

5.6 WATER QUALITY

5.6.1 Existing Conditions

The confluence of the Hudson River with New York Harbor is located approximately 500 feet south of the project corridor. The harbor is a well mixed system with localized water quality differences occurring only in a few backwater areas. Water quality in this location is variable because of the tidal currents that alternately bring Hudson River and East River water past the Battery area. The Hudson River is classified by the New York State Department of Environmental Conservation (NYSDEC) as Water Class "I". Water Class "I" indicates that the Hudson River in the vicinity of the project site is saline. Water quality standards for Water Class "I" are used to protect the following uses of the river: Human Consumption of Fish, Fish Propagation, Fish Survival, Wildlife Protection, and Aesthetic Qualities.

The water table within the project limits and the immediate vicinity is generally encountered at depths of five to ten feet below grade. Review of topography indicates that shallow groundwater is anticipated to flow south and west towards the New York Harbor and Hudson River. It is anticipated that shallow groundwater may be tidally influenced in the project location.

Deep groundwater may be present in the Manhattan Schist, which underlies the project corridor. The Manhattan Schist is generally considered to have a low primary permeability. Additionally, although this unit contains joints, fractures, and faults, chemical weathering has filled these openings with clays, thus reducing potential secondary permeability. The Manhattan Schist is considered unimportant as an aquifer because of its relative impermeability.

The U.S. Geological Survey (USGS) National Water Quality Assessment (NAWQA) program, which was implemented in 1991, identifies several major water quality issues facing Hudson River basin water resource managers. They are as follows:

- Polychlorinated biphenyl (PCB) contamination of the bottom sediments in the upper Hudson River, subsequent release of PCBs to the river water, and accumulation of PCBs in the food chain;
- Point and non-point sources of hazardous chemicals, including urban and agricultural runoff, in sections of the upper and lower Hudson, and Mohawk Rivers;
- Point and non-point sources of nutrients, particularly in tributary basins with agriculture or rapid urban growth;
- Salinity of the lower Hudson River as it relates to use for public supply and to aquatic and wildlife habitats; and
- Effects of acid rain on poorly buffered streams and lakes in stream headwaters and tributary basins.

5.6.2 Potential Environmental Impacts

5.6.2.1 Analysis Year 2005/2006 (Construction)

No Build Condition

Under the No Build Condition, the South Ferry Terminal Project would not be constructed, and no changes to water quality associated with the project are anticipated. Minor maintenance and rehabilitation activities could occur, including typical station and transit infrastructure maintenance and repair. These activities would not have adverse impacts on water quality.

Proposed Action

Construction of the project would require cut and cover construction that may encounter shallow groundwater. There is a potential need to dewater the construction site, which may require discharge to the sewer system. If dewatering were to occur, all water collected during this process would be disposed of in compliance with local, state, and federal regulations, including the requirements of the New York State Pollutant Elimination System (SPDES).

5.6.2.2 Analysis Year 2008 (Initial Operation)

No Build Condition

Under the No Build Condition, the South Ferry Terminal Project would not be constructed, and no changes to water quality associated with the project are anticipated. Minor maintenance and rehabilitation activities could occur, including typical station and transit infrastructure maintenance and repair. These activities would not have adverse impacts on water quality.

Proposed Action

Operation of the South Ferry Terminal is not expected to affect water quality or groundwater movement in the area. Belowground structures would be water-proofed to prevent contamination of local groundwater. In addition, no discharges to surface water bodies are anticipated during operation of the terminal.

5.6.2.3 Analysis Year 2025 (Long Term Operation)

No Build Condition

Under the No Build Condition, the South Ferry Terminal Project would not be constructed, and no changes to water quality associated with the project are anticipated. Minor maintenance and rehabilitation activities would continue to occur, including typical station and transit infrastructure maintenance and repair. These activities would not have adverse impacts on water quality.

Proposed Action

Long term operation of the South Ferry Terminal is not expected to affect water quality or groundwater movement in the area. Belowground structures would be water-proofed

to prevent contamination of local groundwater. In addition, no discharges to surface water bodies are anticipated during operation of the terminal.