



SPECIAL USE REPORT

▶ **FILE #:** 4-A-21-SU

AGENDA ITEM #: 38

AGENDA DATE: 4/8/2021

▶ **APPLICANT:** EMERALD YOUTH FOUNDATION

OWNER(S): Sansom Family Foundation, Inc.

TAX ID NUMBER: 94 K K 02401 (PART OF)

[View map on KGIS](#)

JURISDICTION: City Council District 6

STREET ADDRESS: 234 Dale Ave.

▶ **LOCATION:** South side of Dale Avenue, north side of Grand Avenue, east side of N.17th Street, and west side of Western Avenue

▶ **APPX. SIZE OF TRACT:** 3 acres

SECTOR PLAN: Central City

GROWTH POLICY PLAN: N/A

ACCESSIBILITY: Dale Avenue is a major collector with a pavement width of 23.5 ft inside a 57 ft right-of-way.

UTILITIES: Water Source: Knoxville Utilities Board

Sewer Source: Knoxville Utilities Board

WATERSHED: Second Creek and East Fork

▶ **ZONING:** OS (Parks and Open Space)

▶ **EXISTING LAND USE:** Sansom Sports Complex / Emerald Youth soccer fields

▶ **PROPOSED USE:** Field lighting

HISTORY OF ZONING: None noted for this property

SURROUNDING LAND USE AND ZONING: North: Building material company - I-MU (Industrial - Mixed Use)

South: Multifamily dwellings, office and a parking lot - I-MU (Industrial - Mixed Use), RN-5 (General Residential Neighborhood), and RN-6 (Multifamily Residential Neighborhood)

East: KUB substation - I-H (Heavy Industrial)

West: Office space - C-G-2 (General Commercial)

NEIGHBORHOOD CONTEXT: This property is located north of a residential neighborhood in an industrial area bordered by thoroughfares to the north and east.

STAFF RECOMMENDATION:

▶ **Approve the request for new 70-ft tall light poles, subject to 2 conditions:**

1. Meeting the requirements of the City of Knoxville Zoning Ordinance, Article 10.2, Exterior Lighting.
2. Meeting all applicable requirements of the City of Knoxville Department of Engineering.

With the conditions noted, this plan meets the requirements for approval of light poles above 65 ft in height and

the other criteria for approval of a use on review.

COMMENTS:

Per Section 10.2.C.3.a of the City of Knoxville zoning ordinance, recreational field lighting may be a maximum of 65 feet. Lighting any taller than 65 feet must be approved as a special use. This request is for 70-ft tall light poles for a soccer field at the Sansom Sports Complex at 234 Dale Avenue.

The existing light poles on fields 1 and 2 are 70-ft tall. The proposed light poles would match the height of the poles already on the site, which were installed before the adoption of the new zoning ordinance.

The Exterior Lighting Section of the City of Knoxville Zoning Ordinance has an exemption provision for recreational fields [10.2.C.3] due to their unique requirements for nighttime visibility and limited hours of operation, provided they meet certain criteria:

1. Maximum height: 65 feet; luminaires taller than this can only be approved via special use permit.
2. All lighting must be directed onto the field.
3. Recreational field lighting must be extinguished 45 minutes following an event.
4. Lighting must comply with 10.2.B (Lighting Standards) to facilitate patrons leaving the facility, cleanup, nighttime maintenance, and other closing activities.

STANDARDS FOR EVALUATING A SPECIAL USE (ARTICLE 16.2.F.2)

The planning commission, in the exercise of its administrative judgment, shall be guided by adopted plans and policies, including the general plan and the One Year Plan, and by the following general standards:

1) THE USE IS CONSISTENT WITH ADOPTED PLANS AND POLICES, INCLUDING THE GENERAL PLAN AND THE ONE-YEAR PLAN.

- A. The One Year Plan and Central City Sector Plan both designate this site as MU-SD, CC10 (Mixed Use-Residential District, Gateway Corridor). That mixed use designation is bounded by the interstate to the north and by the railroad tracks to the south. The sector plan describes the parcels along this path as underutilized and recommends a mix of uses designed to increase economic development in this area.
- B. The parcel housing the soccer fields was zoned I-3 (General Industrial) prior to the adoption of the new zoning ordinance on January 1, 2020 and was reassigned to the OS (Open Space) zone. The OS zone is not one of the recommended zones for the MU-SD, CC10 designation, so the zoning is not in compliance with the sector plan or One Year Plan. This should be investigated during the Central City Sector Plan update to align the land use designation, zoning, and existing land use. For example, the I-MU zone would be compliant with the Central City Sector Plan, the One Year Plan, and would allow outdoor amusement facilities.
- C. The light poles are not a land use, and the fields are in existence, so this is not an extension of the primary use of the property. Therefore, staff concludes that the applicant should be allowed to install the new light fixtures as the fixtures will not cause any adverse impacts.

2) THE USE IS IN HARMONY WITH THE GENERAL PURPOSE AND INTENT OF THIS ZONING CODE.

- A. The City of Knoxville Zoning Ordinance describes the OS (Parks and Open Space) Zoning District as intended to create, preserve, and enhance public open space to meet the passive and active park and recreational needs of the City. The OS District provides for both improved and unimproved park and recreation lands. Facilities may include, but are not limited to, structures or other active, play-oriented facilities such as playgrounds, recreational fields, ball-fields, sport courts, dog parks, marinas, cemeteries, golf courses, cultural facilities such as museums and libraries, and associated accessory facilities such as recreation and community centers, park administrative offices, and restroom facilities.
- B. The existing soccer fields would be classified as "Amusement Facility – Outdoor." The Use Matrix does not list this use as a permitted use within the OS zone. However, the above description of the OS zone clearly states that recreational fields, ball fields, and sport courts are allowed uses in the zone. Staff has concluded the matrix is in error and Amusement Facilities – Outdoor should be an allowed use in the OS zone.
- C. Proposed light fixtures are full cutoff and meet ordinance requirements.
- D. The proposed light poles are located over 140 feet from the nearest residential dwellings (the minimum distance required is 15 feet).

3) THE USE IS COMPATIBLE WITH THE CHARACTER OF THE NEIGHBORHOOD WHERE IT IS PROPOSED, AND WITH THE SIZE AND LOCATION OF BUILDINGS IN THE VICINITY.

- A. This special use request is for recreational field lighting for existing soccer fields. The light poles are in character with what would be expected at a recreational field complex and are of the same height as the poles in the neighboring fields.

4) THE USE WILL NOT SIGNIFICANTLY INJURE THE VALUE OF ADJACENT PROPERTY OR BY NOISE, LIGHTS, FUMES, ODORS, VIBRATION, TRAFFIC, CONGESTION, OR OTHER IMPACTS DETRACT FROM THE IMMEDIATE ENVIRONMENT.

A. The site is an existing use, so this request will not add to traffic congestion or noise levels.

B. There will be no impact on utility requirements in the area.

C. Proposed fixtures are full cutoff, minimizing glare from light fixtures.

D. Proposed luminaires utilize LED lighting, which provide more control of illumination with less spill than other lighting types.

E. Recreational field lighting must be extinguished 45 minutes following an event, which minimizes light trespass in residential areas after events.

F. Existing light poles in neighboring fields are 70-ft tall, so the special use would allow more uniform lighting and uniform fixture height.

G. The distance between the parcel housing the soccer fields and the parcels with residential uses measures approximately 143 feet at field 3, across the railroad tracks and Grand Avenue from residential dwellings. This is well above the minimum required in Article 10.2.B (Lighting Standards).

5) THE USE IS NOT OF A NATURE OR SO LOCATED AS TO DRAW SUBSTANTIAL ADDITIONAL TRAFFIC THROUGH RESIDENTIAL STREETS.

A. Additional traffic will not be drawn through residential streets because Dale Avenue is a major collector and because the soccer fields are an existing use and operate during non-peak hours.

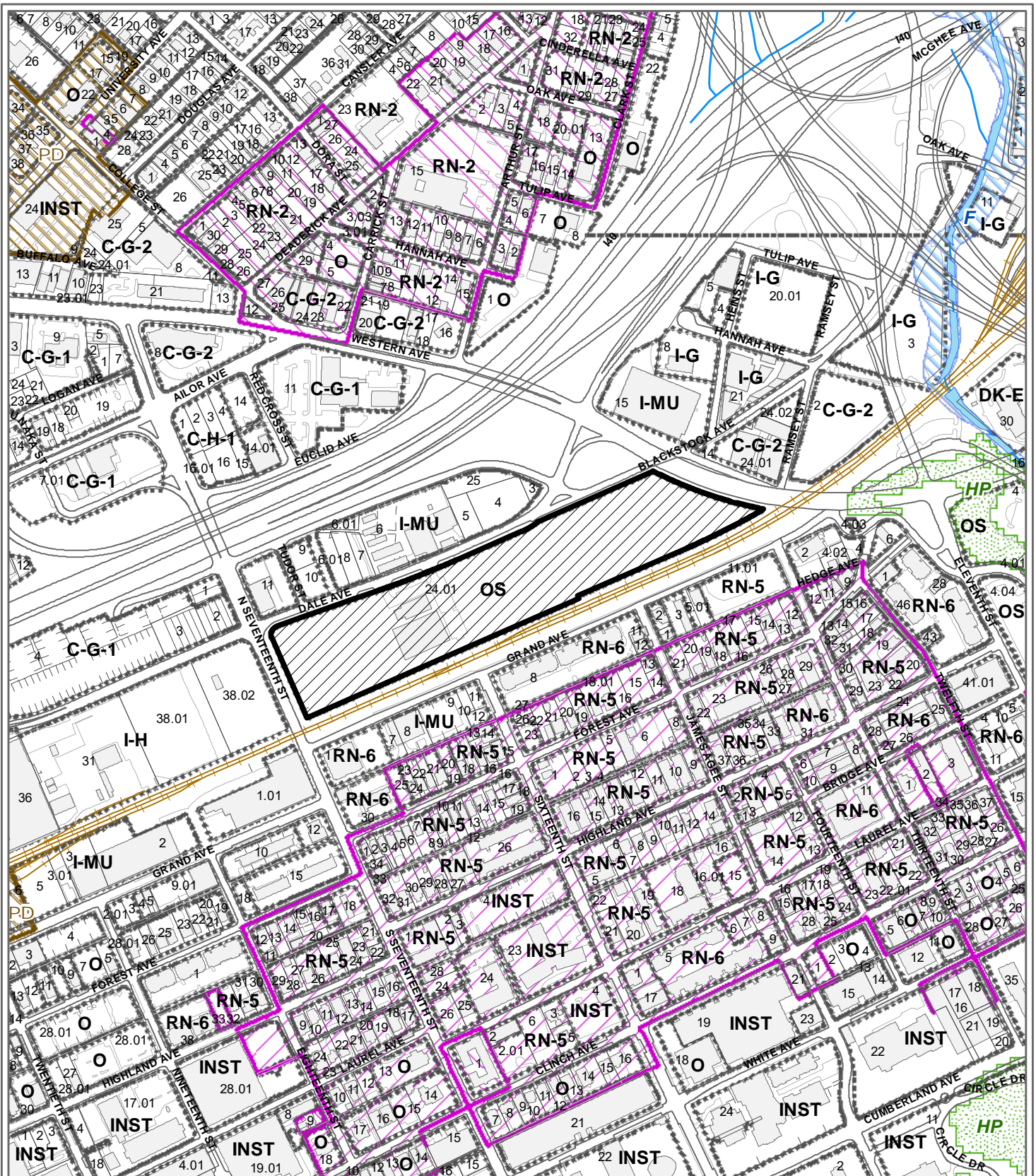
6) THE NATURE OF DEVELOPMENT IN THE SURROUNDING AREA IS NOT SUCH AS TO POSE A POTENTIAL HAZARD TO THE PROPOSED USE OR TO CREATE AN UNDESIRABLE ENVIRONMENT FOR THE PROPOSED USE.

A. There are no known uses in the area that could be a potential hazard or create an undesirable environment for the proposed uses within the development.

ESTIMATED TRAFFIC IMPACT: Not required.

ESTIMATED STUDENT YIELD: Not applicable.

The Planning Commission's approval or denial of this request is final, unless the action is appealed to the Knoxville City Council. The date of the Knoxville City Council hearing will depend on when the appeal application is filed. Appellants have 15 days to appeal a Planning Commission decision in the City.



**4-A-21-SU
SPECIAL USE**



Field lights to be 70'...new ordinance states 65' max in OS (Parks and Open Space)

Original Print Date: 3/10/2021

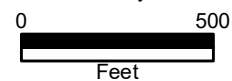
Revised:

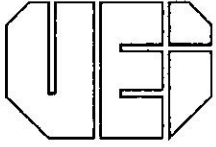
Knoxville - Knox County Planning Commission * City / County Building * Knoxville, TN 37902

Petitioner: Emerald Youth Foundation

Map No: 94

Jurisdiction: City





Vreeland Engineers Incorporated

February 16, 2021

Mr. B. J. Best
Allen H. Edmondson Electrical Contractors
(via email)

RE: Soccer Field No. 3 Lighting, Sansom Sports Complex

Dear B.J.:

As you are aware, owner is planning on illuminating Field No. 3 at subject sports complex with 70' poles. We understand this is contrary to current City lighting ordinance, limiting height of athletic field lighting to 65'.

We recommend that we apply for a special usage permit, requesting permission to utilize 70' height.

We cite the following as rationale for proposing special permission:

1. There are two existing illuminated fields immediately to the southwest of this field. Both of these fields are illuminated utilizing 70' poles.
2. The field elevation of the field to be illuminated is already a few feet lower than the other two fields to the southwest.
3. The field to be illuminated is closer to Western Avenue and further away from residential development.
4. The new field is being illuminated with LED, which has more precise control of illumination with less spill.

If you have any questions, please give me a call.

Very truly yours,

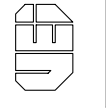
VREELAND ENGINEERS, INC.

Charles N. Luttrell, Jr.

mc



Vreeland Engineers Inc.
 3107 Sutherland Ave.
 Knoxville, TN 37909
 1-800-583-4789
 vreelandengineers.com



SOCCER FIELD #3 LIGHTING
 SANSOM SPORTS COMPLEX
 KNOXVILLE, TENNESSEE

DRAWING DESCRIPTION:

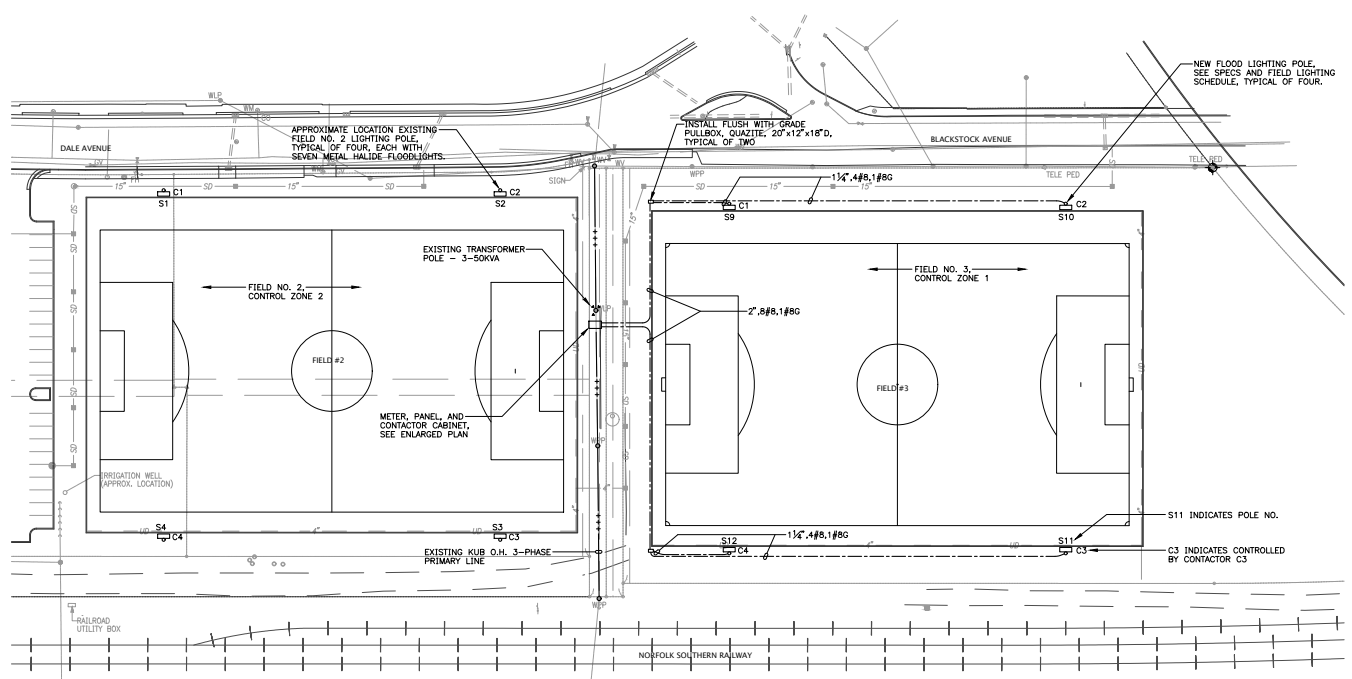
SITE PLAN - ELECTRICAL

DATE: 12-9-20

REVISIONS:

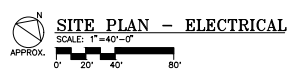
SHEET NUMBER:

SE1



FIELD ILLUMINATION DATA

DESIGN LEVEL	30 FT.
MAXIMUM	40.1 FC
MINIMUM	23.0 FC
AVG./MIN.	1.31

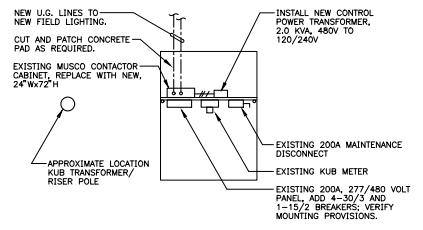


CONNECTED LOAD

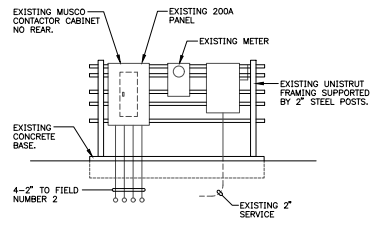
FIELD NO. 2: 28 x 1.63 =	45.6 KVA
FIELD NO. 3: 16 x 1.43 =	22.9 KVA
CONTROLS	0.3 KVA
TOTAL	68.8 KVA

FIELD LIGHTING SCHEDULE - FIELD #3

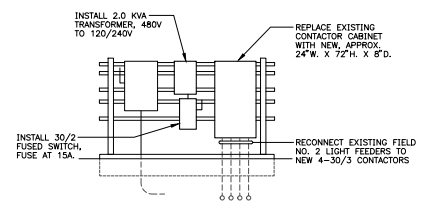
POLE NO.	HEIGHT	QUANTITY OF LUMINAIRES	LOAD-KW
S9	70'	4	5.72
S10	70'	4	5.72
S11	70'	4	5.72
S12	70'	4	5.72
TOTAL		16	84.2 KVA



ENLARGED EQUIPMENT PAD
N.T.S.



EXISTING METER CENTER WEST ELEVATION
N.T.S.



EXISTING METER CENTER EAST ELEVATION
N.T.S.

4-A-21-SU 3/23/2021

FILE #4-A-21-SU

SE1 - Soccer, Soccer Field #3 Site Plan - Electrical.dwg
 A.L.S. 12/31/20 11:07 AM C:20348(C2)

SE2 - Soccer Field #3 Lighting Specifications.dwg
 A.L.S. - 12/31/20 11:37 AM C:\20248\CL

<p style="text-align: center;">SANSOM SPORTS LTD.</p> <p>ELECTRICAL SPECIFICATIONS:</p> <ol style="list-style-type: none"> SCOPE: Furnish plant, labor, material, services, and equipment necessary for and reasonably incident to the installation of electrical facilities shown on the drawing and called for hereinafter. CODES AND PERMITS: Secure necessary permits, pay necessary fees, conform to the Knoxville Electric Code. SERVICE: Service for field lighting is existing from KUB pole-mounted transformers. Voltage is 277/480-volts, 3-phase, 4-wire, wye. WIRING: All conduit exposed above grade shall be IMC conduit. Conduit run underground shall be Schedule 40 PVC. All conductors shall be "THHN" insulated copper. All wiring shall be color coded as to voltage and phase. PANELBOARD: Panelboard is existing at site and is that as manufactured by Eaton Company. Contractor shall furnish and install additional circuit breakers in panelboard as scheduled on plans. Verify mounting provision of existing panelboard to accept new circuit breakers. AIC rating of circuit breakers shall match those existing in panelboard. CONTROL POWER TRANSFORMER: Provide new 480-volt to 120/240-volt, single-phase transformer to provide control voltage for new controller cabinet. Transformer shall be similar and equal to Square D Company Class 7400, 2-KVA, catalog No. 251F. Transformer shall be enclosed in 4X enclosure. Transformer voltage shall be 480-volt primary, 120/240-volt secondary. GROUNDING: Furnish and install grounding in accordance with code. Bond lighting fixtures and equipment. Provide in all conduit lines separate insulated grounding conductor. FIELD LIGHTING SYSTEMS: <p>General:</p> <p>Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.</p> <p>The purpose of these specifications is to define the lighting system performance and design standards for Field No. 3 at Sansom Sports Complex using an LED Lighting source. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth in these specifications.</p> <p>The primary goals of this sports lighting project are:</p> 	<ol style="list-style-type: none"> Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore light levels are guaranteed to not drop below specified target values for a period of 25 years. Environmental Light Control: It is the primary goal of this project to minimize spill light to adjoining properties and glare to the players, spectators and neighbors. Cost of Ownership: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated for the duration of the warranty. <p>Lighting Performance</p> <p>Illumination Levels and Design Factors: Playing surfaces shall be lit to an average target illumination level and uniformly as specified in the chart below. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Appropriate light loss factors shall be applied and submitted for the basis of design. Average illumination level shall be measured in accordance with the IESNA LM-5-04 (IESNA Guide for Photometric Measurements of Area and Sports Lighting Installations). Illumination levels shall not to drop below desired target values in accordance to IES RP-6-15, Page 2, Maintained Average Illuminance and shall be guaranteed for the full warranty period.</p> <table border="1" data-bbox="798 470 997 527"> <thead> <tr> <th>Area of Lighting</th> <th>Average Target Illuminance (Footcandles)</th> <th>Minimum Uniformity Ratio</th> </tr> </thead> <tbody> <tr> <td>Seccor Field</td> <td>30 Footcandles</td> <td>2.5:1.0</td> </tr> </tbody> </table> <p>Color: The lighting system shall have a minimum color temperature of 5700K and a CRI of 75.</p> <p>Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, minimum mounting heights shall be as described below. Higher mounting heights may be required based on photometric report and ability to ensure the top of the field angle is a minimum of 10 degrees below horizontal.</p> <table border="1" data-bbox="787 609 1008 649"> <thead> <tr> <th>Row of Poles</th> <th>Pole Spacing</th> <th>Pole Height</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>50-512</td> <td>20'</td> </tr> </tbody> </table>	Area of Lighting	Average Target Illuminance (Footcandles)	Minimum Uniformity Ratio	Seccor Field	30 Footcandles	2.5:1.0	Row of Poles	Pole Spacing	Pole Height	4	50-512	20'	<p>Environmental Light Control:</p> <p>Light Control Luminaires: All luminaires shall utilize spill light and glare control devices including, but not limited to, internal shields, louvers and external shields. No symmetrical beam patterns are acceptable. Luminaires shall be certified by a Spill Science: Spill scans must be submitted indicating the amount of horizontal and vertical footcandles along the specified lines. Light levels shall be taken at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank of lights. Illumination level shall be measured in accordance with the IESNA LM-5-04 after 1-hour warm up.</p> <p>The first page of a photometric report for all luminaire types proposed showing horizontal and vertical axial candle power shall be provided to demonstrate the capability of achieving the specified performance. Reports shall be certified by a qualified testing laboratory with a minimum of five years experience or by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products. A summary of the horizontal and vertical aiming angles for each luminaire shall be included with the photometric report.</p> <p>Cost of Ownership:</p> <p>Manufacturer shall submit a 25 year Cost of Ownership summary that includes energy consumption, anticipated maintenance costs, and control costs. All costs associated with fully luminaire replacement - equipment rentals, removal and installation labor, and shipping - are to be included in the maintenance costs.</p> <p>Products:</p> <p>Sports Lighting System Construction:</p> <p>Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, drivers and other enclosures shall be factory assembled, aimed, wired and tested.</p> <p>Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed aluminum shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated with aluminum-based thermosetting epoxy resin for protection against corrosion and stress corrosion cracking. Structural fasteners may be carbon steel and galvanized meeting ASTM A153 and ISOEN 1461 (for hot dipped galvanizing), or ASTM</p>	<p>B695 (for mechanical galvanizing). All wiring shall be enclosed within the cross-arms, poles, or electrical components enclosure.</p> <p>System Description: Lighting system shall consist of the following:</p> <ul style="list-style-type: none"> Galvanized steel poles and cross-arm assembly. Non-approved pole technology: <ul style="list-style-type: none"> Square static cast concrete poles will not be accepted. Direct heavy steel poles which utilize the extended portion of the steel shaft for their foundation will not be accepted due to potential for internal and external corrosion reaction to the soils and long term performance concerns. Lighting systems shall use concrete foundations. See Section 2.4 for details. <ul style="list-style-type: none"> For a foundation using a pre-stressed concrete base embedded in concrete backfill the concrete shall be air-entrained and have a minimum compressive design strength at 28 days of 3,000 PSI. 3,000 PSI concrete specified for early pole erection, actual required minimum allowable concrete strength is 1,000 PSI. All pipes and concrete backfill must bear on and against firm undisturbed soil. For anchor bolt foundations or foundations using a pre-stressed concrete base in a suspended pier or re-inforced pier design pole erection may occur after 7 days. Or after a concrete sample from the same batch achieves a certain strength. <p>Manufacturer will supply all drivers and supporting electrical equipment</p> <p>Remote drivers and supporting electrical equipment shall be mounted approximately 10 feet above grade in aluminum enclosures. The enclosures shall be touch-safe and include drivers and fusing with indicator lights on faces to notify when a fuse is to be replaced for each luminaire. Disconnect per circuit for each pole structure will be located in the enclosure. Integral drivers are not allowed.</p> <p>Manufacturer shall provide surge protection at the pole equal to or greater than 40 kA for each line to ground (Common Mode) as recommended by IEEE C62.41.2_2002.</p> <p>Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connection for fast, trouble-free installation.</p> <p>All luminaires, wires, and cross-arm assemblies shall withstand 15 mph winds and maintain luminaire aiming alignment.</p> <p>Control cabinet to provide remote on-off control and monitoring of the lighting system. See Section 2.3 for further details.</p> <p>Manufacturer shall provide lightning grounding as defined by NFPA 780 and be UL Listed per UL 96 and UL 96A.</p>
Area of Lighting	Average Target Illuminance (Footcandles)	Minimum Uniformity Ratio													
Seccor Field	30 Footcandles	2.5:1.0													
Row of Poles	Pole Spacing	Pole Height													
4	50-512	20'													
<p>Integrated grounding via concrete encased electrode grounding system.</p> <p>If grounding is not integrated into the structure, the manufacturer shall supply grounding electrodes, copper down conductors, and external weld links. Electrodes and conductors shall be sized as required by NFPA 780. The grounding electrodes shall be minimum size of 5/8 inch diameter and 8 feet long, with a minimum of 10 feet embedment. Grounding electrode shall be connected to the structure by a grounding electrode conductor with a minimum size of 2 AWG for poles with 75 feet mounting height or less, and 20 AWG for poles with more than 75 feet mounting height.</p> <p>Safety: All system components shall be UL listed for the appropriate application.</p> <p>Electrical: Electric Power Requirements for the Sports Lighting Equipment:</p> <ul style="list-style-type: none"> Electric power: 480-volts, 3-phase. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage. <p>Control:</p> <p>Instant On/Off Capabilities: System shall provide for instant on/off of luminaires.</p> <p>Lighting controller cabinet constructed of NEMA Type 4 aluminum, designed for easy installation with connectors, labeled to match field diagrams and electrical design. Manual on/off auto selector switches shall be provided.</p> <p>Remote Lighting Control System: System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.</p> <p>The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields to only having permission to execute "early off" commands by phone. Scheduling tool shall be capable of setting curfew limits.</p> <p>Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.</p> <p>Remote Monitoring System: System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The controller shall determine switch position (manual or auto) and contactor status (open or closed).</p>	<p>Management Tools: Manufacturer shall provide a web-based database and dashboard tool of actual field usage and provide reports by facility and user group. Dashboard shall also show current status of luminaire outages, control operation and service. Mobile application will be provided suitable for IOS, Android and BlackBerry devices.</p> <p>Hours of Usage: Manufacturer shall provide a means of tracking actual hours of usage for the field lighting system that is readily accessible to the owner.</p> <p>Cumulative hours: shall be tracked to show the total hours used by the facility</p> <p>Report hours saved by using early off and push buttons by users.</p> <p>Communication Costs: Manufacturer shall include communication costs for operating the control and monitoring system for a period of 25 years.</p> <p>Communication with luminaire drivers: Control system shall interface with drivers in electrical components enclosures by means of powerline communication.</p> <p>Structural Parameters:</p> <p>Wind Loads: Wind loads shall be based on the 2015 International Building Code. Wind loads to be calculated using ASCE 7-10, an ultimate design wind speed of 115 and exposure category C.</p> <p>Pole Structural Design: The stress analysis and safety factor of the poles shall conform to 2015 AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (LTS-6).</p> <p>Foundation Design: The foundation design shall be based on soil parameters as outlined in the geotechnical report: Foundation Systems Engineering, P.C., dated September 20, 2019</p> <p>Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.</p> <p>Execution:</p> <p>Soil Quality Control:</p> <p>It shall be the Contractor's responsibility to notify the Owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the Owner's approval. Payment for additional costs associated with.</p>	<p>Providing engineered foundation embedment design by a registered engineer in the State of Tennessee for soils other than specified soil conditions;</p> <p>Additional materials required to achieve alternate foundation;</p> <p>Excavation and removal of materials other than normal soils, such as rock, caliche, etc.</p> <p>Field Quality Control:</p> <p>Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA LM-5-04.</p> <p>Field Light Level Acceptability:</p> <p>Light levels are guaranteed not to fall below the target maintained light levels for the entire warranty period of 25 years. These levels will be specifically stated as "guaranteed" on the illumination summary provided by the manufacturer.</p> <p>The contractor/manufacturer shall be responsible for conducting initial light level testing and an additional inspection of the system, in the presence of the owner, one year from the date of commissioning of the lighting.</p> <p>The contractor/manufacturer will be held responsible for any and all changes needed to bring these fields back to compliance for light levels and uniformities. Contractor/Manufacturer will be held responsible for any damage to the fields during these repairs.</p> <p>Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative, the actual performance levels including footcandles and uniformity ratios are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be required to make adjustments to meet specifications and satisfy Owner.</p> <p>Warranty and Guarantee:</p> <p>25-Year Warranty: Each manufacturer shall supply a signed warranty covering the entire system for 25 years from the date of shipment. Warranty shall guarantee specified light levels. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty does not cover weather conditions events such as lightning or hail damage, improper installation, vandalism or abuse, unauthorized repairs or alterations, or product made by other manufacturers.</p> <p>Maintenance: Manufacturer shall monitor the performance of the lighting system, including on/off status, hours of usage and luminaire outage for 25 years from the date of equipment shipment. Parts and labor shall be covered such that individual luminaire outages will be repaired when the usage of any field is materially</p>	<p>impacted. Manufacturer is responsible for removal and replacement of failed luminaires, including all parts, labor, shipping, and equipment rental associated with maintenance. Owner agrees to check fuses in the event of a luminaire outage.</p> <ol style="list-style-type: none"> GUARANTY: Guarantee all work to be free from defects in material and workmanship for one year after date of final acceptance. 												
<p>5</p>	<p>6</p>	<p>7</p>	<p>8</p>												



Vreeland Engineers Inc.
 3107 Sutherland Ave.
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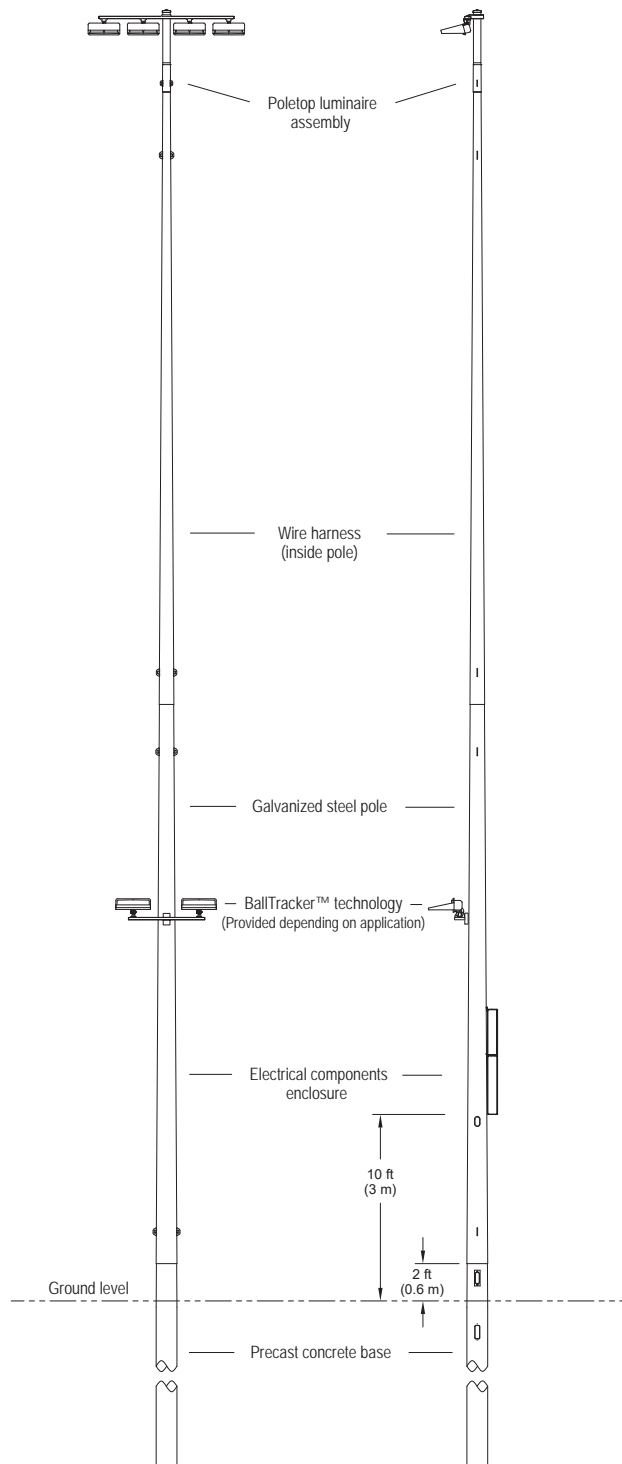


SOCCER FIELD #3 LIGHTING
 SANSOM SPORTS COMPLEX
 KNOXVILLE, TENNESSEE

DRAWING DESCRIPTION
ELECTRICAL SPECIFICATIONS

DATE:	12-31-20
REVISIONS:	
SHEET NUMBER	SE2

4-A-21-SU 3/23/2021



PRELIMINARY

CONFIGURATION	04
DRAWN BY	RWS
APPROVED BY	TDM
SCALE	Not to scale
DATE	06/18/19
DRAWING NUMBER	M-2151-LED04-3-04

Light-Structure System™ typical configuration
 TLC for LED® Luminaires



CORPORATE OFFICE:
 P.O. Box 308
 100 1st Avenue West
 Oskaloosa, Iowa 52577
 +1-800-825-6020
 +1-641-673-0411

Luminaire Data

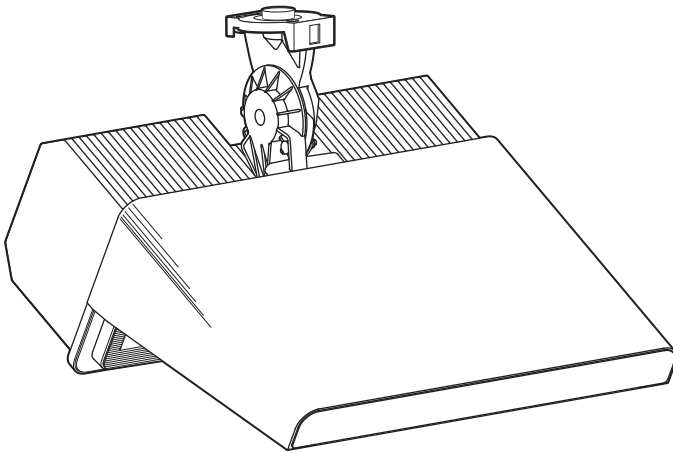
Weight (luminaire)	67 lb (30 kg)
UL listing number	E338094 (pending)
UL listed for USA / Canada	UL1598 CSA-C22.2 No.250.0 (pending)
CE Declaration	LVD, EMC, RoHS
Ingress protection, luminaire	IP65
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating, luminaire	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11	
L90 (13.5k)	>81,000 h
L80 (13.5k)	>81,000 h
L70 (13.5k)	>81,000 h
CIE correlated color temperature	5700 K
Color rendering index (CRI)	75 typ, 70 min
Lumens ¹	156,100

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

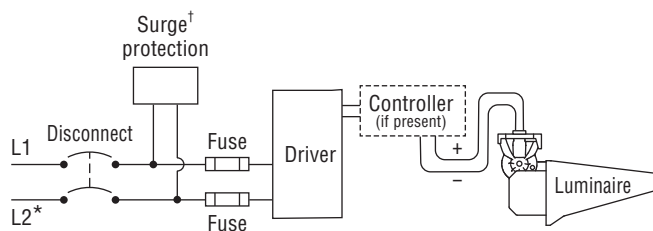


Driver Data

Electrical Data

Rated wattage ¹	
Per driver	1500 W
Per luminaire	1500 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μ s
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	45°C (113°F) - pending
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	11 – 100%
Range, light output	16 – 100%

Typical Wiring



* If L2 (com) is neutral then not switched or fused.
 † Not present if indoor installation.

	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire²	9.30 A	8.95 A	8.46 A	8.09 A	7.75 A	6.72 A	5.36 A	4.90 A	4.65 A	4.49 A	3.88 A

Footnotes:

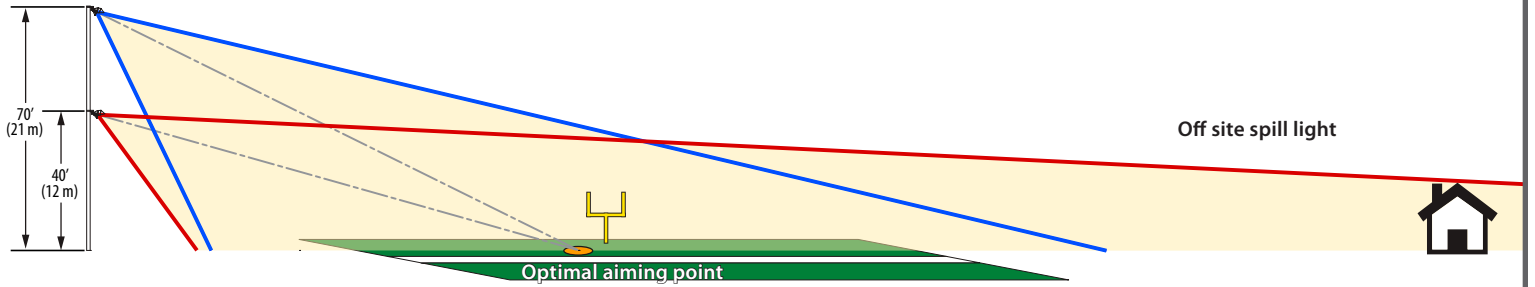
- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

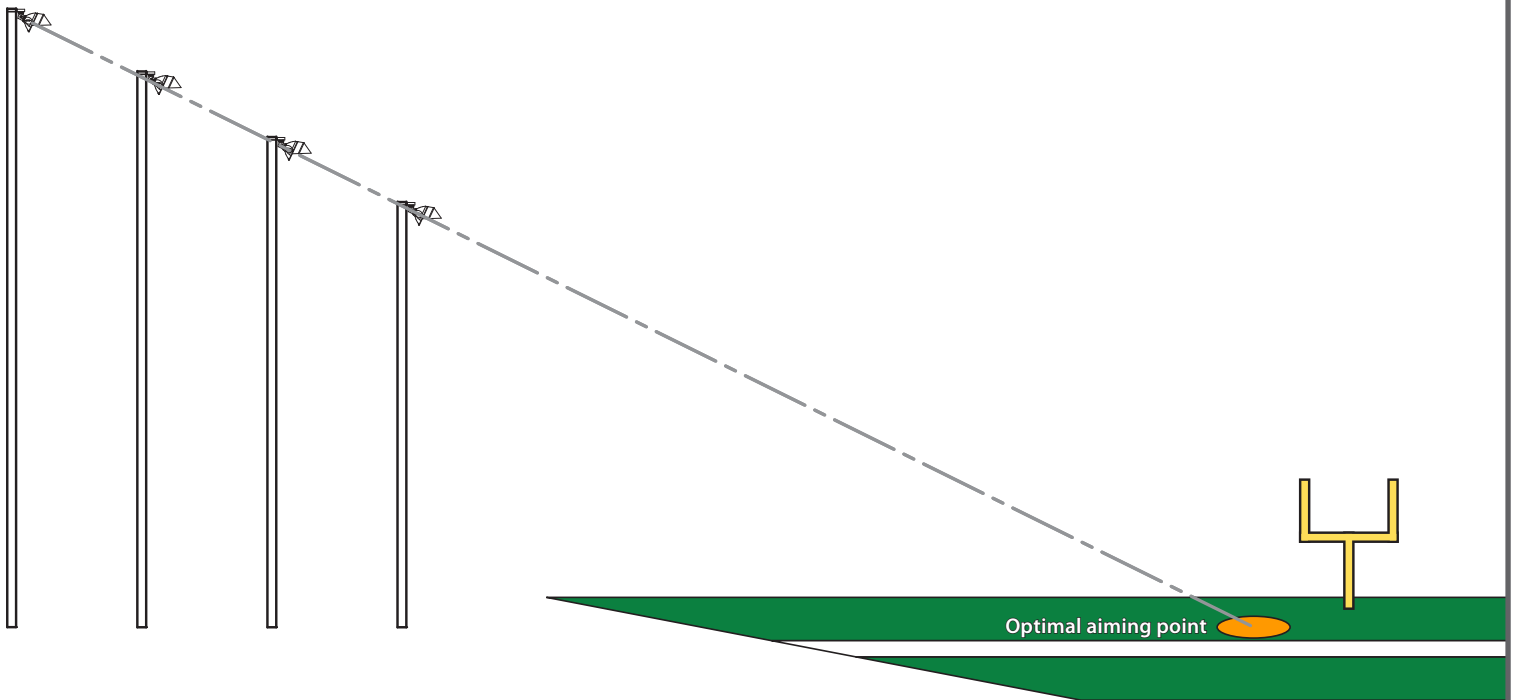
1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



Pole height impacts aiming angles and the amount of spill light



Distance from the aiming point determines optimal pole height





Development Request

DEVELOPMENT

- Development Plan
- Planned Development
- Use on Review / Special Use
- Hillside Protection COA

SUBDIVISION

- Concept Plan
- Final Plat

ZONING

- Plan Amendment
 - SP OYP
- Rezoning

Emerald Youth Foundation

Applicant Name

Affiliation

2/18/2021

April 8, 2021

File Number(s)

Date Filed

Meeting Date (if applicable)

4-A-21-SU

CORRESPONDENCE

All correspondence related to this application should be directed to the approved contact listed below.

- Applicant
- Owner
- Option Holder
- Project Surveyor
- Engineer
- Architect/Landscape Architect

David Wells

Emerald Youth Foundation

Name

Company

1014 Heiskell Ave

Knoxville

TN

37921

Address

City

State

ZIP

865-637-3227 x104

dwells@emeraldyouth.org

Phone

Email

CURRENT PROPERTY INFO

Sansom Family Foundation, Inc.

Owner Name (if different)

Owner Address

Owner Phone

234 Dale Ave

094KK02401

(part of)

Property Address

Parcel ID

Sewer Provider

Water Provider

Septic (Y/N)

STAFF USE ONLY

s/s Dale Ave., n/s Grand Ave., e/s N.17th St. & w/s Western Ave.

3.0 acres (apprx)

General Location

Tract Size

City County

6th

OS

P-Rec

District

Zoning District

Existing Land Use

Central City

MU-SD, Mu-CC10

N/A

Planning Sector

Sector Plan Land Use Classification

Growth Policy Plan Designation

DEVELOPMENT REQUEST

Development Plan Use on Review / Special Use Hillside Protection COA
 Residential Non-Residential
 Home Occupation (specify) _____
 Other (specify) Field lights to be 70' ...new ordinance states 65' max

Related City Permit Number(s)
Plan review
R21-0032

SUBDIVISION REQUEST

Proposed Subdivision Name _____
 Combine Parcels Divide Parcel _____
 Unit / Phase Number _____ Total Number of Lots Created _____
 Other (specify) _____
 Attachments / Additional Requirements

Related Rezoning File Number

ZONING REQUEST

Zoning Change _____
 Proposed Zoning _____
 Plan Amendment Change _____
 Proposed Plan Designation(s) _____
 Proposed Density (units/acre) _____ Previous Rezoning Requests _____
 Other (specify) _____

Pending Plat File Number

STAFF USE ONLY

PLAT TYPE

Staff Review Planning Commission

ATTACHMENTS

Property Owners / Option Holders Variance Request

ADDITIONAL REQUIREMENTS

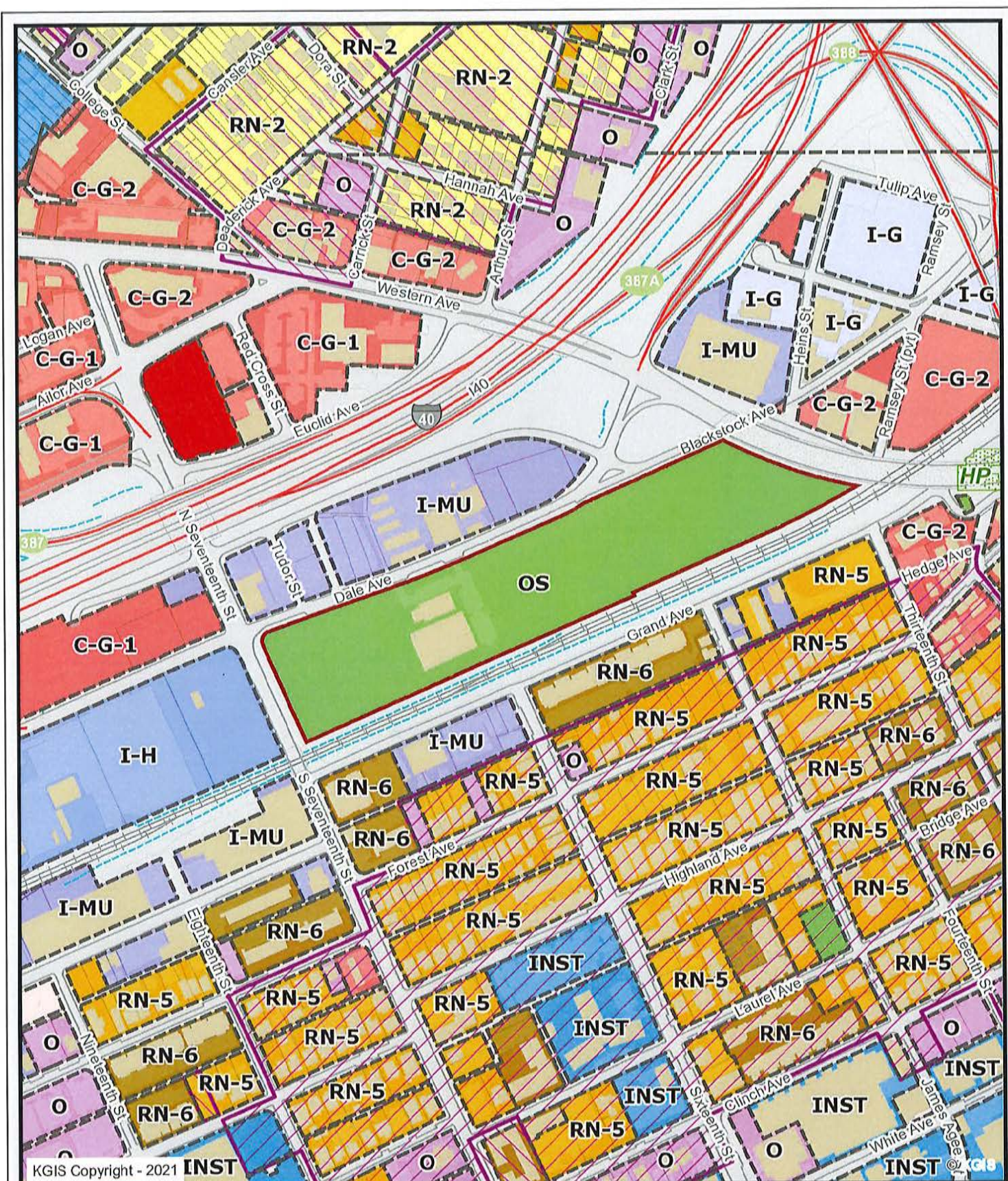
Design Plan Certification (*Final Plat*)
 Use on Review / Special Use (*Concept Plan*)
 Traffic Impact Study
 COA Checklist (*Hillside Protection*)

Fee 1		Total
0403	900.00	
Fee 2		
Fee 3		
		\$900.00

AUTHORIZATION

By signing below, I certify I am the property owner, applicant or the owners authorized representative.

	Emerald Youth Foundation	2/18/2021
Applicant Signature	Please Print	Date
865-637-3227 x104	dwells@emeraldyouth.org	
Phone Number	Email	
	Sherry Michienzi	2/18/2021
Staff Signature	Please Print	Date

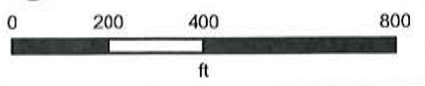


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