

## **12.1 INTRODUCTION**

This chapter describes the potential adverse impacts to utilities and other subsurface infrastructure, as well as energy requirements for the Project, and describes changes to those impacts with the Modified Design as compared to the 2004 FEIS Design.

The 2004 FEIS concluded that construction activities for the new subway would require relocation of many buried utilities within or near the Project alignment, and that this relocation would be conducted in coordination with the utility companies responsible for that infrastructure. The 2004 FEIS also described that the new subway would draw power from New York City's power grid through new substations, and this would not adversely affect the local or regional power supply. The Modified Design would not change the conclusions of the 2004 FEIS.

## **12.2 FEIS FINDINGS**

### **12.2.1 CONSTRUCTION IMPACTS**

The 2004 FEIS stated that construction activities could affect utilities buried beneath streets affected by the Second Avenue Subway. Utilities include water mains, sewers, gas pipes, and electrical conduits, including the Empire City Subway (ECS) ductbank, which runs along the west side of Second Avenue. Some of these utilities were anticipated to be above tunneling activities and could remain in place during construction, with protection measures established, whereas others may need to be relocated. Efforts to avoid relocation of utilities and maintain continuous service to customers were to be employed to the extent practicable. While the 2004 FEIS disclosed that short-term outages typical of other construction projects in New York City could occur, measures were to be taken to ensure that no significant adverse impacts would result. Close coordination with utility suppliers, as well as the New York City Department of Environmental Protection (NYCDEP), was to be conducted throughout the planning and construction process.

The 2004 FEIS did not identify any adverse impacts with respect to energy demand during construction. The 2004 FEIS noted that energy resources would be required to power construction equipment, including a Tunnel Boring Machine (TBM), but this would be negligible compared to City's peak load demand. The 2004 FEIS indicated that temporary substations would be created to power the TBM, in coordination with Con Edison.

### **12.2.2 PERMANENT IMPACTS**

The 2004 FEIS noted that any utilities requiring replacement or relocation during construction would be in place once the subway is operational. The subway itself would have minimal impact on the area's infrastructure. Connections to water and sewer services would be required for the new stations, but sufficient supply would be available.

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The 2004 FEIS stated that power would be obtained from the existing Con Edison electrical grid, distributed through substations within the below-ground station boxes. It was estimated that about 94.6 megawatts (MW) of power would be required annually for the Second Avenue Subway, which would be a very small fraction of the total energy consumed in New York City (about 0.7 percent of the projected 2020 load of 13,400 MW within the city). It was also stated that although substations produce electromagnetic fields (EMFs), there was general consensus at the time among the medical and scientific community that there was insufficient evidence to prove that EMFs cause adverse health effects. A 2002 study by Eneritech Consultants, which took measurements near Consolidated Edison substations in Manhattan, also found that EMF levels are indistinguishable from background within a very short distance from the substations.

### **12.3 UPDATE OF BACKGROUND CONDITIONS**

No substantial changes in utility infrastructure or energy supply has occurred along the Phase 2 alignment since the 2004 FEIS. As the Phase 2 preliminary engineering design has advanced, construction work zones along side streets adjacent to Second Avenue and 125th Street have been refined and include areas not previously included. A full utility survey will be conducted for Phase 2 to identify specific utility infrastructure that may be affected by the Project.

### **12.4 PHASE 2 MODIFIED DESIGN—CHANGES IN IMPACTS**

#### **12.4.1 CONSTRUCTION IMPACTS**

No major changes to utility services have occurred along the Phase 2 alignment. As the preliminary engineering for Phase 2 has advanced, the construction work zone has extended along adjacent areas of some cross streets off Second Avenue near the proposed subway stations and may require protection or relocation of additional utilities, similar to those within Second Avenue.

The Modified Design includes some modifications that would help reduce impacts to utility services. For instance, the 106th Street Station platform has been shifted about five to six feet east to reduce impacts to the ECS ductbank; the tunnel at the 125th Street curve and the 125th Street station would be about 20 feet deeper than originally designed, providing greater separation from utilities; and the deeper 125th Street station would substantially reduce cut-and-cover construction along 125th Street, thereby reducing potential utility conflicts in this area.

To expedite construction, based on experience gained during construction of Phase 1 and other major transit projects, MTA intends to implement an early utility relocation program to address a portion of the utility relocation work needed to prepare for the upcoming heavy construction. By performing some major utility relocations along Second Avenue in advance of the underground station shells and tunnel construction, unanticipated complications can be resolved in advance, thereby reducing the risk of construction delays in the follow-on contracts.

#### **12.4.2 PERMANENT IMPACTS**

As with the 2004 FEIS Design, any utilities affected by the Modified Design would be relocated or replaced once Phase 2 is operational. Some of these utilities may benefit from replacement with new and updated materials. Entrances and ancillary facilities would continue to require water and sewer connections in coordination with NYCDEP, and energy supply would continue to be coordinated with Con Edison. Due to new flood protection standards, substations would be

required to be above ground and located in ancillary facility structures. However, this would not affect their function or result in any new adverse impacts.

## **12.5 CONCLUSIONS**

The Phase 2 Modified Design would not result in any new or different significant adverse impacts related to utility services or energy supply not previously identified in the 2004 FEIS and ROD. The Modified Design includes elements to reduce potential impacts on utilities, and early utility relocations would be implemented to reduce utility impacts during construction. A utility survey will be conducted prior to construction and any impacts to utility services would be coordinated closely with service providers and regulating agencies, such as NYCDEP. \*