

GENERAL REQUIREMENTS

## TOTAL ELECTRICAL LOAD CALCULATIONS

## Main Building Services

### Electrical Connected Loads

#### Normal Power

|   |         |
|---|---------|
| <b>Lighting</b> (0.81W/sf plus 10kW site lighting)    | 323 kW  |
| <b>Receptacles</b> (3W/sf)                            | 1161 kW |
| <b>Electric Vehicle Charging</b> (Separately metered) | 29 kW   |
| <b>Mechanical:</b>                                    |         |
| • Miscellaneous Electric Heat<br>FTUs and EUHs        | 176 kW  |
| • Energy Recovery Ventilators (ERVs)                  | 73 kW   |
| • VRF Fan Coil Units                                  | 60 kW   |
| • VRF Condensing Units                                | 1373 kW |
| • Rooftop Units<br>RTUs (2) and HRUs (5)              | 578 kW  |
| • Makeup Air Units (2)                                | 369 kW  |
| • Indoor Air Handling Units (11)                      | 1597 kW |
| • Exhaust Fans  | 90 kW   |
| • Air Cooled Condensing Units (ACCUs)                 | 162 kW  |
| • Miscellaneous AC Split Systems                      | 66 kW   |
| • Dehumidifiers                                       | 189 kW  |
| <b>Plumbing:</b>                                      |         |
| • Electric Hot Water Heaters                          | 646 kW  |
| • Miscellaneous Pumps                                 | 15 kW   |
| • Air Compressors                                     | 121 kW  |
| • Domestic Water Booster Triplex Pump (3 at 10hp)     | 30 kW   |
| • Miscellaneous                                       | 25 kW   |
| <b>Kitchen (Gas)</b>                                  | 300 kW  |
| <b>Miscellaneous Equipment</b>                        | 250 kW  |



Normal Power Total (Before Adding EM/Standby Total): 7,633kW  
8,035kVA

**Emergency Power (Backed Up By Generator)**

|                          |       |
|--------------------------|-------|
| <b>Lighting</b>          | 35 kW |
| <b>Fire Alarm</b>        | 30 kW |
| <b>Fire Pump (50 hp)</b> | 30 kW |

**Standby Power (Backed Up By Generator)**

|                                 |       |
|---------------------------------|-------|
| <b>Elevators (two at 40 hp)</b> | 80 kW |
| <b>Telecom Equipment</b>        | 75 kW |

Emergency/Standby Power Total: 250kW  
263kVA

**All Normal Power Loads Total:** 7,883kW  
8,298kVA

Electrical Connected Normal Power Loads with Code Applied Demand Factor:

|                        |          |
|------------------------|----------|
| First 1,161kVA at 100% | 1,161kVA |
| Plus                   |          |
| Next 7,137kVA at 75%   | 5,353kVA |

**Demand Total:** 6,514kVA

**Site Lighting/Locker Building Service**

**Electrical Connected Loads**

**Normal Power**

|   |       |
|---|-------|
| <b>Lighting</b>                                       | 7 kW  |
| <b>Sports Lighting</b>                                | 85 kW |
| <b>Receptacles (3 watt / SF)</b>                      | 25 kW |
| <b>Electric Vehicle Charging (separately metered)</b> | 14 kW |
| <b>Mechanical</b>                                     | 84 kW |



|                 |       |
|-----------------|-------|
| <b>Plumbing</b> | 90 kW |
| <b>Telecom</b>  | 15 kW |

Normal Power Total: 320kW  
337kVA

Note: The locker building (120 kW of total) and concessions building (75 kW of total) are currently add alternates. Another possible future connection to this transformer is a future maintenance building planned for the eastern side of the site (estimated load 100 kVA).

Normal Power Total Without Locker and Concessions Buildings: 125kW  
139kVA

## **Farm Road Electrical Service**

### **Electrical Connected Loads**

|                                      |       |
|--------------------------------------|-------|
| <b>Normal Power</b>                  |       |
| <b>Lighting</b>                      | 2 kW  |
| <b>Miscellaneous Telecom/Signage</b> | 10 kW |

Normal Power Total: 12kW  
13kVA

Based on projected connected loads with code applied demand, calculated estimated demand load is 7,835Amps at 480Volts, 3-phase.

Proposed secondary service will be sufficient to serve this calculated ampacity. Final utility transformer quantity and size to be determined by Utility Company. Two 2500kVA normal power transformers and one 300kVA emergency transformer are requested.

Additionally, we are requesting a 300kVA transformer and 480V service to supply site power to the eastern portion of the site and the football field area (750kVA if the locker room building and concession building are constructed (currently add-alternates)). Lastly, we are requesting a 112.5kVA, 480V service to the new school message board area near Farm Road.

(NOTE - This does not include any PV generation.)

Project will be supported by a utility-supplied standby generator that will provide a dedicated emergency service to the building.