

GENERAL REQUIREMENTS

TOTAL ELECTRICAL LOAD CALCULATIONS



Main Building Services

Electrical Connected Loads

Normal Power

Lighting (0.81W/sf plus 10kW site lighting)	323 kW
Receptacles (3W/sf)	1161 kW
Electric Vehicle Charging (Separately metered)	29 kW
Mechanical:	
• Miscellaneous Electric Heat FTUs and EUHs	176 kW
• Energy Recovery Ventilators (ERVs)	73 kW
• VRF Fan Coil Units	60 kW
• VRF Condensing Units	1373 kW
• Rooftop Units 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
Plumbing:	
• 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
Kitchen (Gas)	300 kW
Miscellaneous Equipment	250 kW



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

Emergency Power (Backed Up By Generator)

Lighting	35 kW
Fire Alarm	30 kW
Fire Pump (50 hp)	30 kW

Standby Power (Backed Up By Generator)

Elevators (two at 40 hp)	80 kW
Telecom Equipment	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

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



Plumbing	90 kW
Telecom	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

Normal Power	
Lighting	2 kW
Miscellaneous Telecom/Signage	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.