1 INTRODUCTION

Tennessee Gas Pipeline Company (TGP) is proposing to construct a new natural gas compressor station located north of Pelham, in Hillsborough County, New Hampshire. The purpose of the facility is to maintain pressure in the pipeline, through use of a centrifugal compressor driven by a natural gas-fired turbine. The compressor station is a part of the Concord Expansion Project, proposed by TGP to support growth needs in New Hampshire. This application is being submitted for purposes of obtaining a Temporary Permit from the New Hampshire Department of Environmental Services' Air Resources Division (ARD) prior to construction, in accordance with PART Env-A 607 regulations.

1.1 Facility Description and Construction Schedule

Figure 1-1 shows the facility location. The proposed facility, identified as Compressor Station 270B1, is located on the southeastern side of Hillsborough County with the northern property line of the site abutting Rockingham County. Access to the site is off Mammoth Road, which connects to State Route 111. As shown in Figure 1-2, the project site is located north and east of an industrial park with residential communities on the north side. The topography in the site vicinity reflects site elevation ranges from approximately 174 feet to 214 feet above mean sea level (msl) (see Figure 1-3) with final grade of the site at approximately 193 feet above msl. Terrain rises nearly 300 feet above this level with one mile southwest of the facility. Significant terrain elevations exist further out in nearly all directions.

The facility's operations are categorized under Standard Industrial Classification (SIC) code 4922, Natural Gas Transmission. The primary emission unit will be a new Solar Centaur compressor turbine equipped with a SoLoNOx™ combustion system to control emissions of NO_x, firing exclusively natural gas and rated at 6,130 hp.[1] Other sources at the facility will include a gas-fired emergency generator, a gas-fired fuel gas heater rated at no more than 1.5 MMBtu/hr hea input, gas-fired space heaters rated at a total of no more than 1.5 MMBtu/hr heat input, and a gas-fired water heater rated at no more than 1.0 MMBtu/hr heat input.

TGP plans to commence construction of the new turbine in April 2009 with anticipated completion by October 2009.

1.2 Existing Local Air Quality

With respect to National Ambient Air Quality Standards (NAAQS), the air quality designations of both Hillsborough and Rockingham counties are "attainment" or "unclassifiable" for all pollutants except ozone. Both the southeastern side of Hillsborough County and the southern portion of Rockingham County are classified as "Moderate" ozone nonattainment areas under Subpart 2 of Title I, Part D of the Clean Air Act with respect to the 8-hour ozone NAAQS of 0.08 ppm.

[1] Horsepower rating at ISO conditions: elevation = mean sea level, temperature = 59 degrees F. The horsepower rating for the purposes of emission calculations is at site conditions: elevation = 200 feet, ambient temperature = 40 degrees F, relative humidity = 60%.

Figure 1-1: Geographic Location of Compressor Station

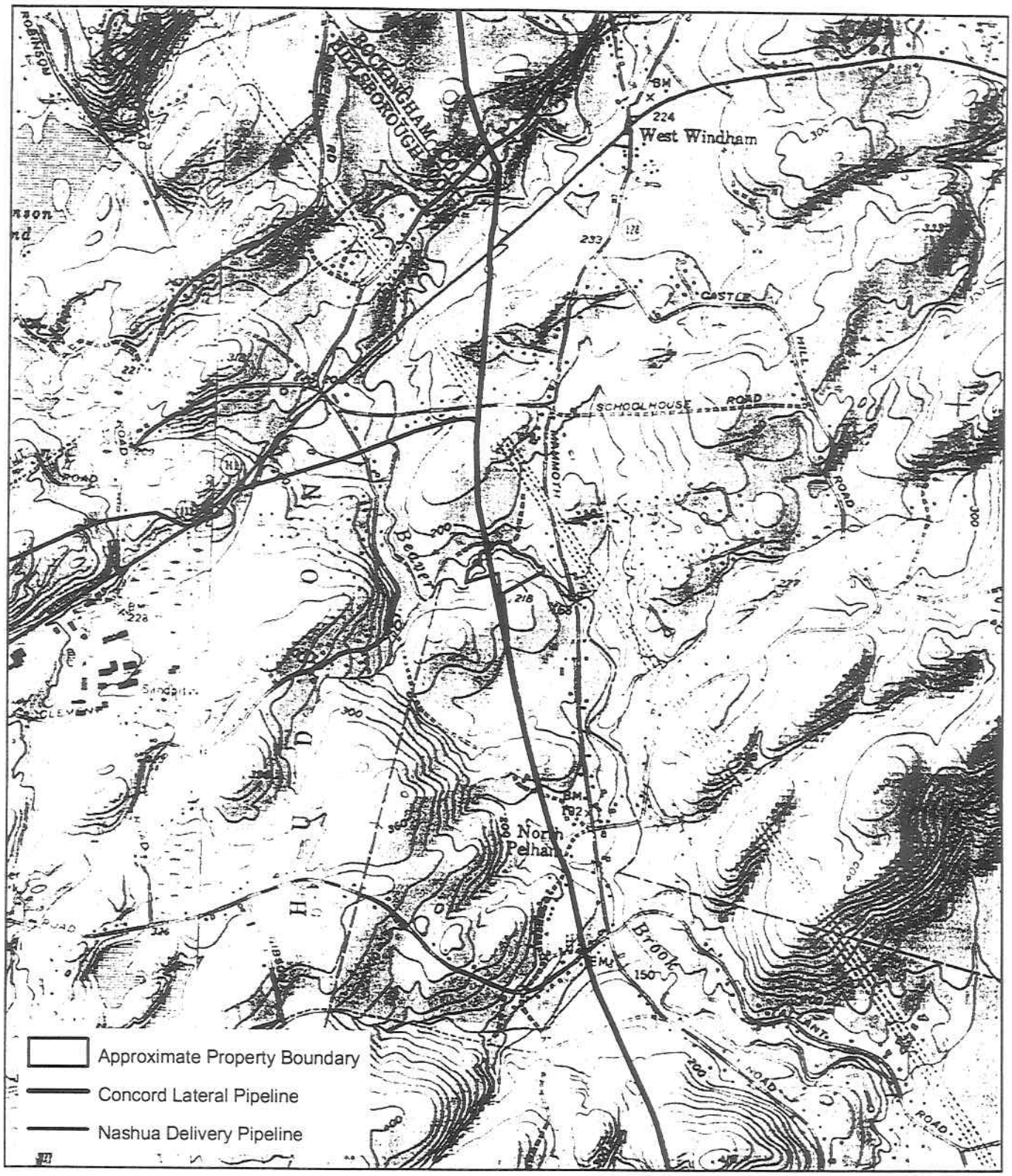

Figure 1-1 Geographic Location of Compressor Station

Concord Compressor Expansion
Tennessee Gas Pipeline Company
Houston, TX

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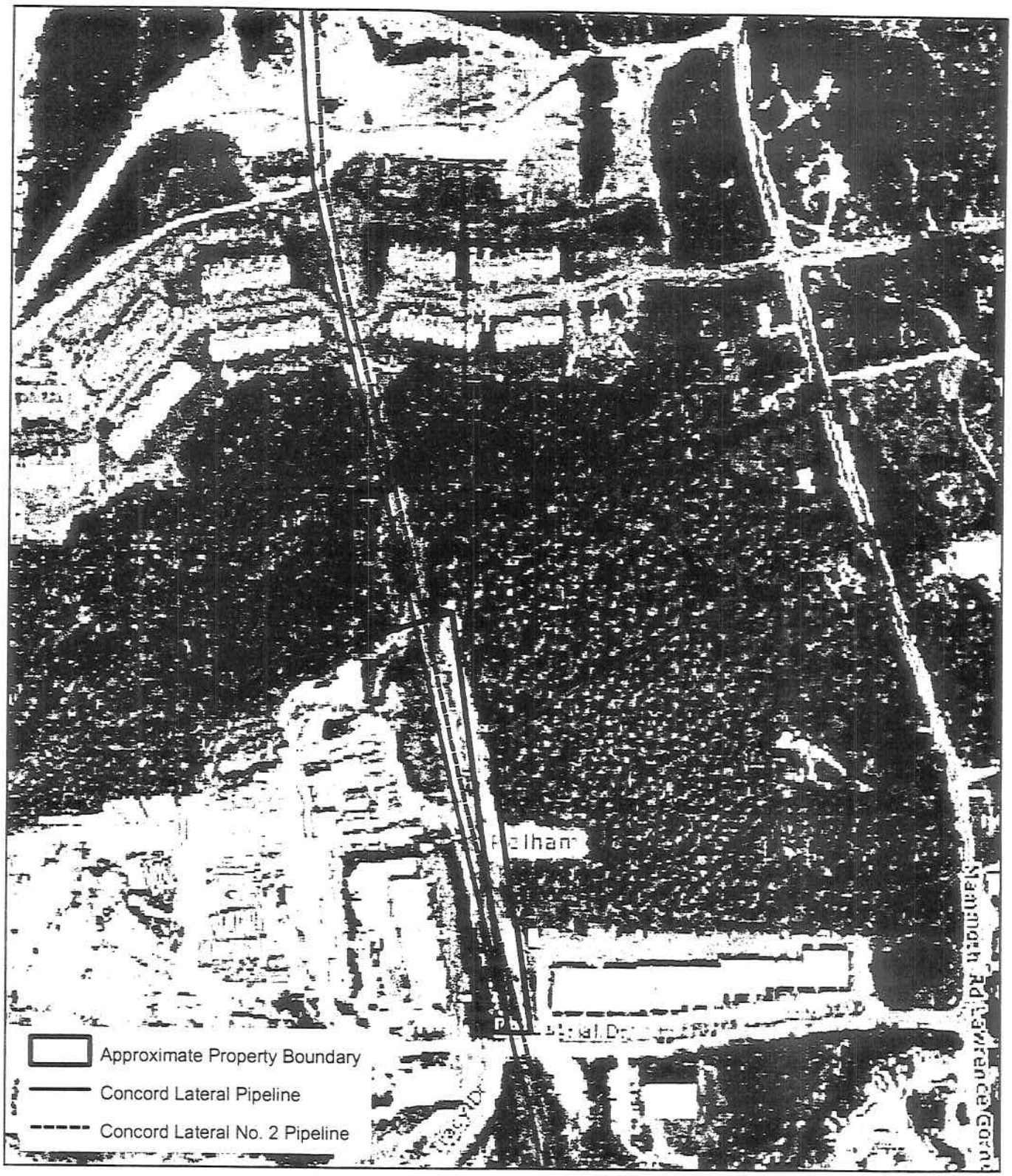
Feet
0 1,900 3,800

Figure 1-2: Aerial View of Project Site Area



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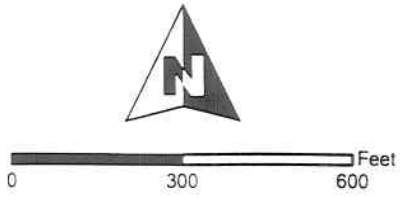
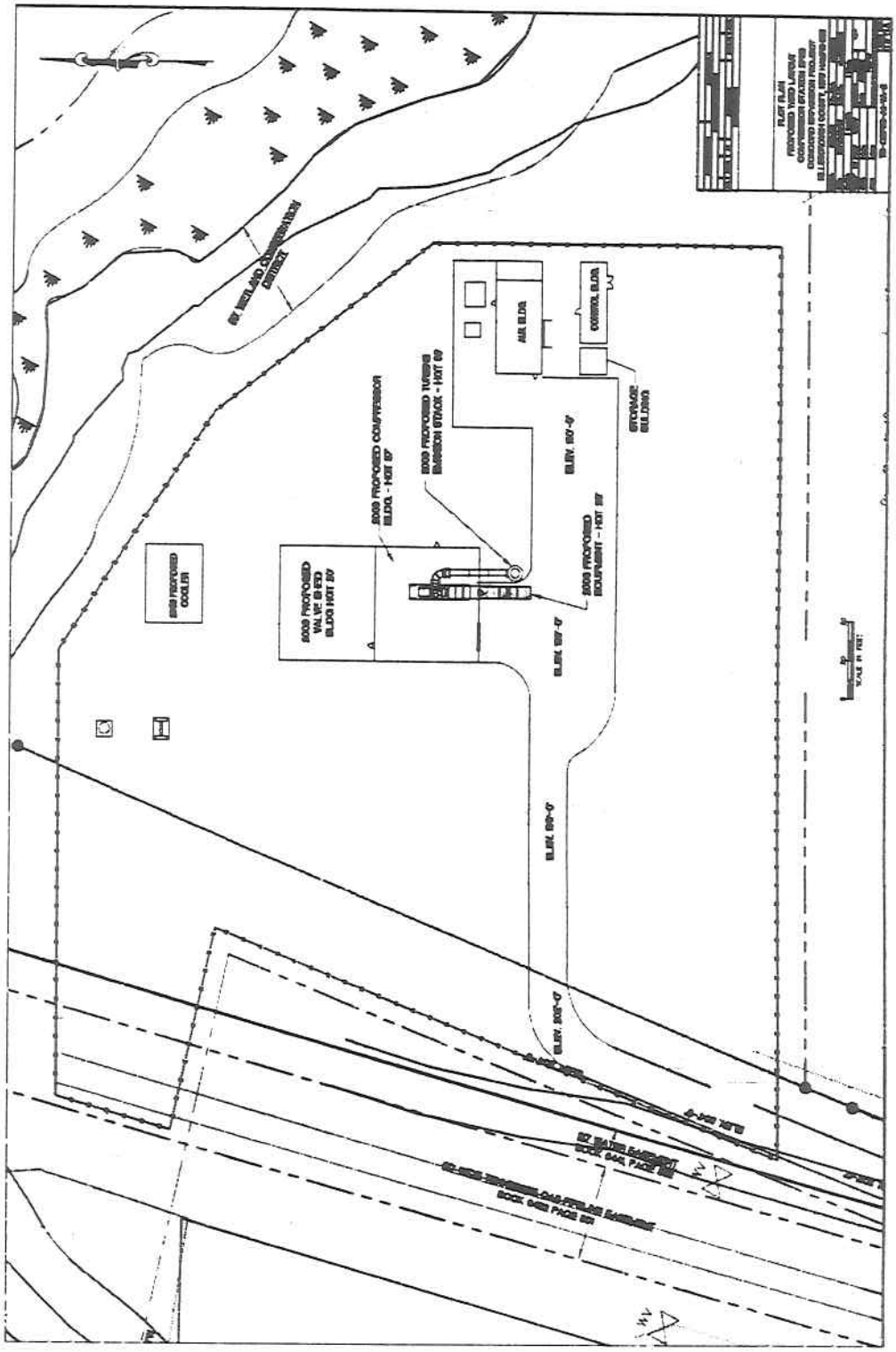


Figure 1-3: Site Plan



1.3 Application Organization

This application is organized into three additional sections. Section 2 describes the emissions from the facility and the proposed modification; Section 3 describes the applicability of various State and Federal air pollution regulations; and Section 4 provides a refined dispersion modeling analysis of the facility's impacts on nearby air quality. Permit application forms are provided in Appendix A. Other supplemental materials are included in Appendices B-E.