

## **Electrical Demand Narrative – SEQR Submission**

Project: New Bills Stadium

Date: October 5, 2022

ME Engineers has reviewed historical electrical usage data for the Existing Stadium to determine its peak electrical loads on game days and has estimated the peak electrical loads for the New Stadium and summarized its analysis below.

### **Existing Highmark Stadium – Existing Electrical Utility Service**

The existing stadium uses one (1) incoming 35kV service feeder from New York State Electric & Gas (NYSEG) and is split into two feeders to serve the stadium. Since the stadium only has one incoming service feeder from a single NYSEG substation, the full benefit of redundancy is not achieved which has caused problems in the past on event days. The current peak utility electrical demand from the Existing Stadium on both feeders totals approximately 7,500kW for major events such as Buffalo Bills game days.

### **New Bills Stadium – New Electrical Utility Service**

The new stadium will require two (2) new dedicated 35kV service feeders from New York State Electric & Gas (NYSEG). The location of the two (2) new service feeders will be located within the 283.42-acre Project Area and extended to the existing NYSEG substation within the public right of way. Final routing will be determined in future meetings with NYSEG. The design intent is for these feeders to be from the same NYSEG substation but from different directions to the site to increase the reliability of the electrical service to the new stadium. If one substation feeder is not operational, the full load can be met from the other feeder connected to the stadium. Based on previous recently constructed NFL stadiums, we estimate the stadium utility peak demand to be between 9,500kW to 11,000kW. The increased electrical load is due to the increased area of the building and the increased amount of technology, equipment and amenities in a modern NFL stadium. This estimated demand is based on a 3000-ton chilled water plant that will cool the stadium's interior spaces and other electrically powered equipment typically used in a modern NFL stadium. Energy efficient LED fixtures will be used for both the field lighting and interior/exterior light fixtures to reduce electrical demand. The video display boards in the seating bowl and illuminated signs will require significantly less power and be more energy efficient than their previous generation versions.

Please note the electrical demand indicated above are preliminary based on the initial Concept Design and the actual demand will be dependent on the final selection of equipment and the final mechanical system design. During the design phase, we will meet with NYSEG to understand their system capacity, distribution, and reliability. The preliminary indication from NYSEG is that infrastructure upgrades at the current substation will be required to handle the increased load, however no additional NYSEG substation will be required.

### **Energy Demand During Construction**

Energy demand for the construction activity associated with building the New Stadium will be less than the Existing Stadium's game day peak load. Construction activity will not occur on game days, thus the peak energy demand during the construction period will not increase. The New Stadium will not be operated concurrently with the Existing stadium, thus there is not an overlap of stadium operational electrical use.

### **Conclusion**

The New Stadium will feature more fan amenities and technologies that are more energy efficient and current state of the art. The New Stadium will have more efficient LED lighting throughout the building and an extensive lighting controls system to conserve energy during unoccupied times. The use of higher efficiency mechanical equipment, building automation and technology will create a new stadium that is sustainable, more energy conscious and only consumes slightly more power than the Existing Stadium due to its larger occupied area and enhanced features.

