segments for Option B (Figure 1-2). On February 13, 2003, TVA released a draft Environmental Assessment (EA) with a 30-day comment period. On February 27, 2003, TVA held a public meeting to receive comments on the project and the Draft EA. Newspaper advertisements invited interested public, and TVA issued a news release to local news outlets about the meeting. Attendance at this meeting was approximately 80.



WILLIAMSON COUNTY, TENNESSEE POWER SUPPLY
Aspen Grove 161-kV Transmission Line
Figure 1-1. Williamson County, Tennessee, Power Supply Improvement Study Area and Potential Transmission Line Corridor Options





**WILLIAMSON COUNTY, TENNESSEE POWER SUPPLY
Aspen Grove 161-kV Transmission Line**

Figure 1-2. Surveyed 161-kV Transmission Line Routes Within Option B - Aspen Grove Substation to the Bingham Substation Site

Legend:

- Substation Site
- Original Preferred Route
- Transmission Line
- Parkway Extension
- Rare Species Habitat
- Historic Site
- Archaeological Site
- Buildings
- Highway
- Primary Road
- Secondary Road
- Heritage Road
- Sensitive Streams
- Streams
- Railroad
- Pipeline
- Open Water
- Century Farm
- Wetlands
- Natural Areas
- Floodplain
- Cities
- 300' Archaeological Site Buffer
- 1000' Historic Site Buffer
- Proposed Harpeth River
- Historic District
- Proposed Westhaven
- Golf Course
- Alternative Route Segment A
- Alternative Route Segment B
- Alternative Route Segment C
- Main Corridor

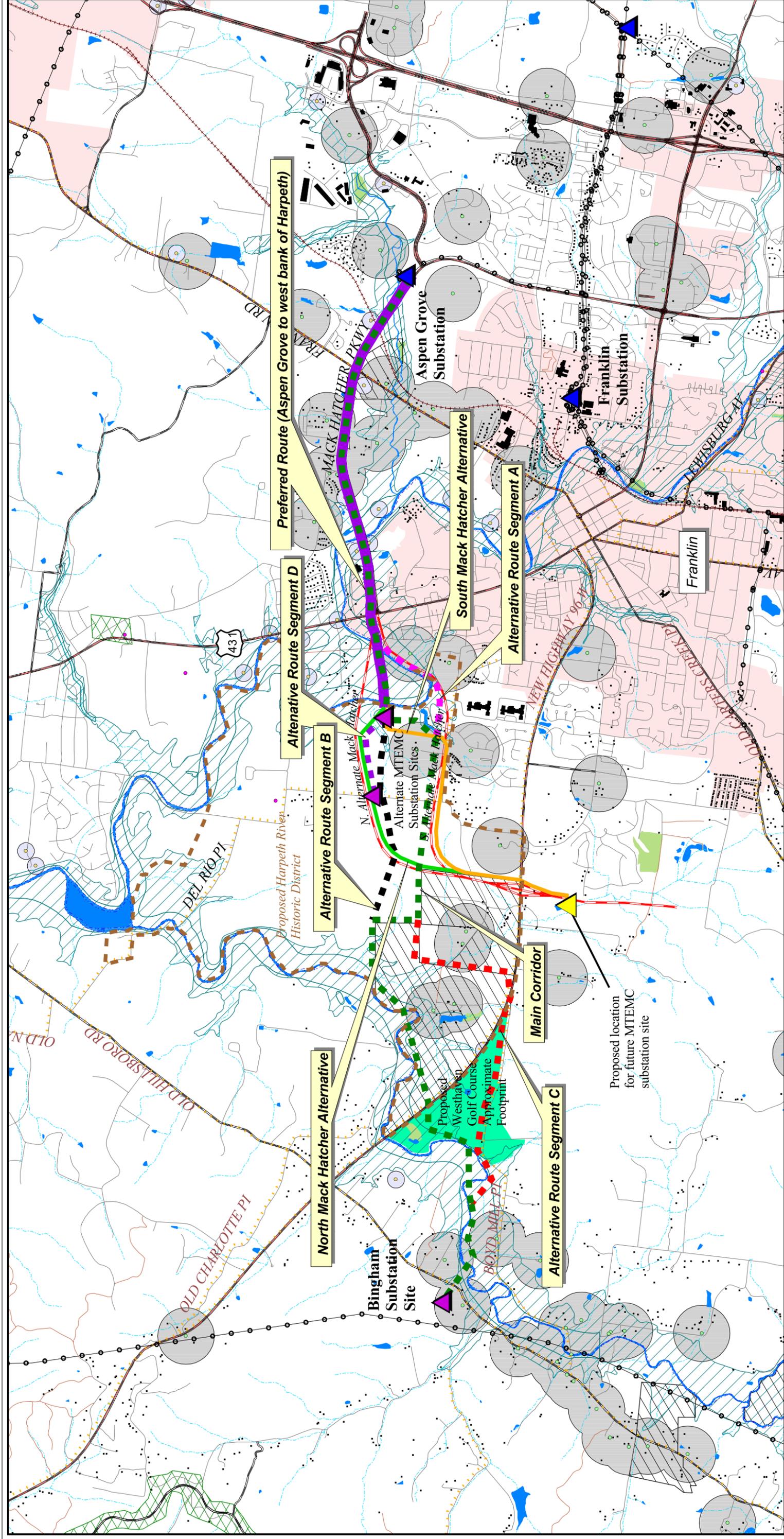


Tennessee Valley Authority
EDAW, Inc.
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Comments received on the Draft EA were similar to those received at previous meetings (see Appendix II). In response to these comments, MTEMC decided to relocate its planned substation from its Bingham site to a new location near the western city limits of Franklin and Westhaven development (Figure 1-3). TVA then developed Alternative Route Segment D to serve two potential substation locations being considered by MTEMC in the West Franklin area and two new alternative routes (North and South Mack Hatcher) for a location in the Westhaven Subdivision area. These transmission line route adjustments are addressed in this EA.

1.6. Necessary Permits or Licenses

Permits would be required from the state of Tennessee for site storm water discharges associated with transmission line construction. TVA's Transmission Construction organization would prepare the required erosion and sedimentation control plans and coordinate them with the appropriate state and local authorities. A permit would also be required for burning trees and brush removed during transmission line construction. Bank stabilization activities along the Harpeth River may require an Aquatic Resource Alteration (ARAP) permit from the state of Tennessee and a 404 permit from the United States Environmental Protection Agency (USACE).



WILLIAMSON COUNTY, TENNESSEE POWER SUPPLY
Aspen Grove 161-kV Transmission Line

Figure 1-3. Surveyed 161-kV Transmission Line Routes Within Option B - Aspen Grove Substation to Substation Sites in the Bingham, Westhaven, and

West Franklin Areas

