

**FORT MONMOUTH REUSE AND REDEVELOPMENT PLAN**

**TECHNICAL MEMORANDUM: NATURAL CONDITIONS**

**Fort Monmouth Reuse and Redevelopment Plan**  
**Technical Memorandum: Natural Conditions and Constraints**

Prepared for: Fort Monmouth Economic Revitalization Planning Authority

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This Technical Memorandum presents an overview of the Fort Monmouth's natural environment, providing a baseline understanding of the site's potential natural constraints for consideration in its reuse.

Fort Monmouth is located within the Coastal Region of Monmouth County and is included in the North Coast Environmental Planning Region of Monmouth County, New Jersey. The region is considered to have a temperate climate with high humidity due to the proximity to the Atlantic Ocean. The boundary of the New Jersey's coastal zone runs between the Main Post and Charles Wood area; the Main Post is geographically located within the New Jersey's coastal zone and is therefore subject to the Coastal Area Facility Review Act (CAFRA). Figure 1 illustrates the environmental characteristics of the site. Depending upon the location and type of the natural features and the planned reuses, these areas may be considered environmental constraints.

**Site Characteristics**

The topography of the Main Post and Charles Wood areas are generally flat except for short, steep slopes that occur along streams and waterways. Elevations at the Main Post range from approximately 6 feet above mean sea level (msl) at stream edges to approximately 30 feet above msl near the center of the site. Elevations in the Charles Wood area range from approximately 27 to 60 feet above msl, the lowest elevations occurring along Wampum Brook near the eastern boundary of the property.

Prominent features of the site include generous open space and wetland areas. Approximately 55% of the fort is in the form of undeveloped land and approximately 165 acres of wetlands are located throughout Fort Monmouth.

**Soils**

According to the Soil Survey of Monmouth County, the soils of both sides of the Fort Monmouth are classified as the Freehold-Urban Land Holmdel-Urban Land Complex association. Most of the soils found within the post have already been altered by excavating or filling. The Shrewsbury soil type, found in the Charles Wood area, is considered to be a hydric soil.

The Soil Survey provides information on the degree and types of soil limitations that might affect shallow excavations (such as basements and trenches for utility lines), small dwellings, and small commercial buildings. Both the Freehold and Downer soil types have slight limitations for dwellings and small commercial buildings and severe limitations for shallow excavations. The severe limitations of these soils are a result of the potential for the walls of excavations to cave in. The Kressen soil type has severe limitations for excavations, dwellings, and small commercial buildings. The severe limitations of this soil type are associated with wetness.

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Neither the Main Post nor the Charles Wood area is classified as “lands suitable for cultivation” by the Monmouth County Soil Conservation District.

### **Wetlands and Riparian Habitats**

Data from Monmouth County identifies 65 acres of wetlands within the Main Post and approximately 100 acres of wetlands within the Charles Wood area. Coastal wetlands are protected from development by a minimum of a 50-foot buffer, as required by the Wetlands Act of 1970. A Coastal Wetlands Permit is required to excavate, dredge, fill, or construct on any coastal wetland shown identified by the NJ DEP.

Most of the wetland areas on the Main Post are associated with Parkers Creek, Oceanport Creek, and Husky Brook. Both Oceanport Creek and Mill Brook, which splits from Parkers Creek at Lafetra Creek, are highly channelized with only a narrow margin of herbaceous wetland on each bank in the northern section. Forested wetlands occur in portions of the Charles Wood area bordering the railroad tracks and along Mill Brook, which flows through the entire length of the golf course and then under Hope Road into the western section of the area. On the golf course the wetlands are herbaceous and narrow.

### **Vegetation and Upland Habitat**

Vegetated areas within Fort Monmouth can be classified as either maintained/developed areas or forested areas. Maintained areas consist of landscaped grounds surrounding buildings, recreational fields, and large expanses of lawns such as the Parade Ground, providing little habitat for wildlife. A variety of grasses and wildflowers are present in upland sites throughout Fort Monmouth in addition to scattered ornamental trees and shrubs. Vegetative buffers exist along the creeks in Fort Monmouth, providing food and cover for wildlife. Significant forested areas are most prominent on the southern portion of the Charles Wood area, consisting of secondary hardwood growth with a closed canopy and moderate to dense undergrowth. The dominant hardwood species are Oak (*Quercus* sp.) and birch (*Betula* sp.).

### **Waterways**

Fort Monmouth is located in proximity to several prominent water features including the Atlantic Ocean, located less than five miles to the east, and the Shrewsbury and Navesink Rivers. The eastern portion of the Main Post is bordered by two tributaries of the Shrewsbury River, Parkers Creek on the north side and Oceanport Creek on the south side.

In addition, several waterways drain the Main Post. Mill Brook enters Fort Monmouth along the southwest boundary and flows east and then north to Lafetra Creek. Lafetra Creek originates west of the Main Post and flows east along the northern boundary of the Main Post. Parkers Creek originates at the confluence of Lafetra Creek and Mill Brook and flows along the northern boundary of the Main Post until it discharges to the Shrewsbury River.

The southern portion of the Charles Wood area is drained by Wampum Brook and a drainage ditch along the railroad tracks, both of which originate just west of Hope Road and flow east to

converge near the eastern boundary of the Charles Wood area, continuing east as Mill Brook. Mill Brook flows northeast through the golf course from the western boundary of the Charles Wood area and joins Wampum Brook east of the area.

### **Floodplains**

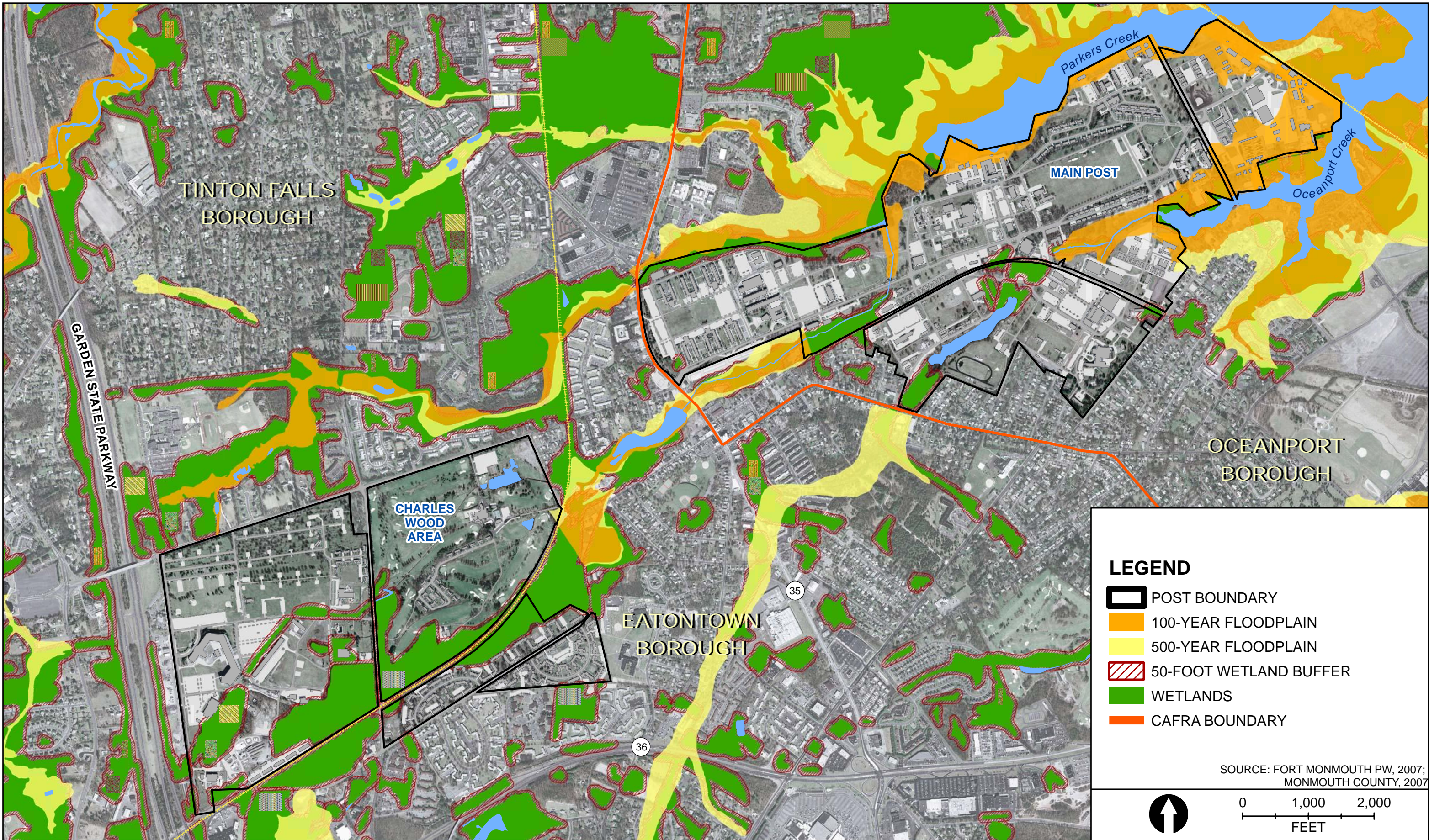
As illustrated in Figure 1: Fort Monmouth Natural Conditions, approximately 110 acres of the Main Post are located within the 100-year floodplain, as mapped by the Federal Emergency Management Agency (FEMA). This represents approximately 17 percent of the Main Post potentially restricted from development. These floodplains primarily occur along Oceanport Creek and Parkers Creek in the easternmost region of Fort Monmouth.

### **Wildlife**

The combination of open space, wetlands and proximity to water attract numerous species of mammals, birds, amphibians, and reptiles. Mammals likely to occur at Fort Monmouth include the woodchuck (*Marmota monax*), eastern cottontail rabbit (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), and raccoon (*Procyon lotor*). Common amphibians and reptiles include salamanders, frogs, turtles, and snakes. A variety of avian neotropical species can be found at Fort Monmouth including songbirds, wading birds, and shorebirds.

No rare, threatened, and endangered species are known to exist at Fort Monmouth. Peregrine falcons (*Falco peregrinus*) and Bald Eagles (*Haliaeetus leucocephalus*) can potentially be found in the region given the forested areas along the waterways. Although no longer protected by the Endangered Species Act of 1973, Bald Eagles are still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Potential eagle foraging areas have been identified around the eastern portion of the Main Post along the waterways.





**LEGEND**

- POST BOUNDARY
- 100-YEAR FLOODPLAIN
- 500-YEAR FLOODPLAIN
- 50-FOOT WETLAND BUFFER
- WETLANDS
- CAFRA BOUNDARY

SOURCE: FORT MONMOUTH PW, 2007;  
MONMOUTH COUNTY, 2007

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**FIGURE 1: FORT MONMOUTH NATURAL CONDITIONS**



## **REFERENCES**

### Reports

*Flood Insurance Rate Map, Borough of Eatontown, New Jersey, Monmouth County.* Federal Emergency Management Agency, 1981.

*Fort Monmouth Integrated Natural Resources Management Plan.* Tetra Tech, 1999.

*Soil Survey of Monmouth County.* US Department of Agriculture, Soil Conservation Service, 1989.

*Wetland Delineations, Main Post and Charles Wood Areas of Fort Monmouth, Monmouth County, New Jersey.* Versar, 1998.

### Guidelines and Resources

DEP Division of Fish and Wildlife, <<http://www.state.nj.us/dep/fgw/>>

Fort Monmouth Directorate of Public Works, GIS data

New Jersey Department of Environmental Protection, Freshwater Wetlands Program, <<http://www.state.nj.us/dep/landuse/fww.html>>