4.0 Affected Environment

The purpose of this section is to provide a description of the environment that might be affected by the alternatives discussed in Section 3. Because the Hanford Site is so large, the description includes much of the site itself, as well as the surrounding areas. Information used in this section was taken from the *Hanford Site National Environmental Policy Act (NEPA) Characterization Report* (Neitzel 2002a), unless otherwise noted.

The affected environment section includes the following:

- Land Use
- Meteorology and Air Quality
- Geology, Soils, and Seismology
- Hydrology
- Biology and Ecology
- Cultural Resources
- Socioeconomics
- Noise
- Occupational Safety
- Occupational Radiation Exposure.

4.1 Introduction

The focus of solid waste management activities related to the Hanford Solid (Radioactive and Hazardous) Waste Environmental Impact Statement (HSW EIS) is within the existing boundaries of the Hanford Site 200 Areas or at the Environmental Restoration and Disposal Facility (ERDF). Located on the Central Plateau (i.e., 200 Area Plateau) of the Hanford Site, the 200 East and 200 West Areas are approximately 8 and 11 km (5 and 7 mi), respectively, south and west of the Columbia River. The 200 Areas facilities were built to process irradiated fuel from the production reactors. Subsequent liquid wastes, produced as a result of the fuel processing, were placed in tanks or disposed of in cribs, ponds, or ditches in the 200 Areas. Treatment, storage, and disposal of solid wastes are accomplished in the 200 Areas.

The U.S. Department of Energy (DOE) Hanford Site (Figure 4.1) lies within the semi-arid Pasco Basin of the Columbia Plateau in southeastern Washington State. The site occupies an area of about 1,517 km^2 (586 mi^2) north of the confluence of the Yakima River with the Columbia River. The Hanford Site measures approximately 50 km (31 mi) north to south and 40 km (25 mi) east to west. The major portion of this land, with restricted public access, provides a buffer for the smaller areas currently used for nuclear materials storage, waste storage, and waste disposal.

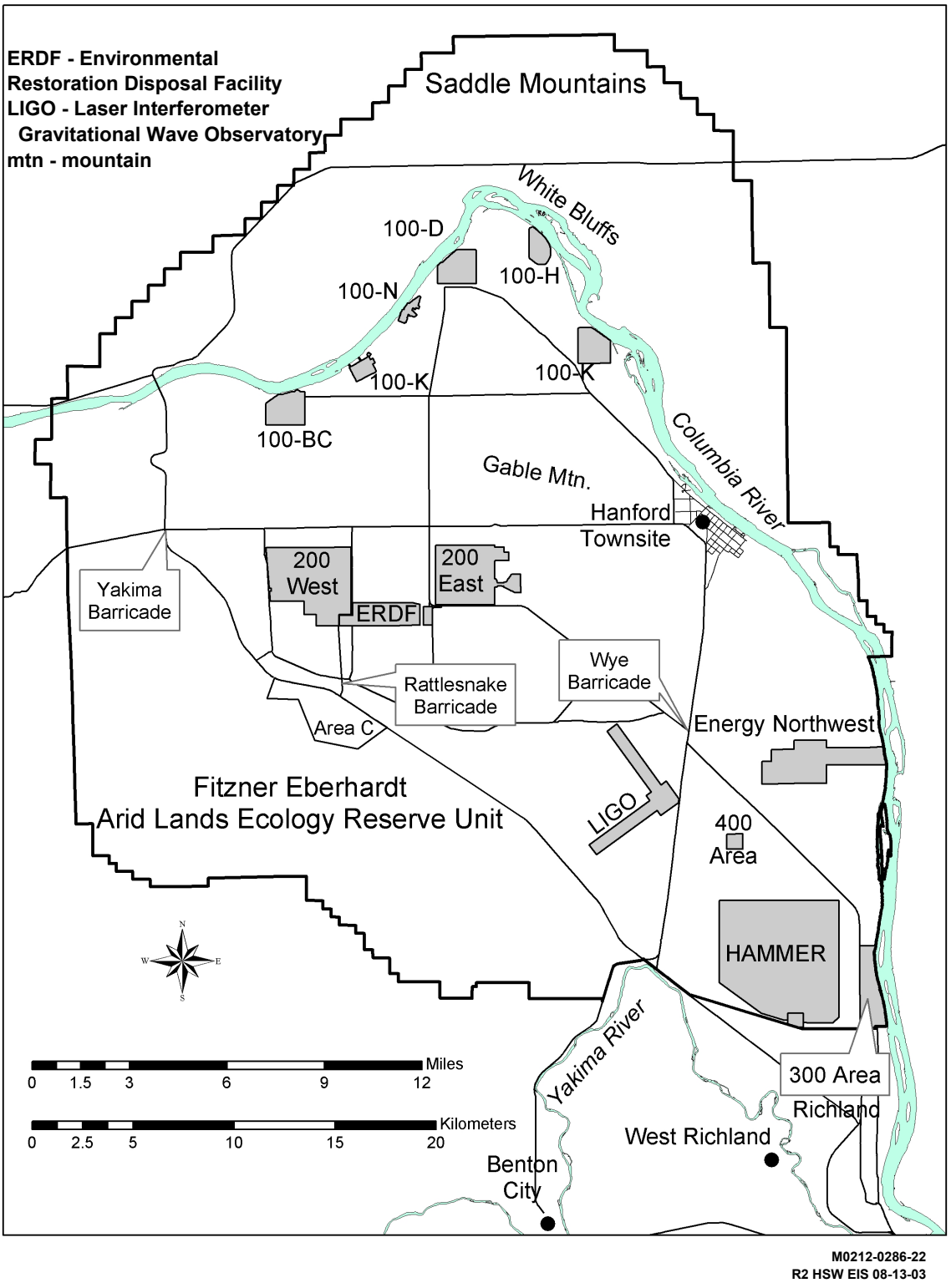

Figure 4.1. Department of Energy – Hanford Site (after Neitzel 2002a)