

Mechanical February 20, 2012

Plumbing CL Maurer
1310 Wakarusa Drive
Lawrence, KS 66049

Electrical RE: Lawrence Virtual School
Tennis Court Lighting Design

Communications Dear CL,

Video The following is a summary of the lighting system for the tennis courts at the Virtual School in Lawrence, Kansas.

Data The lighting system for the tennis courts at the Virtual School in Lawrence, Kansas will consist of metal halide luminaires on each of six (6) lighting poles located around the perimeter of the tennis courts. Three lighting poles will be located on the east side of the courts and three on the west side of the courts.

Poles on the west side of the courts will be 50 ft. tall and those on the east side of the courts will be 70 ft. tall. The taller luminaire mounting height on the east side of the courts has been provided in an effort to minimize spill into a residential area located to the west of the courts and to the north of Greever Street which is located immediately to the north of the tennis courts.

The lighting system will consist of luminaire units with lamp, reflector and visor located at the top of the respective pole and remote ballast in an enclosure that is located 8 to 10 ft. above finished grade on the pole.

The design has been completed so as to provide an initial lighting level of approximately 40 fc. with a maintained light level of approximately 30 fc. Lamps with a minimum catalogued life of 6,000 hours have been used in the design.

The lighting systems of multiple manufacturer's were reviewed and photometric plots for each manufacturer's system provided and reviewed. The system that minimized, most effectively, spill into the adjacent residential area was manufactured by Qualite. Review the attached photometric Plot. With this system, initial light levels of .3 fc are expected at the property line on the west side of the courts. The light level quickly drops off to .2 fc at a

point approximately 1/3 of the east/west dimension of the lot from the east lot line.

It has been requested by the Owner that a control system allowing remote on/off switching of the system be provided.

Due to the tight configuration of the site, concrete foundations with anchor bolts and steel lighting poles are proposed.

We have estimated the probable cost of the lighting system to include foundations, lighting poles and luminaires, trenching and backfill and conduit and conductors as follows:

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|--------------------------------------|------------------|
| Trenching and backfill | \$4,000 |
| Conduit and conductors | \$9,000 |
| Pole foundations | \$30,000 |
| Lighting system poles and luminaires | \$77,000 |
| Pole erection | \$20,000 |
| Sub total | \$140,000 |
| Contingency | \$20,000 |
| Tax | \$13,000 |
| Overhead and profit | \$30,000 |
| Total | \$203,000 |
| Permit Fees (3%) | \$6,000 |
| Design Fees | \$20,000 |
| Extended Warranty | \$9,000 |
| Total Project Cost | \$238,000 |

Please review this correspondence and let me know if you have questions or if you would like to discuss this project further.

Sincerely,



William R. Bassette PE

Photometric Plots

cc: Mark Hecker, Assistant Park Director, Lawrence, Kansas Parks and Recreation