


**CITY OF HOLLYWOOD, FLORIDA
DEPARTMENT OF DEVELOPMENT SERVICES
PLANNING DIVISION**

DATE: March 09, 2017

FILE: 16-PV-67

TO: Planning and Development Board

VIA: Leslie A. Del Monte, Planning Manager 

FROM: Alexandra Carcamo, Principal Planner 

SUBJECT: Chaminade-Madonna College Preparatory School requests Variance and Site Plan for the addition of sports lighting to an existing school's athletic field located at 500 Chaminade Drive (Chaminade Field Lights).

REQUEST:

Variance and Site Plan for the addition of sports lighting to an existing school's athletic field (Chaminade Field Lights).

Variance: To increase the allowable height from 10 feet to allow 80 feet.

RECOMMENDATION:

Variance: Approval, with the following conditions:

1. Prior to the application of a building permit for the sports lighting, the Applicant shall work with the City's Engineer to post signs prohibiting parking on the swale, at appropriate intervals; and shall be responsible for ensuring towing is enforced as necessary.
2. The Applicant shall work with the lighting consultant and the City to ensure no light spillage intrudes the surrounding neighborhood and that the lighting is consistent with the photometric plan included in this application and on file with the City.

Site Plan: Approval, if the Variance is granted and with the following conditions:

1. The use of sports lighting on the athletic field shall be limited to 25 games per year occurring only between August 1st and May 31st.
2. The sports lighting shall not be used in any manner not associated with school sponsored sporting events.
3. The use of the sports lighting for evening practices shall be prohibited.
4. The Applicant shall work with the Public Safety Director or designee to ensure that all emergency vehicles have adequate passage during games and to hire off duty police detail to coordinate traffic flow for all lighted events.

REQUEST

Chaminade-Madonna College Preparatory School (the School), requests a Variance and Site Plan approval for the addition of sports lighting to the existing athletic field. The School is located within a single family district at 500 Chaminade Drive; no changes to the existing footprint of the School are part of this request. Common sporting activities such as football and soccer take place at the existing athletic field. The Applicant states, State Laws ensuring the safety of children prompted the need for the lights and therefore this request.

The Applicant has worked with Staff to ensure adequate vehicular circulation is provided as the addition of the lights will add nightly traffic to the area. An event parking & traffic management plan was provided by Traf Tech Engineering to ensure proper coordination is planned prior to the events; Staff has conditioned that **the Applicant shall work with the Public Safety Director or designee to ensure that all emergency vehicles have adequate passage during games and to hire off duty police detail to coordinate traffic flow for all lighted events.** In addition, Staff has conditioned the Site Plan to specific number of games, dates, and uses for the addition of the sports lighting as mentioned on page one of this report.

Associated with the request is a variance to increase the allowable height from 10 feet to allow 80 feet. The Zoning and Land Development regulations allow for a maximum of ten feet for light poles in Single Family Districts. The Applicant has hired a lighting engineer to closely evaluate the need for the lights while keeping the surrounding neighborhood in mind. Based on the evaluation from the lighting expert, the request to increase the height to allow 80 feet is necessary in order to provide safe and adequate lighting for the events. Staff has conditioned the request for the Variance as follows:

1. **Prior to the application of a building permit for the sports lighting, the Applicant shall work with the City's Engineer to post signs prohibiting parking on the swale, at appropriate intervals; and shall be responsible for ensuring towing is enforced as necessary.**
2. **The Applicant shall work with the lighting consultant and the City to ensure no light spillage intrudes the surrounding neighborhood and that the lighting is consistent with the photometric plan included in this application and on file with the City.**

Staff has evaluated the proposed request and considers the Variance and Site Plan appropriate and consistent with the desired character for the area.

SITE INFORMATION

Owner/Applicant:	Chaminade-Madonna College Preparatory School
Address/Location:	500 Chaminade Drive
Net Area of Property:	approximately 17.5 acres
Land Use:	Community Facility (CF)
Zoning:	Single Family (RS-5)
Existing Use of Land:	School

ADJACENT LAND USE

North: Low Residential
South: Low Residential
East: Low Residential
West: Low Residential

ADJACENT ZONING

North: Single Family (RS-5)
South: Single Family (RS-5)

East: Single Family (RS-5)
West: Single Family (RS-5)

CONSISTENCY WITH THE COMPREHENSIVE PLAN

This project is located in the Community Facilities Land Use area which is characterized by community uses such as schools, libraries, places of worship, etc. The goal of the Land Use Element is to *promote a distribution of land uses that will enhance and improve the residential, business, resort, and natural communities while allowing land owners to maximize the use of their property*. The surrounding community is comprised of single family uses.

Policy 4.9: *Place a priority on protecting, preserving, and enhancing residential neighborhoods while incorporating the unique characteristics of redevelopment areas.*

CONSISTENCY WITH THE CITY-WIDE MASTER PLAN

The project is located in Sub-Area 6, defined by I-95 to the east, Pembroke Road to the south, Sheridan Street to the north, and 56th Avenue to the west. This area is comprised of the residential neighborhoods of Hollywood Hills, Park East, and Hillcrest. The proposed request is consistent with the City-Wide Master Plan, based upon the following Guiding Principles and Policies.

Guiding Principles and Policies:

- *Promote the highest and best use of land in each sector of the City without compromising the goals of the surrounding community.*

APPLICABLE CRITERIA

Analysis of Criteria and Findings for Variance as stated in the City of Hollywood's Zoning and Land Development Regulations Article 5.

Variance 1: **To increase the allowable height from 10 feet to allow 80 feet.**

CRITERIA 1: That the requested Variance maintains the basic intent and purpose of the subject regulations particularly as it affects the stability and appearance of the City.

ANALYSIS: The request to add sports lighting to the existing athletic field does not affect the stability and appearance of the City. The Zoning and Land Development regulations allow for a maximum of ten feet for light poles in Single Family Districts. The Applicant has hired a lighting engineer to closely evaluate the need for the lights and has opined the request to increase the height to allow 80 feet; this is necessary in order to provide safe and adequate lighting for the events. As stated by the Applicant, "the Schools intent is to provide a safe lighting environment for the players and spectators while controlling the lighting for the community." Staff has conditioned, **the Applicant shall work with the lighting consultant and the City to ensure no light spillage intrudes the surrounding neighborhood and that the lighting is consistent with the photometric plan included in this application and on file with the City.**

FINDING: Consistent, with the aforementioned conditions.

CRITERIA 2: That the requested Variance is otherwise compatible with the surrounding land uses and would not be detrimental to the community.

ANALYSIS: The request to add sports lighting to the existing athletic field is not detrimental to the community as the school is established within a Single Family District and is an

expected use for the normal operations of an athletic field. The request will bring nightly traffic, as such Staff has conditioned **the Applicant shall work with the Public Safety Director or designee to ensure that all emergency vehicles have adequate passage during games and to hire off duty police detail to coordinate traffic flow for all lighted events.**

FINDING: Consistent, with the aforementioned conditions.

CRITERIA 3: That the requested Variance is consistent with and in furtherance of the Goals, Objectives and Policies of the adopted Comprehensive Plan, as amended from time to time, the applicable Neighborhood Plan and all other similar plan adopted by the City.

ANALYSIS: The requested variance is consistent with the Comprehensive Plan and Neighborhood Plan. The Applicant states, "the pole height variance is key to providing proper design and surely will meet the City's Comprehensive and Neighborhood Plan supporting the community."

FINDING: Consistent.

CRITERIA 4: That the need for requested Variance is not economically based or self-imposed.

ANALYSIS: As stated by the Applicant, "the variance is recommended by Musco Sports Lighting to provide proper lighting control. Adding sports lighting to the existing football and soccer field will not provide an economical impact to the school. The main objective is to light the football/soccer field properly to minimize children playing in the Florida heat, eliminate children from missing class, and allow parents to attend games."

FINDING: Consistent.

CRITERIA 5: That the Variance is necessary to comply with State or Federal Law and is the minimum Variance necessary to comply with the applicable law.

FINDING: Not applicable.

SITE PLAN

The Technical Advisory Committee (TAC) found the proposed Site Plan compliant with all regulations as set forth in Article 6 of Zoning and Land Development Regulations on January 23, 2017. Therefore, Staff recommends approval; if the Variance and Design are granted with the conditions listed on page one.

ATTACHMENTS

Attachment A: Application Package
Attachment B: Land Use and Zoning Maps
Attachment C: Correspondence

ATTACHMENT A

Application Package

City of Hollywood
Planning & Development Submittal – Cover Sheet
Project Name – Field Lighting for Football & Soccer

Name of development and phase

Chaminade-Madonna College Preparatory, Inc.

500 E. Chaminade Dr.

Hollywood, FL 33021

Hollywood Hills 6 – 22B

Lots 1 – 21

Vacated N 52 Ave., Lying Bet Said Lots & S1/2 of Vacated Buchanan St. Adv to

Blocks 271 & 272 (as referenced by the tax folio rolls of September 16, 2016 #1207 07 0080)

Page Index – for copied sets

- 1) General Application
- 2) Dimensioned Site Plan of Lighting System (Musco Lighting)
- 3) Dimensioned Landscape Plan (Geomantic Design, Inc.)
- 4) Event Parking and Traffic Plans (TrafficTech Engineering, Inc.)
- 5) Criteria Statement

Information Provided for : FINAL PLANNING & DEVELOPMENT MEETING, MARCH 2017

Site Plan – Title Block

Chaminade- Madonna College Preparatory, Inc.

500 E. Chaminade Dr.

Hollywood, FL 33021

Hollywood Hills 6 – 22 B

Lots 1 – 21

Vacated N. 52 Ave., Lying Bet Said Lots & S1/2 of Vacated Buchanan St., Adv to

Blocks 271 & 272 (as referenced by the tax folio rolls of September 16, 2016 #1207 07 0080)

Site Plan Date: December 22, 2016

Electrical Engineer: Norman Bray

2131 Hollywood Blvd., Suite 501

Hollywood, FL 33020

(954)925-3217

Musco Designer: Jake Van Polen

100 1st Ave. W

Oskaloosa, IA 52577

(800)754-6025

DEPARTMENT OF PLANNING



2600 Hollywood Boulevard Room 315
Hollywood, FL 33022

File No. (internal use only): _____

GENERAL APPLICATION



Tel: (954) 921-3471
Fax: (954) 921-3347

This application must be completed in full and submitted with all documents to be placed on a Board or Committee's agenda.

The applicant is responsible for obtaining the appropriate checklist for each type of application.

Applicant(s) or their authorized legal agent must be present at all Board or Committee meetings.

At least one set of the submitted plans for each application must be signed and sealed (i.e. Architect or Engineer).

Documents and forms can be accessed on the City's website at
<http://www.hollywoodfl.org/DocumentCenter/Home/View/21>



APPLICATION TYPE (CHECK ONE):

- ☐ Technical Advisory Committee ☐ Historic Preservation Board
☐ City Commission ☒ Planning and Development Board

Date of Application: January 23, 2017

Location Address: 500 E. Chaminade Drive, Hollywood FL 33021

Lot(s): 1 thru 21 Block(s): 271 & 272 Subdivision: _____

Folio Number(s): 514207-07-0080

Zoning Classification: _____ Land Use Classification: _____

Existing Property Use: Church-School Sq Ft/Number of Units: _____

Is the request the result of a violation notice? () Yes (☒) No If yes, attach a copy of violation.

Has this property been presented to the City before? If yes, check all that apply and provide File Number(s) and Resolution(s): _____

- ☐ Economic Roundtable ☐ Technical Advisory Committee ☐ Historic Preservation Board
☐ City Commission ☒ Planning and Development

Explanation of Request: Site plan approval to allow lighting to be installed on the existing play field for school activities that will not extend beyond 10:00PM in the evening

Number of units/rooms: _____ Sq Ft: _____

Value of Improvement: 500,000 Estimated Date of Completion: August 21, 2017

Will Project be Phased? () Yes (☒) No If Phased, Estimated Completion of Each Phase _____

Name of Current Property Owner: Chaminade-Madonna College Preparatory Inc.

Address of Property Owner: 500 E. Chaminade Drive

Telephone: 954-989-5150 Fax: 954-989-2944 Email Address: cpreston@cmlions.org

Name of Consultant/Representative/Tenant (circle one): Musco Lighting-Jason Frucht

Address: _____ Telephone: 954-732-5674

Fax: _____ Email Address: jason.frucht@musco.com

Date of Purchase: _____ Is there an option to purchase the Property? Yes () No ()

If Yes, Attach Copy of the Contract.

List Anyone Else Who Should Receive Notice of the Hearing: Tripp Scott Attorneys
Wilson C. Atkinson Address: 110 SE Sixth Street Suite 1500
Fort Lauderdale, FL 33301 Email Address: wca@TrippScott.com

DEPARTMENT OF PLANNING



2600 Hollywood Boulevard Room 315
Hollywood, FL 33022

GENERAL APPLICATION

CERTIFICATION OF COMPLIANCE WITH APPLICABLE REGULATIONS

The applicant/owner(s) signature certifies that he/she has been made aware of the criteria, regulations and guidelines applicable to the request. This information can be obtained in Room 315 of City Hall or on our website at www.hollywoodfl.org. The owner(s) further certifies that when required by applicable law, including but not limited to the City's Zoning and Land Development Regulations, they will post the site with a sign provided by the Office of Planning and Development Services. The owner(s) will photograph the sign the day of posting and submit photographs to the Office of Planning and Development Services as required by applicable law. Failure to post the sign will result in violation of State and Municipal Notification Requirements and Laws.

(I)(We) certify that (I) (we) understand and will comply with the provisions and regulations of the City's Zoning and Land Development Regulations, Design Guidelines, Design Guidelines for Historic Properties and City's Comprehensive Plan as they apply to this project. (I)(We) further certify that the above statements and drawings made on any paper or plans submitted herewith are true to the best of (my)(our) knowledge. (I)(We) understand that the application and attachments become part of the official public records of the City and are not returnable.

Signature of Current Owner: _____ Date: _____

PRINT NAME: Judith Mucheck _____ Date: _____

Signature of Consultant/Representative: _____ Date: _____

PRINT NAME: _____ Date: _____

Signature of Tenant: _____ Date: _____

PRINT NAME: _____ Date: _____

CURRENT OWNER POWER OF ATTORNEY

I am the current owner of the described real property and that I am aware of the nature and effect the request for (project description) _____ to my property, which is hereby made by me or I am hereby authorizing (name of the representative) _____ to be my legal representative before the _____ (Board and/or Committee) relative to all matters concerning this application.

Sworn to and subscribed before me
this _____ day of _____

SIGNATURE OF CURRENT OWNER

Notary Public State of Florida

PRINT NAME

My Commission Expires: _____ (Check One) _____ Personally known to me; OR _____

Narrative to accompany application for
Field Lighting Project
January, 2017

Chaminade-Madonna College Preparatory was founded in Hollywood, Florida in 1960 as Chaminade High School. Initially it served young men until the merger with Madonna Academy in 1988 after which time it became fully co-educational. The grade span among the student community is 9-12 and the demographic includes a wide constituency including students from Broward and Miami-Dade counties. The school's mission statement makes reference to, "educating the mind, body, and spirit" of the students. To those ends we offer a full college preparatory academic curriculum as well as a complement of extra-curricular activities including an athletic program for our young men and women.

One aspect of administering the athletic program includes mindfulness of the safety, security, and health of student-athletes. South Florida provides a particular set of challenges related to ensuring the health of student athletes who participate in activities fielded outdoors. Extreme afternoon temperatures make it difficult to guard against the potential for heat-related accidents.

On July 1, 2012 Florida Senate Bill 606 went into effect which required the *Florida High School Athletic Association* (FHSAA and the governing body of all high school athletics in the State) to adopt guidelines, bylaws and policies to educate coaches, officials, administrators, student athletes and their parents or guardians of the nature and risk of *Exertional Heat Stroke and heat related injuries*. Policy 41 of the FHSAA dictates a school's responsibility to student-athlete safety during practices. A controlled practice environment is manageable by coaches – there is no such control during an actual scheduled, refereed contest where there is no pre-determined stoppage of a contest.

Currently, the football field at Chaminade-Madonna does not have lights for evening contests of any kind which forces the scheduling of mid-afternoon contests during the zenith of the heat of the day. Teams which are adversely affected by this scheduling include football and soccer. Chaminade- Madonna does not host home track and field competitions. With these two sports, combined, we do not anticipate needing field lighting more than twenty-five (25) times per year during the months of August-May. We will not schedule team practices in the evening nor will we rent out the field to any group for other purposes.

During our due diligence for this project we have been cognizant of environmental factors which may be of concern to the surrounding neighbors. Using local experts in the field we have developed both traffic mitigation and parking plans which have been approved by the City of Hollywood. We have also been careful to research the most energy-efficient and least intrusive lighting technology to ensure, virtually, no light spillage at the perimeter of our property.

Criteria Statement

Variance Criteria

The Planning and Development Board shall have the authority to consider petitions relating to variances for all development outside the Historic District and Historic Sites.

a. That the requested Variance maintains the basic intent and purpose of the subject regulations, particularly as it affects the stability and appearance of the city; and

Response: Chaminade Madonna College Preparatory requests a pole mounting height variance for the Football / Soccer Field. The schools intent is to provide a safe lighting environment for the players and spectators while controlling the lighting for the community. The project will include (4) 80' poles and (2) 50' poles which helps support controlling the offsite spill and glare to the adjacent neighbors. The correct mounting heights, aiming angles, and proper technology such as Musco Sports Lighting's LED provide the proper solution.

b. That the requested Variance is otherwise compatible with the surrounding land uses and would not be detrimental to the community; and

Response: The surrounding area is the athletic fields and classrooms. As discussed above the additional pole heights will improve the light control to the neighborhoods and allow Musco Lighting to adequately eliminate the spill and glare. Musco Sports Lighting's LED technology with the proper mounting heights will not be detrimental to the community.

c. That the requested Variance is consistent with and in furtherance of the Goals, Objectives and Policies of the adopted Comprehensive Plan, as amended from time to time, the applicable Neighborhood Plan and all other similar plans adopted by the city; and

Response: The pole height variance is the key to providing the proper design and surely will meet the city's Comprehensive and Neighborhood Plan supporting the community.

d. That the need for the requested Variance is not economically based or self-imposed; or

Response: Variance is recommended by Musco Sports Lighting to provide proper lighting control. Adding Sports Lighting to the existing Football and Soccer Field will not provide an economical impact to the school. The main objective is to light the Football / Soccer Field properly to minimize children playing in the Florida heat, eliminate children from missing class, and allow parents to attend games.

e.. That the variance is necessary to comply with State or Federal Law and is the minimum Variance necessary to comply with the applicable law.

Non Applicable.

Design Criteria

1. Architectural and Design components. Architecture refers to the architectural

elements of exterior building surfaces. Architectural details should be commensurate with the building mass. The use of traditional materials for new architectural details is recommended. Design of the building(s) shall consider aesthetics and functionality, including the relationship of the pedestrian with the built environment.

Response: No changes to any existing building surfaces or heights.

2. Compatibility. The relationship between existing architectural styles and proposed construction, including how each building along the street relates to the whole and the pattern created with adjacent structures and the surrounding neighborhood. Buildings should contain architectural details that are characteristic of the surrounding neighborhood.

Response: No additional buildings will be constructed.

3. Scale/Massing. Buildings shall be proportionate in scale, with a height which is consistent with the surrounding structures. Building mass shall reflect a simple composition of basic architectural details in relation to its length, width, height, lot coverage, and setting of the structure in context with adjacent buildings. Architectural details include, but are not limited to, banding, molding, and fenestration.

Response: The field lighting project will include installing four 80 foot light poles and two 50 foot light poles to provide adequate light on the football and soccer field.

4. Landscaping. Landscaped areas should contain a variety of native and other compatible plant types and forms, and be carefully integrated with existing buildings and paved areas. Existing mature trees and other significant plants on the site should be preserved.

Response: The school's landscape designer, Goemantics, worked with the City landscape engineer to come up with a proper landscaping plan for the areas around this project site. Our designer took all the recommendations on the native trees and additional landscaping the City requested. See landscape plan provided.

Luminaire Data

Weight (luminaire)	45 lb (20 kg)
UL listing number	E338094
UL listed for USA/Canada	UL1598 CSA-C22.2 No.250.0
Material and finish	Die-cast aluminum, anodized, CASTGUARD™ coated, and powder-coat painted
Windspeed rating (aiming only)	150 mi/h (67 m/s)

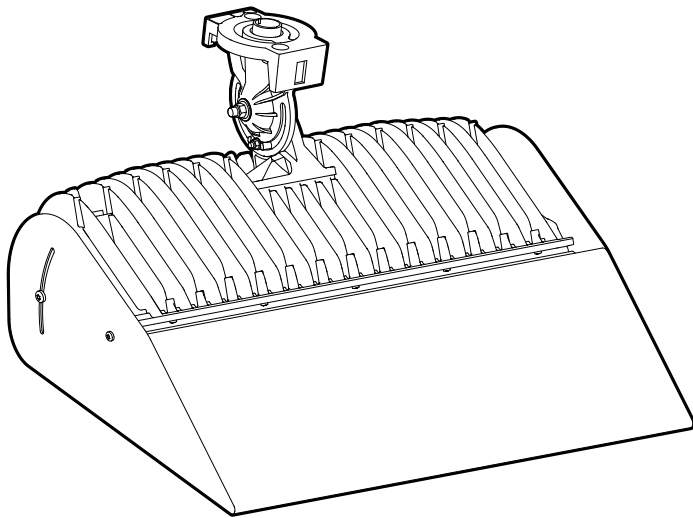
Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

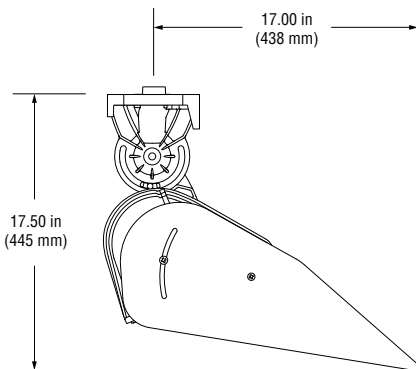
L90 (10k)	=38,000 h
L80 (10k)	>60,000 h
L70 (10k)	>60,000 h
CIE correlated color temperature	5700 K
Color Rendering Index (CRI), typical	75
Color Rendering Index (CRI), minimum	70
Lumens ¹	63,600

Footnotes:

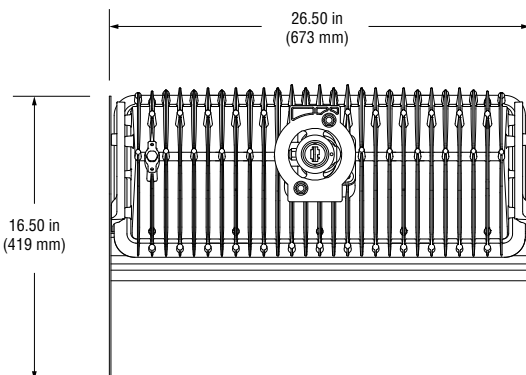
1) Incorporates appropriate dirt depreciation factor for life of luminaire.



Side



Top



Driver Data

Electrical Data

Rated Wattage¹ (228 LED)

Per driver..... 1,260 W

Per luminaire 630 W

Number of luminaires per driver..... 2

Starting (inrush) current..... <40 A, 256 μ s

Fuse rating..... 15 A

UL ambient temperature rating..... 50°C
(122°F)

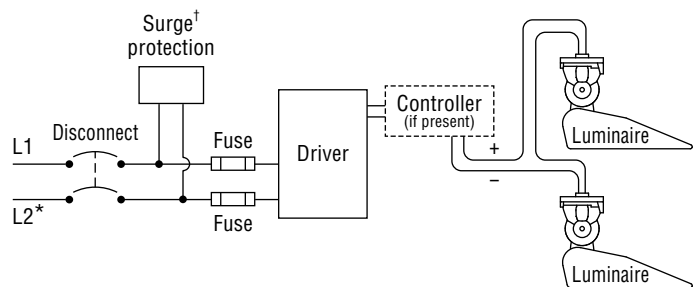
Efficiency..... 95%

Dimming mode..... optional

Range, energy consumption 15–100%

Range, light output..... 20–100%

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 current²	8.16 A	7.86 A	7.42 A	7.10 A	6.80 A	5.90 A	4.72 A	4.30 A	4.08 A	3.94 A	3.40 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:

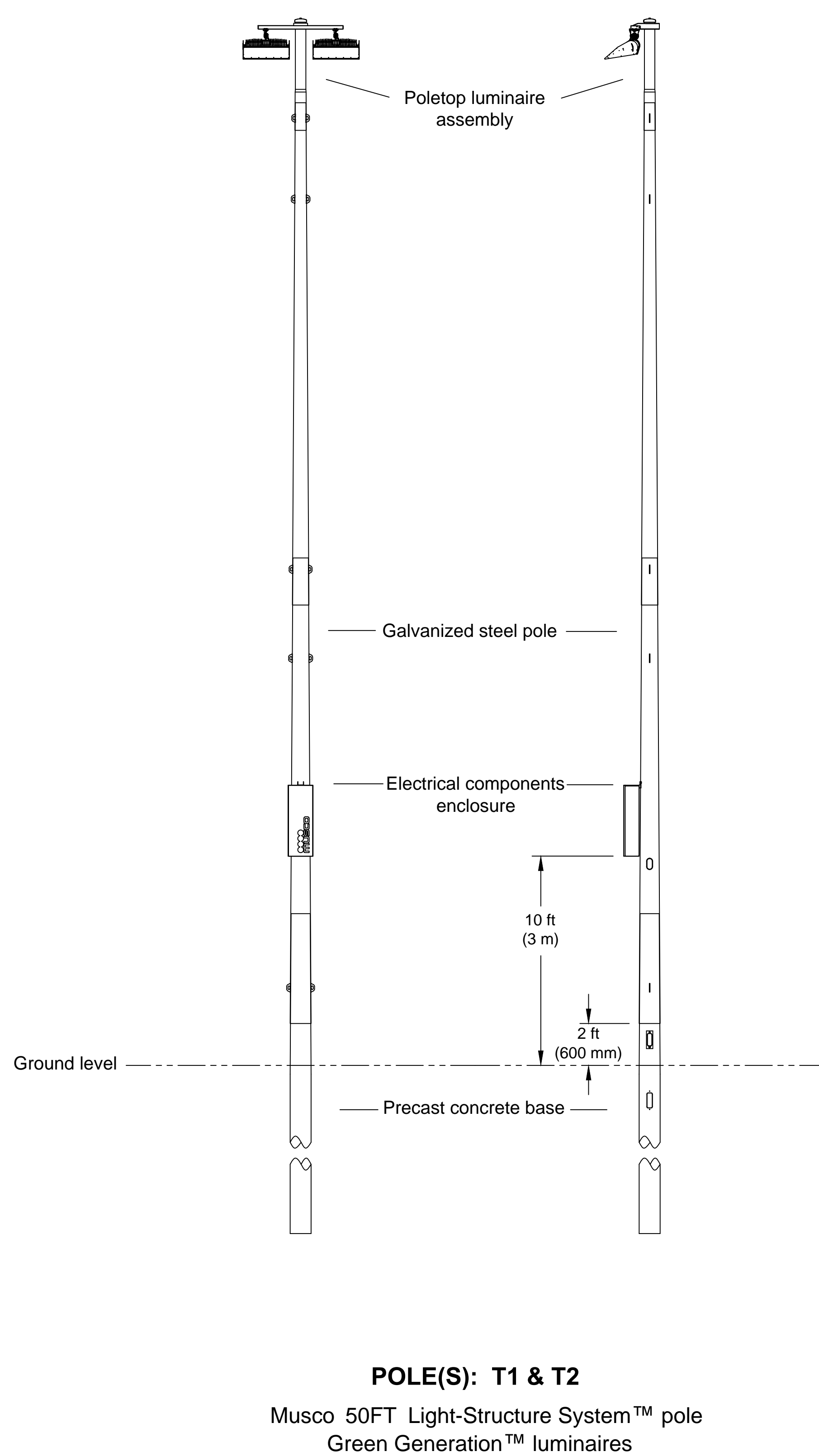
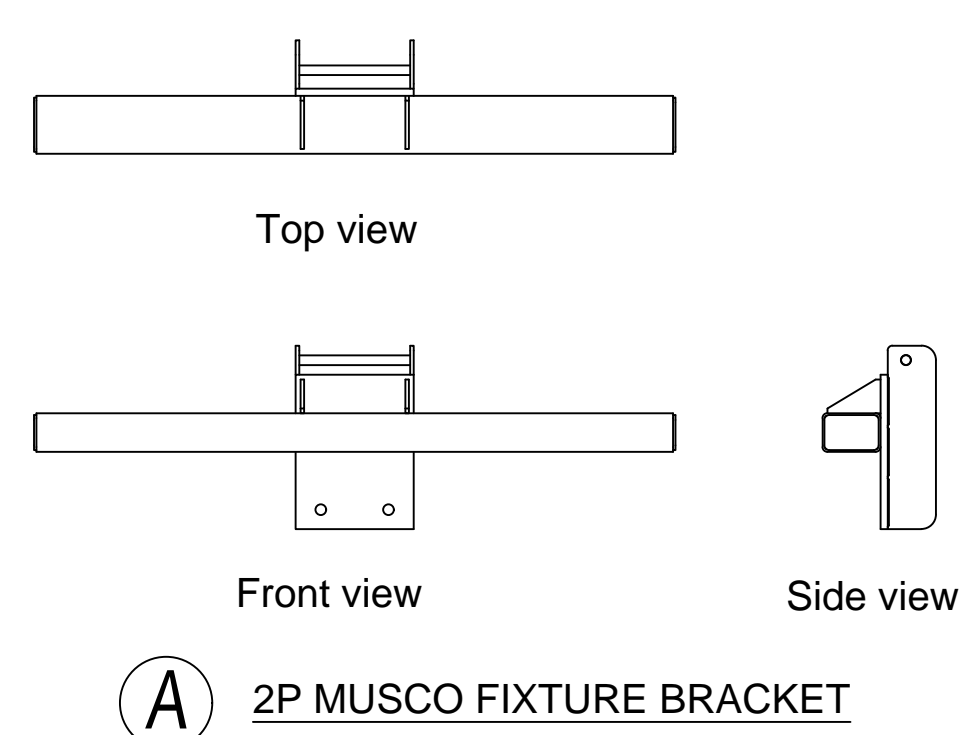
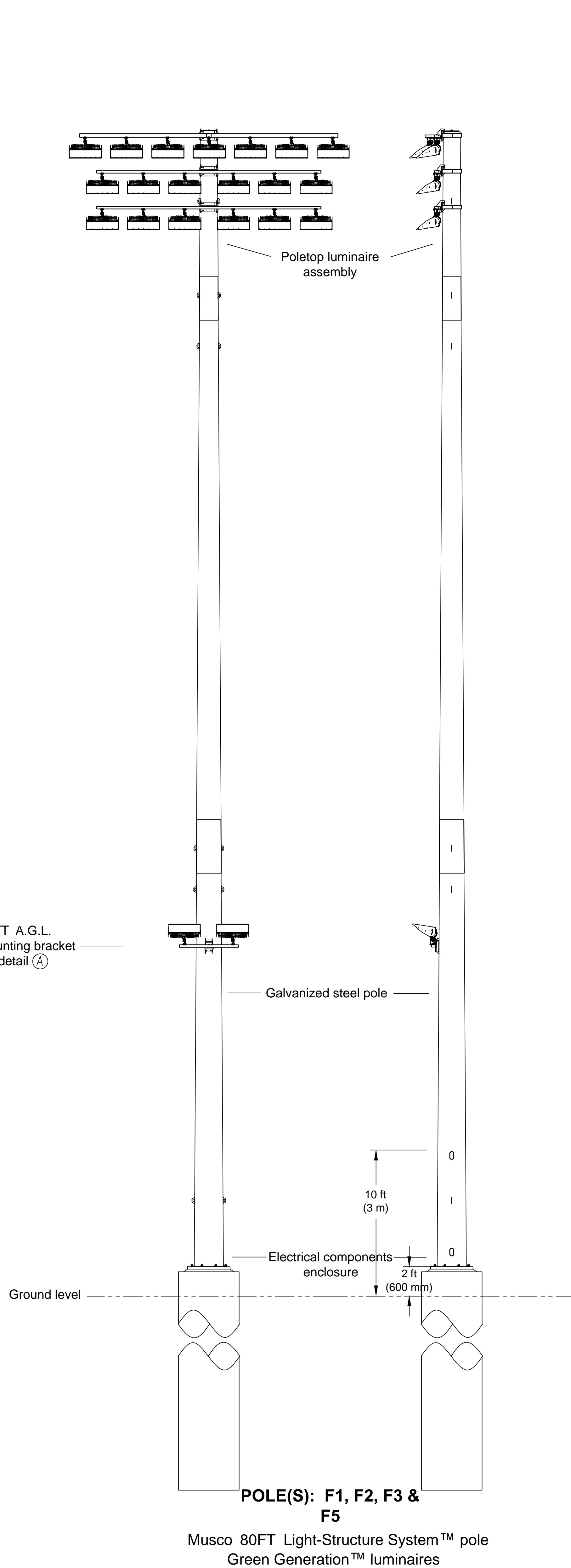
1. Use thermal magnetic HID-rated or D-Curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



Model 228 LED



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JOB NUMBER: <div style="border: 1px solid black; padding: 2px; text-align: center;">135032</div>	DRAWN BY: J Van Polen	CHECK BY:	DATE:	BY: R.L.	REVISIONS:
<div style="border: 1px solid black; padding: 5px;"> <p>REPRESENTATIVE: J. Frucht</p> <p>SCALE: NTS</p> <p>DATE: 10/3/16</p> <p>DRAWING NUMBER: 135032X1</p> </div>					

 **musco**
Lighting

CORPORATE OFFICE:
P.O. Box 808
100 1st Avenue West
Oskaloosa, Iowa 52577
+1-800-825-6020
+1-641-673-0411

Chaminade-Madonna College Preparatory Football
Hollywood, FL
Pole Configuration

Diode Light Source – LED

5 Easy Pieces™

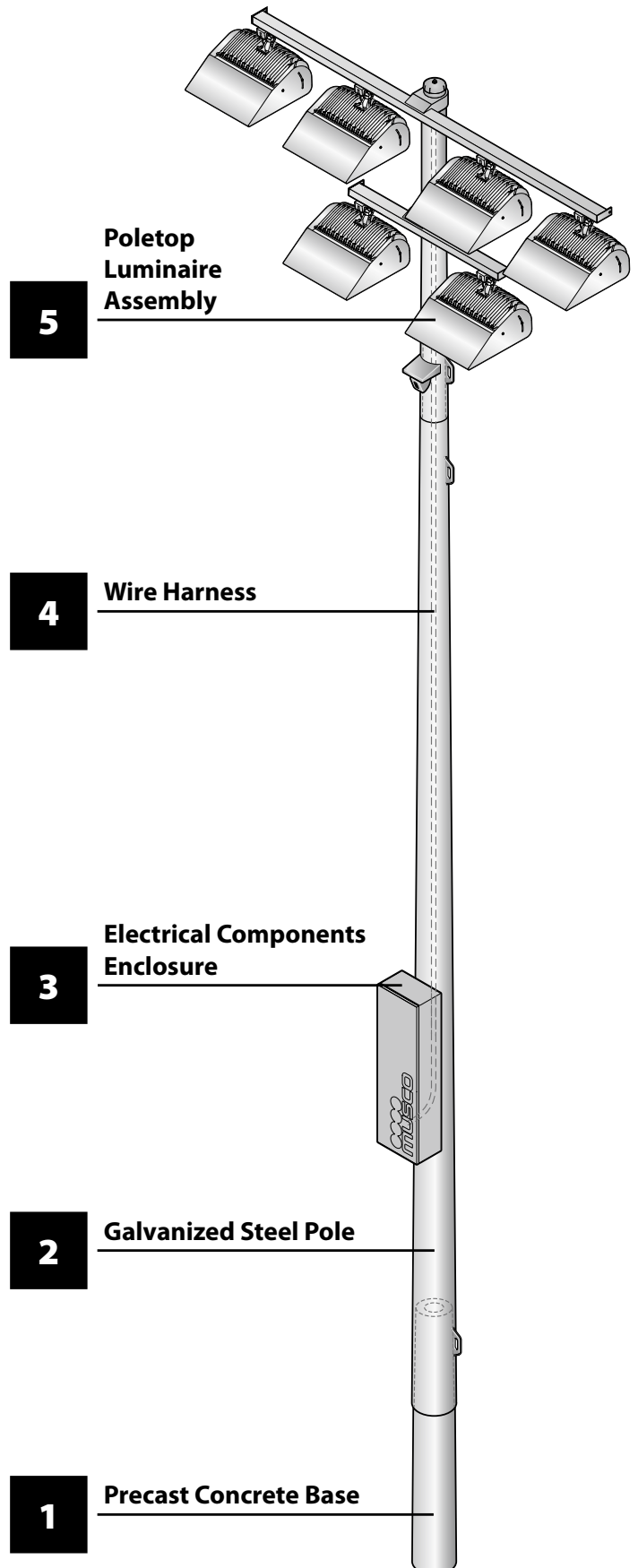
Complete System from
Foundation to Poletop

Factory wired, aimed, and tested

Fast, trouble-free installation

Comprehensive corrosion package

Integrated lightning ground



Light·Structure Green™ Lighting System

Diode Light Source – LED

For your
BUDGET,
for the
ENVIRONMENT.

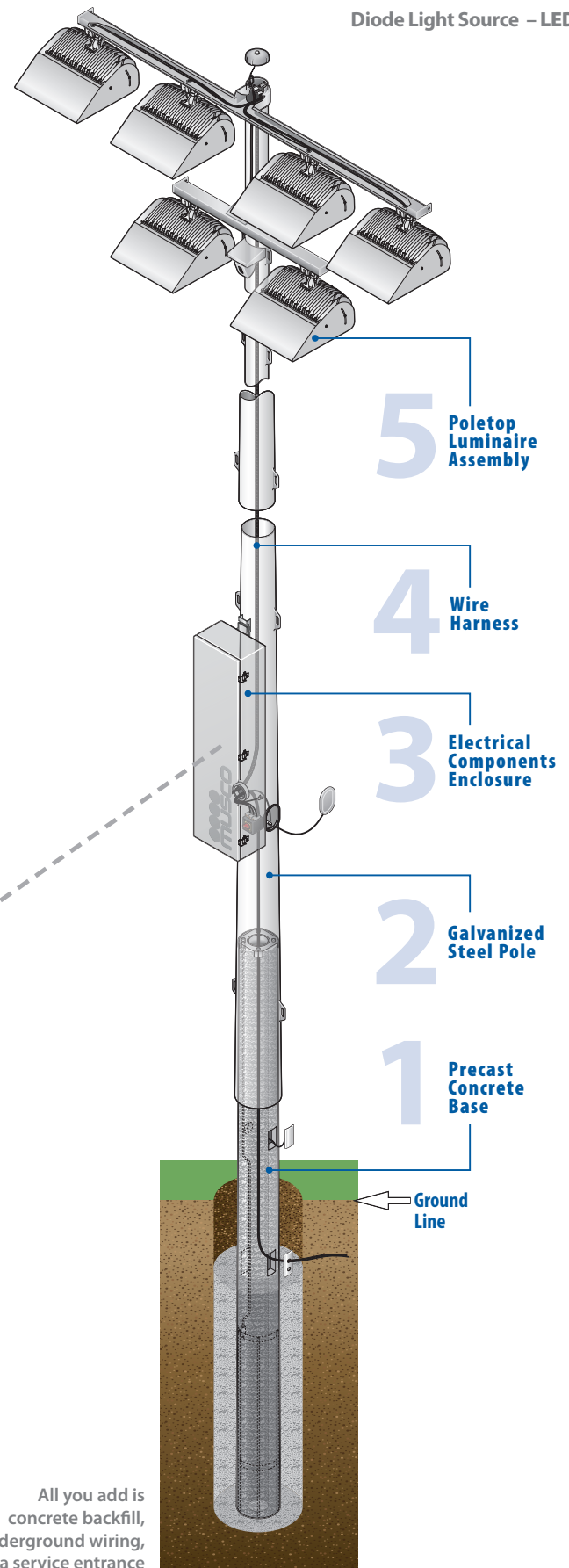
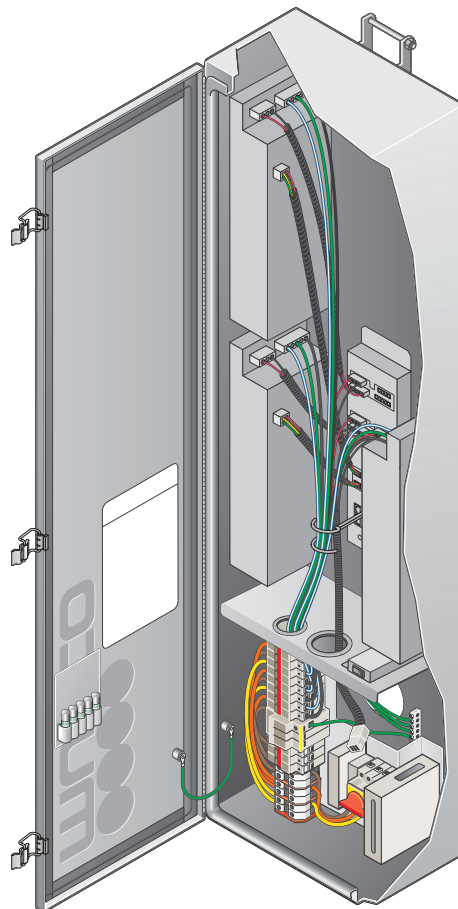
5 Easy Pieces™ Complete System from Foundation to Poletop

Factory wired, aimed, and tested

Fast, trouble-free installation

Comprehensive corrosion package

Integrated lightning ground system



All you add is
concrete backfill,
underground wiring,
and a service entrance

Chaminade Madonna High School Football

Hollywood,FL

Lighting System

Pole / Fixture Summary						
Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Group
F1-F3, F5	80'	24'	2	TLC-LED-400	0.80 kW	A
		80'	19	TLC-LED-600	11.97 kW	A
T1-T2	50'	50'	2	TLC-LED-600	1.26 kW	B
6			88		53.60 kW	

Group Summary				
Group	Description	Avg Load	Max Load	Fixture Qty
A	Football/Soccer	51.08 kW	51.08 kW	84
B	Track	2.52 kW	2.52 kW	4

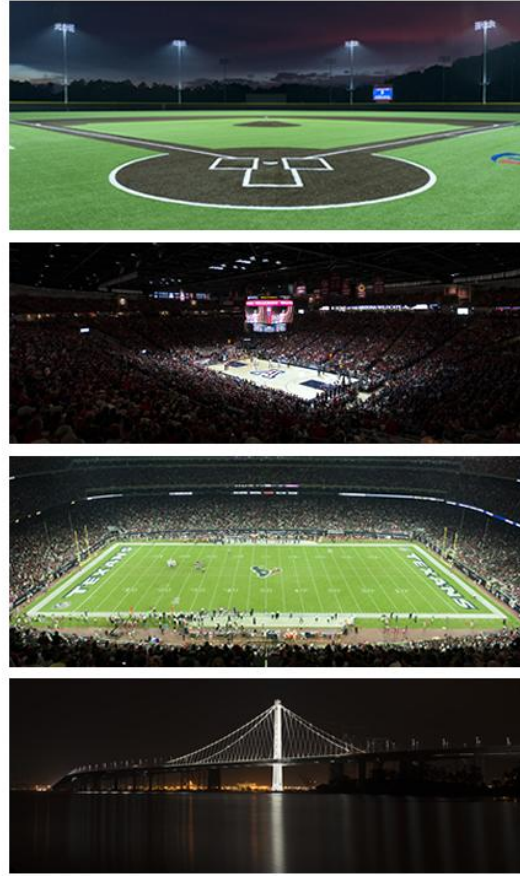
Fixture Type Summary							
Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-600	LED 5700K - 75 CRI	630W	63,600	38,000	>40,000	>40,000	80
TLC-LED-400	LED 5700K - 75 CRI	400W	36,600	61,000	>72,000	>72,000	8

Light Level Summary

Calculation Grid Summary							
Grid Name	Calculation Metric	Illumination				Groups	Fixture Qty
		Ave	Min	Max	Max/Min		
Field Side Spill	Horizontal	0.05	0	0.24	17165.59	A,B	88
Field Side Spill	Max Candela (by Fixture)	3365	25.4	11296	445.35	A,B	88
Field Side Spill	Max Vertical Illuminance Metric	0.13	0	0.49	4983.90	A,B	88
Football-1	Horizontal Illuminance	50.2	35	70	1.98	A	84
Soccer-1	Horizontal Illuminance	51.2	37	67	1.81	A	84
Spill	Horizontal	0.01	0	0.05	26697.29	A,B	88
Spill	Max Candela (by Fixture)	1284	1.42	4564	3225.52	A,B	88
Spill	Max Vertical Illuminance Metric	0.03	0	0.13	10314.20	A,B	88
Track-1	Horizontal Illuminance	11.7	3	19	6.60	A,B	88

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.

From Hometown to Professional



EQUIPMENT LIST FOR AREAS SHOWN										
		Pole		GRADE		Luminaires				
QTY	LOCATION	SIZE	ELEVATION	FOOTING	HEIGHT	LUMINAIRE TYPE	QTY	WHS	OTHER	
4	FL-FB, FS	80'		24"	80'	TLC-LED-400	2	2	0	0
4						TLC-LED-600	39	39	0	0
							84	84	0	0
TOTALS										

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.



GRID SUMMARY	
Name:	Football-1
Size:	360' x 160'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade
ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	36
Scan Average:	50.21
Maximum:	70
Minimum:	35
Avg / Min:	1.42
Guaranteed Max / Min:	2
Max / Min:	1.98
UG (adjacent pts):	1.69
No. of Points:	72
LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	63,600 / 38,600 lumens
No. of Luminaires:	84
Total Load:	51.08 kW
Lumen Maintenance	
Luminaire Type	L90 hrs L80 hrs L70 hrs
TLC-LED-600	38,000 340,000 340,000
TLC-LED-400	63,000 572,000 572,000
Reported per TM-21-11. See luminaire datasheet for details.	

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.
Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN										
		Pole		Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	HOUSING HEIGHT	LUMINAIRE TYPE	QTY	WHS	QTY	WHS	OTHER
4	F1-F4, F5	80'		54'	TLC-LED-400	2	2	19	19	0
4				80'	TLC-LED-600	84	84	0	0	0
TOTALS						86	86	0	0	0

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.



GRID SUMMARY			
Name:	Soccer-1		
Size:	300' x 190'		
Spacing:	30.0' x 30.0'		
Height:	3.0' above grade		
ILLUMINATION SUMMARY			
MAINTAINED HORIZONTAL FOOTCANDLES			
Entire Grid			
Guaranteed Average:	50		
Scan Average:	51.16		
Maximum:	67		
Minimum:	37		
Avg / Min:	1.39		
Guaranteed Max / Min:	2		
Max / Min:	1.81		
UG (adjacent pts):	1.42		
No. of Points:	70		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	63,600 / 38,600 lumens		
No. of Luminaires:	84		
Total Load:	51.08 kW		
Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-600	38,000	340,000	340,000
TLC-LED-400	63,000	372,000	372,000
Reported per TM-21-11. See luminaire datasheet for details.			

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.
Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN									
Pole			Luminaires						
QTY	LOCATION	SIZE	GRADE ELEVATION	HOISTING HEIGHT	LUMINAIRE TYPE	QTY	WHS	QTY	OTHER
4	F1-F4, F5	80'	-	24'	TLC-LED-400	2	2	0	0
2	T1-T2	50'	-	50'	TLC-LED-600	2	2	0	0
6	TOTALS					88	88	0	0

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.



GRID SUMMARY	
Name:	Track-1
Size:	Irregular
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED HORIZONTAL FOOTCANDLES	
Entire Grid	
Guaranteed Average:	11
Scan Average:	11.65
Maximum:	19
Minimum:	3
Avg / Min:	4.05
Guaranteed Max / Min:	7
Max / Min:	6.60
UG (adjacent pts):	0.00
No. of Points:	47

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	63,600 / 38,600 lumens
No. of Luminaires:	88
Total Load:	53.8 kW

Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-400	38,000	340,000	340,000
TLC-LED-400	63,000	372,000	372,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

EQUIPMENT LIST FOR AREAS SHOWN									
QTY	LOCATION	Pole		GRADE	MOUNTING HEIGHT	Luminaire		QTY	WBS
		SIZE	ELEVATION			TYPE	FOOT CANDLE		
4	F1-F3, F5	80'	-	80'	24'	TLC-LED-400	19	19	0
2	T1-T2	50'	-	50'	50'	TLC-LED-600	2	2	0
6			TOTALS				88	88	0

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.

There will be no more than one half foot candle at the property line as per C.O.4.23.B.9b.



Chaminade Madonna High School Football
Hollywood, FL

GRID SUMMARY			
Name:	Field Side Spill		
Spacing:	30.0'		
Height:	3.0' above grade		
ILLUMINATION SUMMARY			
MAINTAINED MAX VERTICAL FOOTCANDLES			
Entire Grid			
Scan Average:	0.1318		
Maximum:	0.49		
Minimum:	0.00		
No. of Points:	52		
LUMINAIRE INFORMATION			
Color / CRI:	5700K - 75 CRI		
Luminaire Output:	63,600 / 38,600 lumens		
No. of Luminaires:	88		
Total Load:	53.6 kW		
		Lumen Maintenance	
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-400	38,000	>40,000	>60,000
TLC-LED-400	61,000	>72,000	>92,000
Reported per TM-21-11. See luminaire datasheet for details.			

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.
Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.
Installation Requirements: Results assume a 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

Pole location(s) Ⓢ dimensions are relative to 0.0 reference point(s) ⊗



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ILLUMINATION SUMMARY



EQUIPMENT LAYOUT									
INCLUDES:									
Football-1									
Soccer-1									
Track-1									
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.									
Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.									
EQUIPMENT LIST FOR AREAS SHOWN									
QTY	LOCATION	Pole		DRIVE ELEVATION	MOUNTING HEIGHT	Luminaires		QTY	POL
		SIZE	TYPE			TYPE	QTY		
4	F1-F3, F5	80'	-	24'	80'	TLC-LED-400	2	2	
2	T1-T2	50'	-	50'	50'	TLC-LED-400	2	2	
6								88	
TOTALS									
SINGLE LUMINAIRE AMPERAGE DRAW CHART									
Ballast Specifications		Line Amperage Per Luminaire							
(50 min power factor)		(See Chart)							
Single Phase Voltage		208V	220V	240V	277V	347V	380V	480V	
TLC-LED-400		3.5	2.7	3.4	3.0	2.4	2.2	1.7	
TLC-LED-400		2.5	2.3	2.3	1.9	1.5	1.4	1.1	

Chaminade-Madonna Preparatory School is requesting a variance for the sports lighting poles for (4) 80' poles and (2) 50' poles per sec 4.23 of the zoning and land development regulations.

EQUIPMENT LIST FOR AREAS SHOWN									
		Pole		Luminaires					
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY	WHS	QTY	OTHER
3	F1-F2, F5	80'	-	24'	TLC-LED-400	2	2	0	0
1	F3	80'	-	24'	TLC-LED-400	2	2	0	0
1	T1	50'	-	50'	228 / 216 LED	2	2	0	0
1	T2	50'	-	50'	228 / 216 LED	2	2	0	0
6	TOTALS						88	88	0



Chaminade Madonna High School Football
Hollywood, FL

GRID SUMMARY	
Name:	Field Side Spill
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY	
MAINTAINED MAX VERTICAL FOOT CANDLES	
Entire Grid	
Scan Average:	0.1318
Maximum:	0.49
Minimum:	0.00
No. of Points:	52

LUMINAIRE INFORMATION	
Color / CRI:	5700K - 75 CRI
Luminaire Output:	63,600 / 38,600 / 63,600 lumens
No. of Luminaires:	88
Total Load:	53.6 kW

Lumen Maintenance			
Luminaire Type	L90 hrs	L80 hrs	L70 hrs
216 LED	38,000	>60,000	>60,000
TLC-LED-400	61,000	>72,000	>72,000
228 LED	38,000	>60,000	>60,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

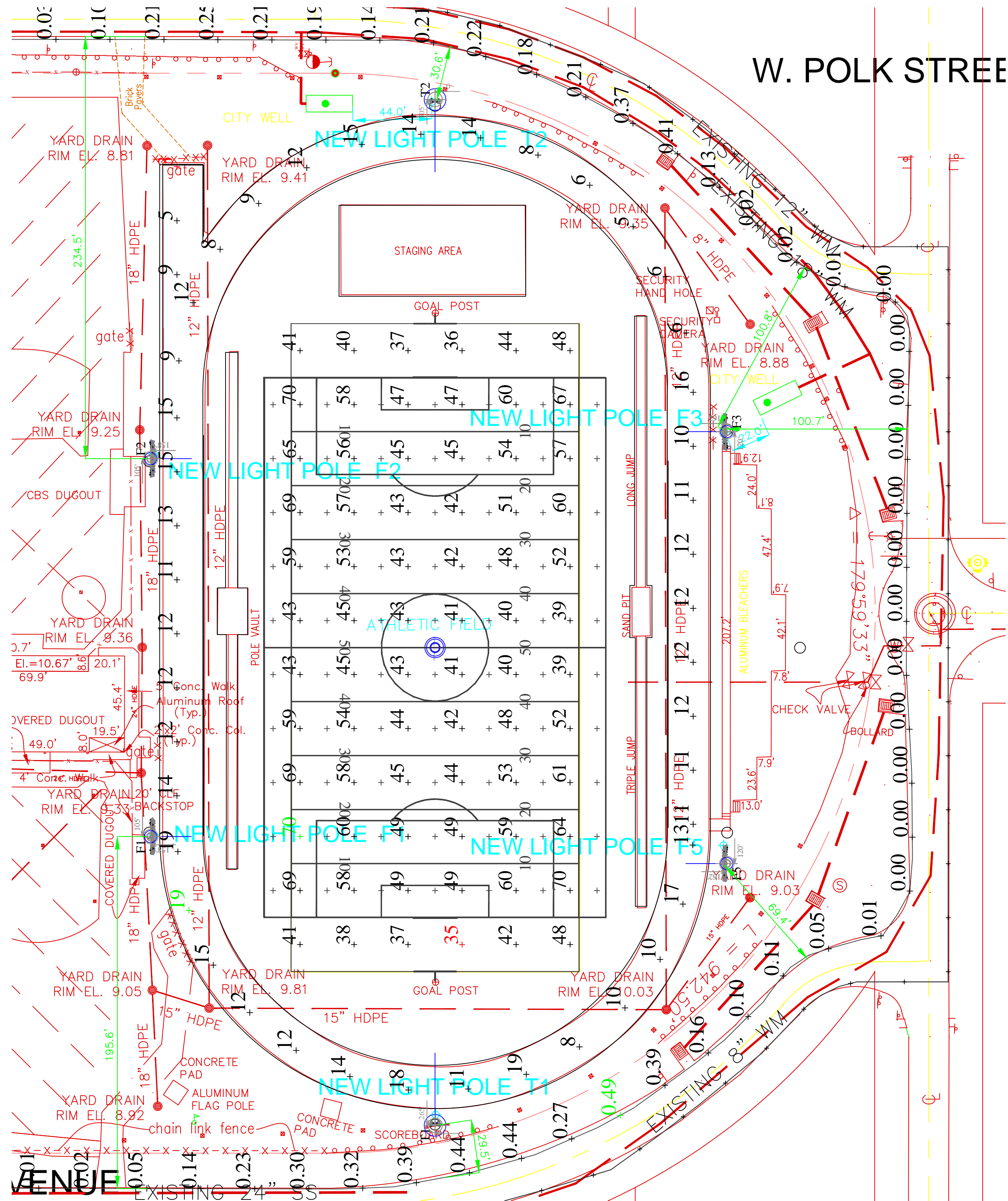
Electrical System Requirements: Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

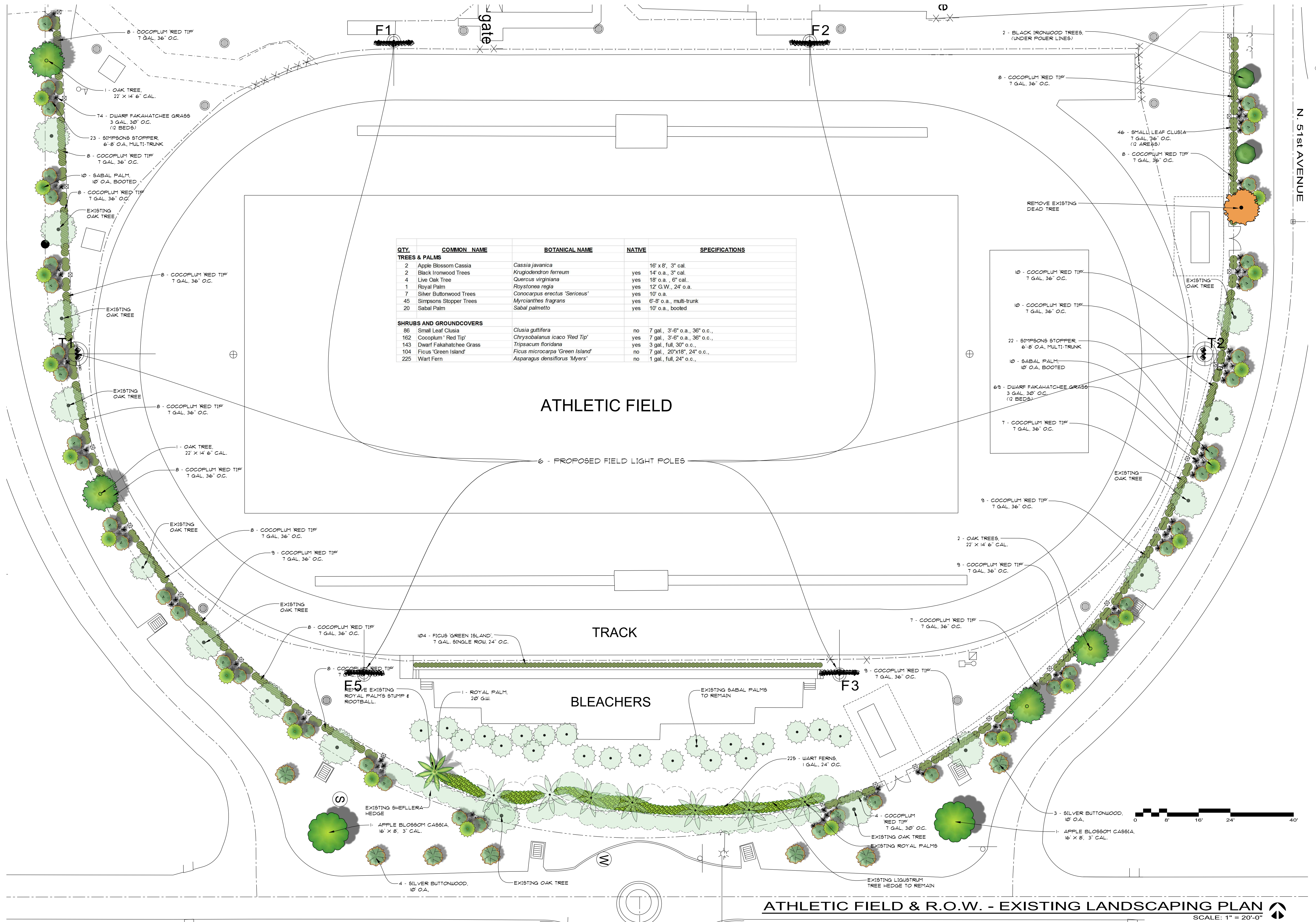
Installation Requirements: Results assume ± 2% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

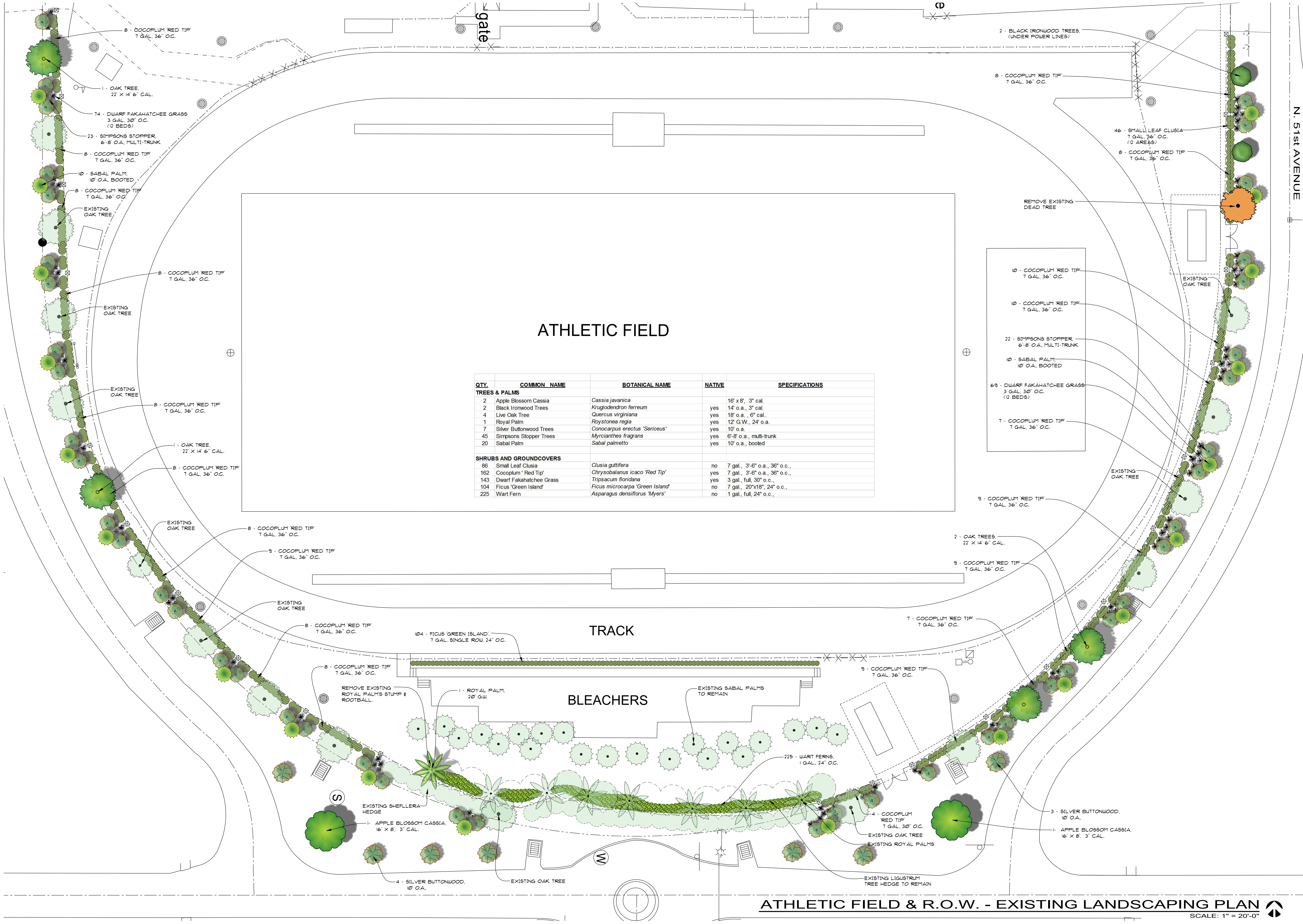


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ILLUMINATION SUMMARY







QTY.	COMMON NAME	BOTANICAL NAME	NATIVE	SPECIFICATIONS
TREES & PALMS				
2	Apple Blossom Cassia	<i>Cassia javanica</i>		16' x 8", 3" cal.
2	Black Ironwood Trees	<i>Krugiodendron ferreum</i>	yes	14' o.a., 3" cal.
4	Live Oak Tree	<i>Quercus virginiana</i>	yes	18' o.a., 6" cal.
1	Royal Palm	<i>Roystonea regia</i>	yes	12' G.W., 24' o.a.
7	Silver Buttonwood Trees	<i>Conocarpus erectus 'Sericeus'</i>	yes	10' o.a.
45	Simpsons Stopper Trees	<i>Myrcianthes fragrans</i>	yes	6'-8' o.a., multi-trunk
20	Sabal Palm	<i>Sabal palmetto</i>	yes	10' o.a., booted
SHRUBS AND GROUNDCOVERS				
86	Small Leaf Clusia	<i>Clusia guttifera</i>	no	7 gal., 3'-6" o.a., 36" o.c.,
162	Cocoplum 'Red Tip'	<i>Chrysobalanus icaco 'Red Tip'</i>	yes	7 gal., 3'-6" o.a., 36" o.c.,
143	Dwarf Fakahatchee Grass	<i>Tripsacum floridana</i>	yes	3 gal., full, 30" o.c.,
104	Ficus 'Green Island'	<i>Ficus microcarpa 'Green Island'</i>	no	7 gal., 20"x18", 24" o.c.,
225	Wart Fern	<i>Asparagus densiflorus 'Myers'</i>	no	1 gal., full, 24" o.c.,



REVISIONS:

CHAMINADE MADONNA COLLEGE
PREPARATORY SCHOOL
PARKING LOT DRAINAGE RENOVATIONS

PROJECT ADDRESS:
500 WEST CHAMINADE DRIVE
HOUSTON, TX 77056

Phase:
PARKING EXHIBIT
DOCUMENT

SIGNATURE AND SEAL

Job No. 2016-2000	Sheet No. C1
Date 06/02/2016	
Drawn by SM	Plot Date 12/03/2016
Appr. by JV	1 of 1



FOOTBALL STADIUM PARKING SPACE DATA:	
STADIUM SEATS PROVIDED (STANDARD & H.C. SEATING):	1163
STADIUM PARKING REQUIRED AT 1 PARKING SPACE PER 4 STADIUM SEATS:	291
TOTAL CHAMPAINE PARKING SPACES PROVIDED:	345
<u>TOTAL NATIVITY PARKING SPACES PROVIDED:</u>	<u>352</u>
GRAND TOTAL PARKING SPACES PROVIDED:	697