VII. B.

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Planning Commission Staff Report

Project Type: Site Development Section Plan

Meeting Date: August 8, 2016

From: Jonathan Raiche, AICP
Senior Planner

Location: 17290 North Outer 40 Road

Applicant: Midwest Regional Bank

Description: **Boone's Crossing NE, Lot 1B (Midwest Regional Bank) - SDSP:** A Site Development Section Plan, Landscape Plan, Lighting Plan, Tree Stand Delineation, Tree Preservation Plan, Architectural Elevations and an Architect's Statement of Design for a 1.18 acre tract of land zoned "PC" Planned Commercial District located north of US Highway 40/Interstate 64 and east of its intersection with Boone's Crossing (17U620194).

PROPOSAL SUMMARY

Grimes Consulting, Inc. on behalf of Midwest Regional Bank, has submitted a Site Development Section Plan, Landscape Plan, Lighting Plan, Tree Stand Delineation, Tree Preservation Plan, Architectural Elevations and an Architect's Statement of Design for Planning Commission review. The proposed plan is for construction of a new 4,711 square foot, 1-story bank building with two drive-thru service lanes and one additional ATM lane. The subject site, Lot 1B of Boone's Crossing NE subdivision, is the middle lot in a three lot subdivision. The easternmost lot is currently developed with a mixed-use office and bank building. The westernmost lot is currently vacant and is not included in the current Site Development Section proposal. The subject site is zoned "PC" Planned Commercial District and is governed under the terms and conditions of City of Chesterfield Ordinance Number 2808.

HISTORY OF SUBJECT SITE

The subject site was incorporated into the City of Chesterfield under an "NU" Non-Urban District from St. Louis County. The zoning was first amended through a site-specific ordinance in 2006 to a "PC" Planned Commercial District. The site-specific ordinance was amended in 2012 to revise the Permitted Use requirements and a structure setback requirement and again in 2014 to accommodate three total lots rather than the original two lots proposed. A lot split was subsequently approved in 2015 which approved the current three lot configuration of the subdivision as seen in Figure 1 on the next page.

Figure 1. Aerial Photo

STAFF ANALYSIS

Comprehensive Plan

The subject site is located within Ward 4 and within the area designated by the Comprehensive Plan as the sub-area of Chesterfield Valley. The Comprehensive Plan includes various policies which are applicable to all developments within the City and some specifically for the Chesterfield Valley sub-area. Two of the policies which are applicable to the proposed development are referenced below.

- ***3.1.1 Quality of Design*** *– Overall design standards should be provided for smaller-scale, mixed-use, project-oriented developments. Developments should emphasize architectural design, pedestrian circulation, landscaping, open space, innovative parking solutions and landscape buffering between any adjacent residential uses.*

- ***7.2.6 Cross-Access Circulation—****Internal vehicular and pedestrian connections between commercial developments should be encouraged.*

The way in which the proposed development addresses both of these items will be discussed in the following sections of the Staff Analysis portion of this report.

Zoning

The subject site is zoned "PC" Planned Commercial District under the terms and conditions of City of Chesterfield Ordinance 2808. The current proposal conforms to all requirements of the ordinance including, but not limited to, structure setbacks. Staff finds that the Site Development Section Plan substantially complies with the Preliminary Plan and conforms to all requirements of the site specific ordinance.

Traffic Access and Circulation
Access to the subject site is restricted to one full access and one right-in only access from North Outer 40 Road. During the previously mentioned Lot Split, cross access was required to the subject site from the one existing full access drive located on North Outer 40 Road. Cross access has been required with this proposal to provide cross-access along the southern portion of the site between Lot 1A and Lot 2. This will help ensure that all three lots will have access to all entrances when the right-in only is installed during development of Lot 1A.

Internal sidewalks are provided to link the subject site to the other two lots of the subdivision and are located at narrow points of the drive-thru area as to provide for safe pedestrian movement. The drive-thru is designed with a counter-clockwise traffic pattern on the northern portion of the site that will provide for efficient and safe vehicular movement. The clear separation of the customer parking and the drive-thru will also assist in providing safe and efficient circulation through the site.

Open Space and Landscaping
A minimum of forty percent (40%) open space is required for the entire development. The applicant has provided calculations included on the plans that indicate there is approximately forty-seven percent (47%) open space provided for the entire development. Additionally, the subject site alone is proposed to provide forty-three percent (43%) open space.

The proposed landscape plan includes the following elements:

1) The required 30 feet wide landscape buffer along Interstate 64,
2) Various parking lot trees,
3) Bio-retention plantings along the north and east property lines, and
4) A combination of trees, shrubs, and annuals/perennials placed around the building.

The proposed plantings around the building serve to emphasize and bring visual focus to the building's entryway as well as providing visual interest on both sides of the proposed drive-thru canopy. Additionally, the applicant has utilized evergreen trees to soften and screen the proposed dumpster enclosure which consists of brick to match the building and white vinyl gates. All mechanical equipment is proposed to be roof-mounted which is screened by the large building parapet that has been integrally designed into the overall building.

Parking and Drive-thru Stacking
As previously mentioned, the site has been designed such that the drive-thru traffic and walk-in traffic have been clearly separated to provide for safe circulation throughout the site. The customer parking is located in the southern portion of the site between the building and the 30' landscape buffer along Interstate 64. The applicant has proposed 18 parking spaces which meets the minimum 15 spaces required by the Unified Development Code (UDC). Additionally, the applicant's design exceeds the minimum drive-thru stacking requirements for financial institutions which require that each service lane accommodates 6 cars and each ATM lane accommodates 3 cars. The proposed plan indicates that there are approximately 13 spaces provided between the two service lanes and 5 spaces in the ATM lane.

Lighting
The proposal includes a combination of ground-mounted, pole-mounted, building-mounted, bollard, and canopy style lighting fixtures. The parking lot lighting proposed is fully-enclosed and shielded LED fixtures which meet the Lighting Standards of the UDC. The proposed bollard lights serve to highlight the entryway area and are proposed at a height of 2.5 feet with downcast light.

The applicant has also applied ground-mounted accent lighting to serve two purposes. The first application is spot lighting for the proposed flag pole located southwest of the building which is required to be directed toward the flag. The second application is the same style of fixture but as a flood style lamp rather than a spot light style along the main southern façade of the building. The applicant has confirmed and provided a note on the plan that the ground-mounted lighting will be shielded and aimed to avoid light spillage above the roofline. The Architectural Review Board and Staff have reviewed these accent lights and found the application to be a positive architectural element.

Architectural Design
This item was reviewed by the Architectural Review Board on July 14, 2016 and received a recommendation for approval as presented by a vote of 3-0. The applicant is proposing an approximately 23 feet tall building with an extended entryway that is approximately 28 feet tall as seen in the rendering in Figure 2 below. The governing ordinance for the site restricts building height to a maximum of 45 feet on Lots 1A and 1B while the existing building on Lot 2 is approximately 37 feet tall. The applicant has designed a relatively tall 1-story building and utilized the taller entryway which both bring a general compatibility of scale with the existing adjacent 2-story building. Various horizontal architectural elements, including the stone banding and brick soldier course details, also break up the façade and help to provide a sense of human scale to the building.

Figure 2. Architectural Rendering

The proposed building features a v-shaped design centered on a taller stone-clad entryway which clearly denote the intended pedestrian access and visual focus of the building as seen in the rendering provided by the applicant in Figure 2 above. The proposed landscaping and pedestrian-scale bollard lighting also highlight the building's entry. All facades have been coordinated with similar materials proposed throughout with the exception of the proposed metal which is found only over the drive-thru canopy on the northern façade of the building.

The main proposed materials consist of a medium tone brick, tan architectural stone, dark bronze colored aluminum framed tinted windows, and a sandstone colored metal panel for the drive-thru canopy. The type and color of materials chosen by the developer are similar to those used on the existing adjacent building and help to provide a consistent architectural theme throughout the development. Although the proposed canopy introduces a metal panel for the upper portion, a compatible color has been chosen. Additionally, the columns of the proposed canopy are proposed to be constructed of the same brick and stone as used on the main building to provide continuity as shown in the excerpt from the elevations seen in Figure 3 below.

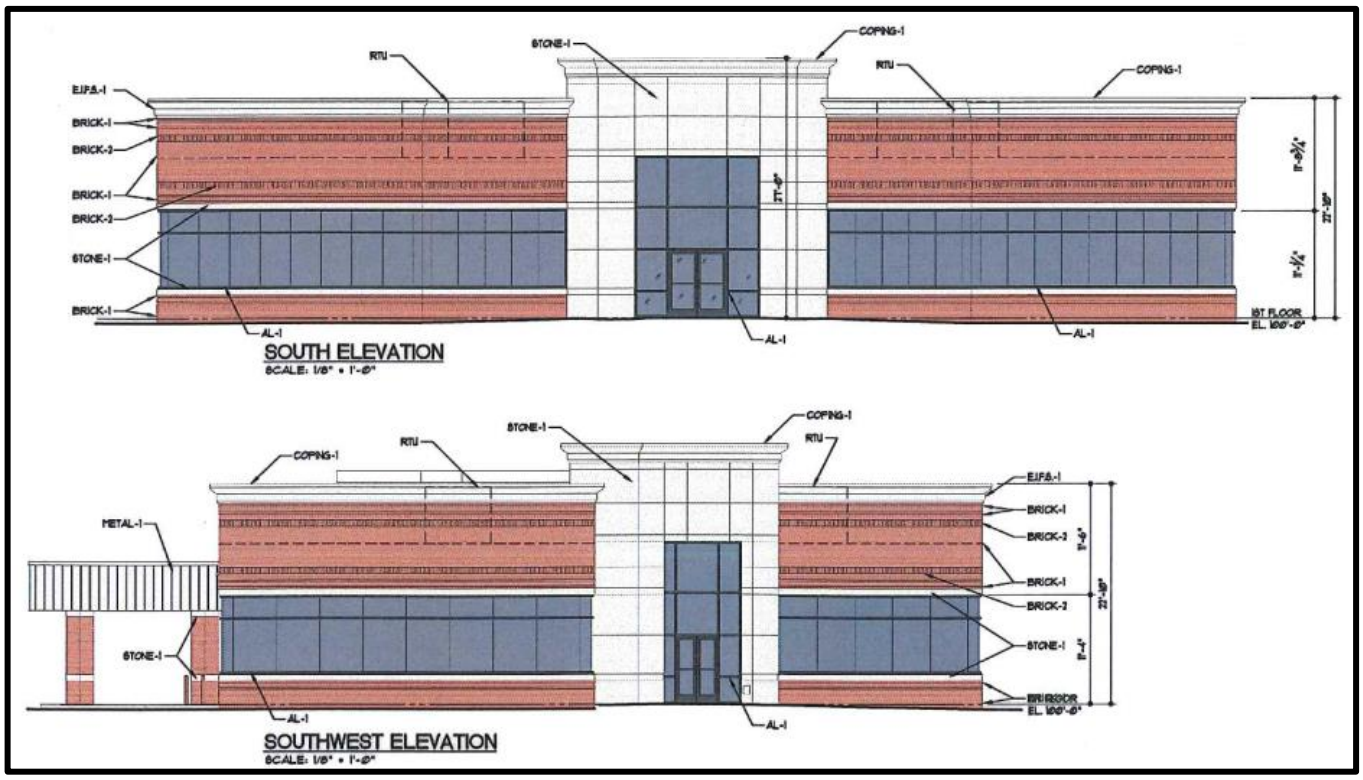


Figure 3. Architectural Elevation Excerpt

STAFF RECOMMENDATION

Staff has reviewed the Site Development Section Plan, Landscape Plan, Lighting Plan, Tree Stand Delineation, Tree Preservation Plan, Architectural Elevations, and Architect's Statement of Design and has found the proposal to be in compliance with the site specific ordinance, Comprehensive Plan, and all City Code requirements. As previously mentioned, this was also reviewed by the City's Architectural Review Board and received a recommendation for approval as presented by a vote of 3-0. Staff recommends approval of the proposed development of Boone's Crossing NE, Lot 1B (Midwest Regional Bank).

MOTION

The following options are provided to the Planning Commission for consideration relative to this application:

1) "I move to approve (or deny) the Site Development Section Plan, Landscape Plan, Lighting Plan, Tree Stand Delineation, Tree Preservation Plan, Architectural Elevations, and Architect's Statement of Design for Boone's Crossing NE, Lot 1B (Midwest Regional Bank).

2) "I move to approve the Site Development Section Plan, Landscape Plan, Lighting Plan, Tree Stand Delineation, Tree Preservation Plan, Architectural Elevations, and Architect's Statement of Design for Boone's Crossing NE, Lot 1B (Midwest Regional Bank), with the following conditions…" (Conditions may be added, eliminated, altered or modified)

Attachments: Site Development Section Plan
Landscape Plan
Lighting Plan
Tree Stand Delineation
Tree Preservation Plan
Architectural Elevations
Architectural Rendering
Architect's Statement of Design
Lighting Cut-sheets

CC: Aimee Nassif, Planning and Development Services Director

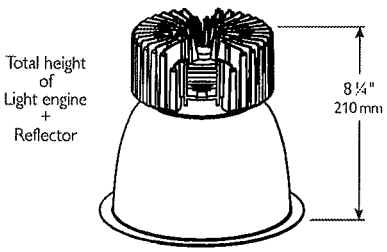
Light Fixture Type "M"

PHILIPS
LIGHTOLIER

Downlighting

Calculite LED 7" Downlight

Round aperture,
Narrow, Medium & Wide beam
1500/2000/3500/6000lm



Calculite LED 7" features an LED array of high brightness white light LEDs. The new LED boards in Calculite LED ensure a less than 2-step SDCM color variation between luminaires.

Complete product = Frame-in kit + Trim kit
Lumen package for the frame-in kit must match the trim kit.

Project:	MIDWEST REGIONAL BANK
Location:	C7L50N1VBZ10V /
Cat.No:	
Type:	M
Lamps:	Qty:
Notes:	C7L50DL40KWCL WVB

Frame-in kit

example: C7L15NUVBZ10V

Series	Lumens	Installation	Input voltage	Version	Dimming	Options[5]
C7L Calculite 7" LED round aperture	**15** 1500lm	**N** New construction **R** Remodeler	**U** Universal (120/277V)	**VB** Version B	**Z10V** 0-10V dimming **LD** Lutron driver	**EM** Emergency[1] **LC** Chicago Plenum[3]
	20 2000lm **35** 3500lm **50** 6000lm	**N** New construction **R** Remodeler[6]	**1** 120V **2** 277V	**VB** Version B	**Z10V** 0-10V dimming **LD** Lutron driver	**EM** Emergency[1] **LC** Chicago Plenum[3]
C7L Calculite 7" LED round aperture (347v configurations)	**15** 1500lm **20** 2000lm **35** 3500lm	**N** New construction **R** Remodeler	**1** 120V	**VB** Version B	**Z10V** 0-10V dimming	**-347** 347V (for Canada)[2]
	50 6000lm	**N** New construction	**2** 277V	**VB** Version B	**Z10V** 0-10V dimming	**-347** 347V (for Canada)[2]
CUL Calculite LED Universal aperture	**15** 1500lm	**J** J-box mount retrofit	**U** Universal (120/277V)	**VB** Version B	**Z10V** 0-10V dimming Existing wiring will determine if dimming is an option.	
	20 2000lm	**J** J-box mount retrofit	**1** 120V **2** 277V	**VB** Version B	**Z10V** 0-10V dimming Existing wiring will determine if dimming is an option.	
	15 1500lm **20** 2000lm	**S** Screw-in base retrofit	**1** 120V	**VB** Version B	Existing wiring will determine if dimming is an option.	

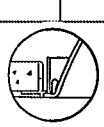
Trim kit

example: C7L1520DL35KWCCDPVB

Series	Lumens	Style	CCT	Beam	Reflector	Flange	Version[1]
C7L							**VB**
C7L Calculite 7" LED round aperture	**1520** 1500/2000/3500lm **50** 6000lm	**DL** Downlight	**27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K	**N** Narrow, 20° 0.3 s.c[7] **M** Medium, 55° 0.8 s.c. **W** Wide, 70° 1.1 s.c.	**CL** Clear **CCL** Comfort clear **CCD** Comfort clear diffuse **CCZ** Champagne bronze **WH** White (painted)	**W** White (painted) **P** Polished (matches aperture) **FT** Flangeless (flush-mount)[4,5]	**VB** Version B

1. Consult LED-EM spec sheet for Emergency (**EM**) option details and restrictions. Not available with Lutron driver (**LD**) diming.
2. Consult factory for availability of other 347V (**-347**) option configurations.
3. Consult factory for availability for other Chicago Plenum (**LC**) option configurations. Not available for 6000 (**50**) lumen frame-in kits.
4. Accessory **CA7FMR** required for gypsum applications and flangelss (**FT**) trims (minimal ¼" reflector flange).
5. Available for new construction (**N**) installation frame-in kits only.
6. Available for 2000 (**20**) lumen frame-in kits only.
7. Available for 6000 (**50**) lumen trim kits only.

Note: See page 3 for Energy Star® compatibility.



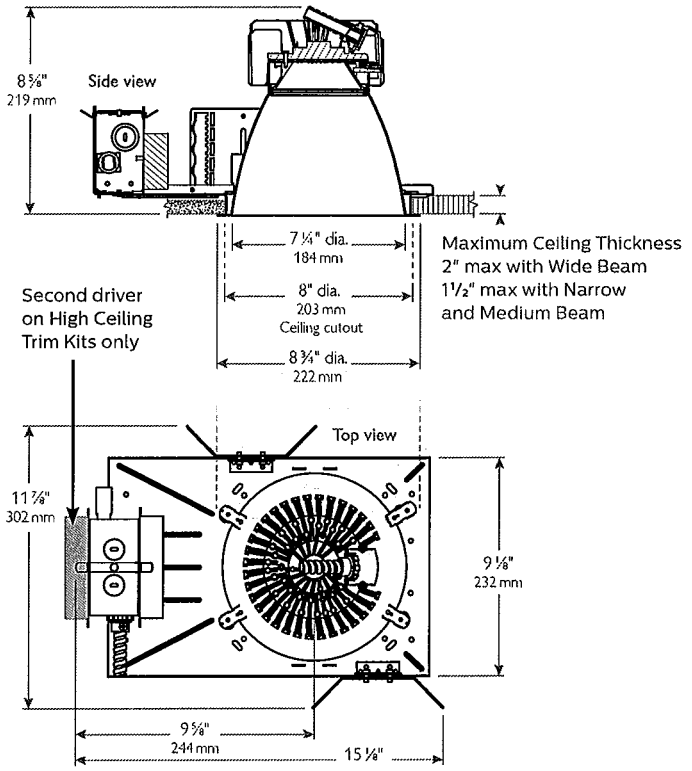
CA7FMR
Flangeless trim with plaster ring accessory.
(Required for gypsum installations)

c UL us LISTED

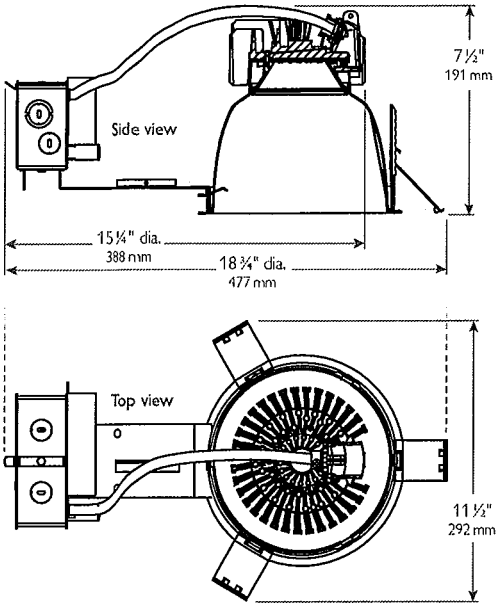
C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

New Construction



Remodeler



Frame-in kits

New construction

Mounting frame: Galvanized stamped steel for dry or plaster ceilings.
Vertical adjustment: Light engine adjusts in frame below ceilings up to 1 1/8" max.
Mounting brackets: Galvanized Steel. Adjustable through aperture. Use 3/4" or 1 1/2" lathing channel, 1/2" EMT or optional mounting bars (see Options and Accessories for optional mounting bars).

Remodeler

Compatibility: Flanged downlight only.
Power pack: Swivel junction box for tight plenum spaces. Snap-off covers permits wiring from top.
Spring holder: Galvanized steel. Accepts up to 2 1/2" (64mm) ceiling thickness.

Retrofit

Compatibility: Downlight only.
Capability: Converts 6" (153mm) or 7" (178mm) Lightolier incandescent frame-in kit without additional wiring using existing Calculite E26 base.
Socket cup support: Spun steel. Holds Calculite incandescent socket cup.
Socket extender: Phenolic E26 base. Connect to existing lamp holder.

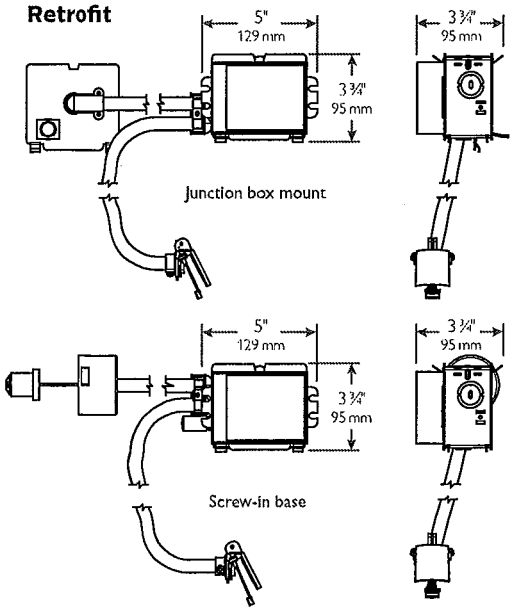
Quick-ship

Philips is committed to providing customers with the products they need when they need them. For Service Smart (2 day) and Spec Smart (2 week) availablility please reference the Philips Luminaire Smart Service Guide or contact your Philips Lighting representative. Quick-ship SKUs apply to the United States only.

Options and accessories

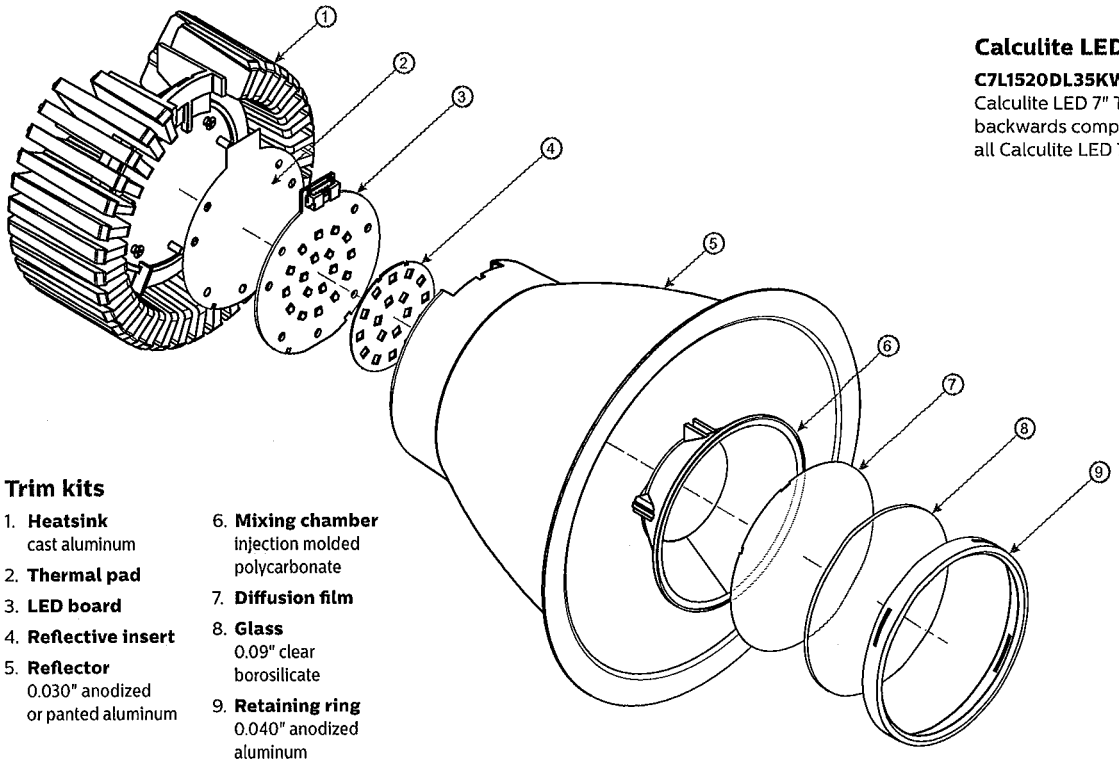
Dimming capability:
0-10V or Lutron dimming (see LED-DIM spec sheet).
Emergency capability:
Inverter (see CP-60150 spec sheet - **ZI** series). Integral (see LED-EM spec sheet - add "**EM**" suffix).
Sloped ceilings:
Compatible with slope ceiling adapters (see **SCA** spec sheet).
Mounting bars:
1950 18" long (set of 2)
1951 27" long (set of 2)
7994 Wood joist telescoping mounting bars (minimum 13 1/4" and maximum 24 1/2")
T-Bar anchor clips:
1956 For 18"/27" mounting bars (set of 4)
Decorative elements:
D7A Consult 7in Vetro spec sheet

Retrofit



C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm



Calculite LED 7"

C7L1520DL35KWCCDPVB
Calculite LED 7" Trim kits are backwards compatible with all Calculite LED 7" Frame-in Kits.

Trim kits

1. **Heatsink** cast aluminum
2. **Thermal pad**
3. **LED board**
4. **Reflective insert**
5. **Reflector** 0.030" anodized or panted aluminum
6. **Mixing chamber** injection molded polycarbonate
7. **Diffusion film**
8. **Glass** 0.09" clear borosilicate
9. **Retaining ring** 0.040" anodized aluminum

Features

Ceiling cutout: 7" aperture; 8" (203mm).
Depth: 8 5/8" (219mm) including light engine.
Power connection: Attaches to light engine via push-in connector (on frame). Removable cover provides access.
Junction box: Allows inspection from below. UL listed for 8 No. 12 AWG, 90°C through branch circuit connectors.
Thermal protector: Meets NEC & UL requirements. Do not install insulation above or within 3" of luminaire.
Thermal Management: Heat sink and thermal design along with the clean room assembly process ensures specified performance levels are maintained.

ENERGY STAR®

All new construction (**N**) frame-in and trim kit configurations are ENERGY STAR® certified except for the following:
- **Trim Kits:** Champagne bronze (**CCZ**) reflector finishes.
- All 3500 lumen (**35**) optics configurations.
- All 6000 lumen (**50**) optics configurations.
- All emergency (**EM**) configurations.
- All 347V configurations.

Electrical

Electronic power supply: 120 or 277V, 50/60Hz, encased, overload and short circuit protected, thermal regulation to protect against overheating, sound rating. "A", -20°C minimum starting temperature.
Rated life: Offers 60,000 hour rated life (3500lm offer 40,000 hour rated life) at 70% lumen maintenance (L70). Tested in accordance with IES LM-80-08 and TM-21-11.

Labels

cULus, I.B.E.W.
Suitable for wet locations.
5 year warranty.
ENERGY STAR® certified (see exclusions to the left).

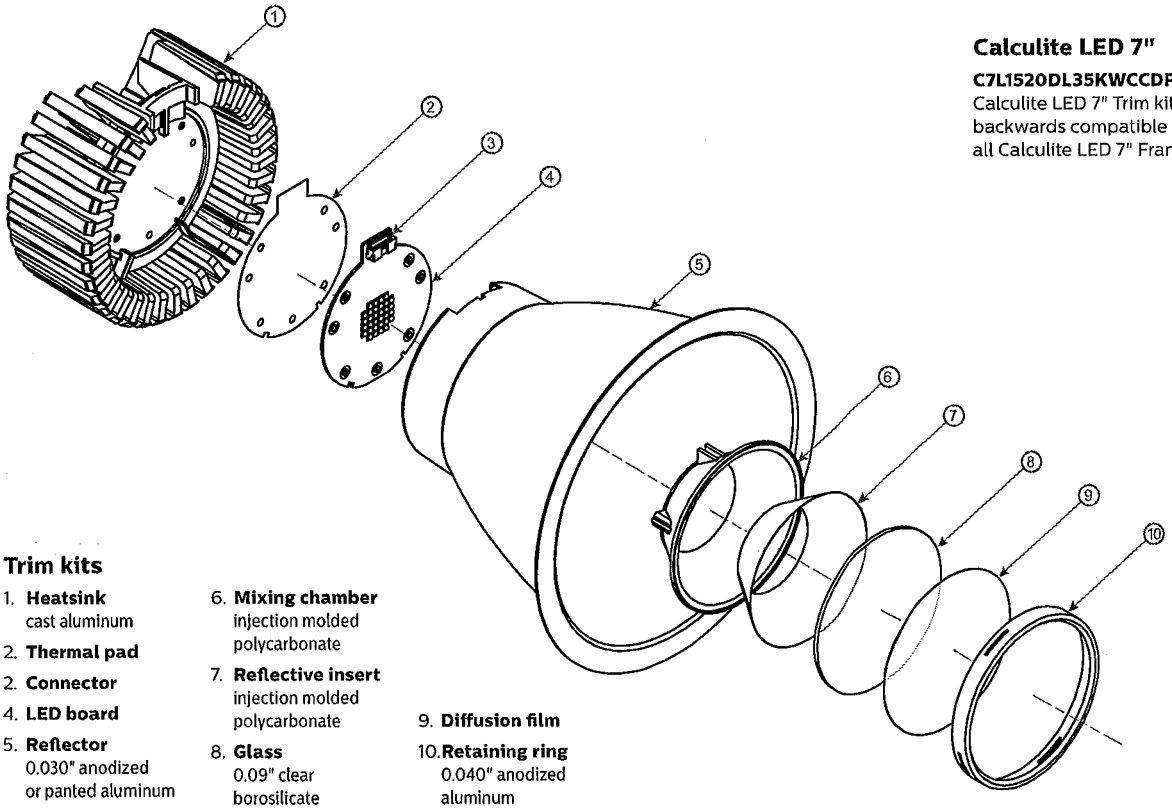
Frame-In kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power*	LED power	THD factor	Power factor
C7L15☐UVBZ10V 1500lm w/0-10V dimming	120V	50/60Hz	0.16A	300mA	18W	15W	<15%	>0.90
	277V	50/60Hz	0.08A	300mA	18W	15W	<20%	>0.90
C7L20☐_VBZ10V 2000lm w/0-10V dimming	120V	50/60Hz	0.20A	400mA	25W	20W	<15%	>0.90
	277V	50/60Hz	0.09A	400mA	25W	20W	<15%	>0.90
C7L35N_VBZ10V 3500lm w/0-10V dimming	120V	50/60Hz	0.35A	700mA	41W	35W	<10%	>0.95
	277V	50/60Hz	0.16A	700mA	41W	35W	<15%	>0.90

* +/- 5%

☐ = Applies to both New Construction (**N**) and Remodeler (**R**) Installations.
_ = Applies to both 120V (**1**) and 277V (**2**) Input voltages.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm



Calculite LED 7"

C7L1520DL35KWCCDPVB
Calculite LED 7" Trim kits are backwards compatible with all Calculite LED 7" Frame-in Kits.

Trim kits

1. **Heatsink** cast aluminum
2. **Thermal pad**
2. **Connector**
4. **LED board**
5. **Reflector** 0.030" anodized or panted aluminum
6. **Mixing chamber** injection molded polycarbonate
7. **Reflective insert** injection molded polycarbonate
8. **Glass** 0.09" clear borosilicate
9. **Diffusion film**
10. **Retaining ring** 0.040" anodized aluminum

Features

Ceiling cutout: 7" aperture; 8" (203mm).
Depth: 8 1/4" (210mm) including light engine.
Power connection: Attaches to light engine via push-in connector (on frame). Removable cover provides access.
Junction box: Allows inspection from below. UL listed for 8 No. 12 AWG, 90°C through branch circuit connectors.
Thermal protector: Meets NEC & UL requirements. Do not install insulation above or within 3" of luminaire.
Thermal Management: Heat sink and thermal design along with the clean room assembly process ensures specified performance levels are maintained.

Electrical

Electronic power supply: 120 or 277V, 50/60Hz, encased, overload and short circuit protected, thermal regulation to protect against overheating, sound rating. "A", -20°C minimum starting temperature.
Rated life: Offers 60,000 hour rated life at 70% lumen maintenance (L70). Tested in accordance with IES LM-80-08 and TM-21-11.

Labels

cULus, I.B.E.W.
Suitable for wet locations.
5 year warranty.

Frame-In kit Electrical specifications	Input volts	Input freq.	Input current	LED drive current	Input power*	LED power	THD factor	Power factor
C7L50N__VBZ10V	120V	50/60Hz	0.58A	650mA	70W	57W	<20%	>0.90
6000lm w/0-10V dimming	277V	50/60Hz	0.27A	650mA	70W	57W	<20%	>0.90

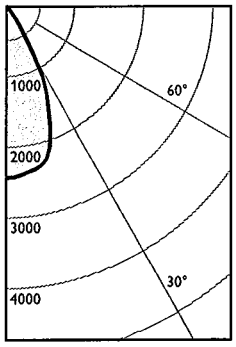
* +/-5%
__ = Applies to both 120V (**1**) and 277V (**2**) Input voltages.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

18W LED, 3500K, 55° Medium 1500 lumen

Candela Curve



Frame: C7L15NUVBZ10V
Trim: C7L1520DL35KMCLWVB

CCT[1]:	3500K
Output lumens:	1716 lms
Input watts[2]:	18.3 W
Efficacy:	**93.7 lm/w**
CRI:	80 min
Spacing Crit.:	0.8
Beam Spread:	55°
Report no[3]:	701GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	1459	85.1%
0-40	1683	98.1%
0-60	1714	99.9%
0-90	1716	100.0%

Angle	Mean CP	Lumens
0	2450	
5	2419	229
10	2363	
15	2255	617
20	1869	
25	1386	613
30	734	
35	335	224
40	124	
45	25	29
50	4	
55	2	2
60	1	
65	1	1
70	1	
75	0	0
80	0	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	98	4.0'
6'	68	4.8'
7'	50	5.6'
8'	38	6.4'
9'	30	7.2'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	79.5	0.81
6'	52.2	0.53
7'	37.3	0.38
8'	31.0	0.32
9'	24.8	0.25

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	=100%
3000K	= 97%
2700K	= 87%

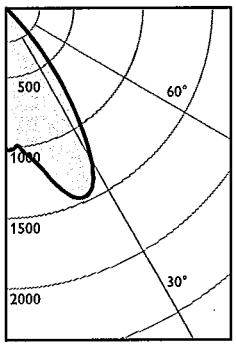
Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	114	111	109	107	109	105	105	102	102	99	95
2	109	105	101	98	103	97	100	95	97	93	89
3	104	99	94	91	97	90	95	88	92	87	84
4	100	93	88	84	92	84	90	83	88	82	80
5	95	88	83	79	87	78	85	78	84	77	75
6	91	83	78	74	83	74	81	73	80	73	71
7	87	79	74	70	78	70	77	69	76	69	67
8	84	75	70	66	75	66	74	66	73	65	64
9	80	71	66	63	71	62	70	62	69	62	61
10	77	68	63	59	68	59	67	59	66	59	58

Room Cavity Ratio

18W LED, 3500K, 70° Wide 1500 lumen

Candela Curve



Frame: C7L15NUVBZ10V
Trim: C7L1520DL35KWCLWVB

CCT[1]:	3500K
Output lumens:	1733 lms
Input watts[2]:	18.3 W
Efficacy:	**94.7 lm/w**
CRI:	80 min
Spacing Crit.:	1.1
Beam Spread:	70°
Report no[3]:	702GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	1118	64.5%
0-40	1635	94.4%
0-60	1730	99.8%
0-90	1733	100.0%

Angle	Mean CP	Lumens
0	1016	
5	991	99
10	1104	
15	1274	366
20	1441	
25	1458	653
30	1249	
35	850	518
40	402	
45	52	90
50	7	
55	5	4
60	3	
65	2	2
70	1	
75	1	1
80	0	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	41	5.5'
6'	28	6.6'
7'	21	7.7'
8'	16	8.8'
9'	13	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	78.4	0.81
6'	51.5	0.53
7'	36.8	0.38
8'	30.6	0.32
9'	24.5	0.25

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	=100%
3000K	= 97%
2700K	= 87%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	108	105	108	104	104	101	100	98	93
2	107	102	98	95	101	93	97	91	94	89	86
3	102	95	90	85	93	85	91	83	88	82	79
4	96	88	82	78	87	77	85	76	83	75	73
5	91	82	76	71	81	71	79	70	77	69	67
6	86	76	70	65	75	65	74	65	72	64	62
7	81	71	65	60	70	60	69	60	68	59	57
8	76	66	60	56	66	55	65	55	63	55	53
9	72	62	56	51	61	51	61	51	60	51	49
10	68	58	52	48	58	48	57	48	56	47	46

Room Cavity Ratio

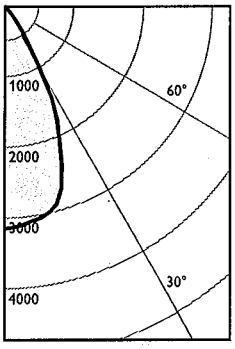
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Wattage controlled to within +/- 5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

25W LED, 3500K, 55° Medium 2000 lumen

Candela Curve



Frame: C7L20N1VBZ10V
Trim: C7L1520DL35KMCLWVB

CCT[1]:	3500K
Output lumens:	2209 lms
Input watts[2]:	25.2 W
Efficacy:	**87.7 lm/w**
CRI:	80 min
Spacing Crit.:	0.8
Beam Spread:	55°
Report no[3]:	705GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	1879	85.1%
0-40	2167	98.1%
0-60	2207	99.9%
0-90	2209	100.0%

Angle	Mean CP	Lumens
0	3153	
5	3110	295
10	3040	
15	2903	794
20	2410	
25	1785	790
30	943	
35	432	288
40	160	
45	32	38
50	5	
55	3	3
60	2	
65	1	1
70	1	
75	0	0
80	0	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	126	4.0'
6'	88	4.8'
7'	64	5.6'
8'	49	6.4'
9'	39	7.2'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	102.3	1.12
6'	67.2	0.73
7'	48.0	0.52
8'	40.0	0.44
9'	32.0	0.35

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	=100%
3000K	= 97%
2700K	= 87%

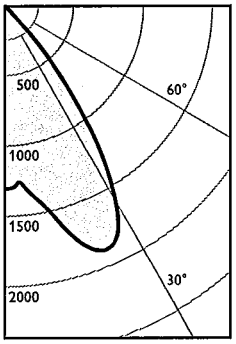
Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	114	112	109	107	109	106	105	102	102	99	95
2	109	105	101	98	103	97	100	95	97	93	89
3	104	99	94	91	97	90	95	88	92	87	84
4	100	93	88	84	92	84	90	83	88	82	80
5	95	88	83	79	87	79	85	78	84	77	75
6	91	83	78	74	83	74	81	73	80	73	71
7	87	79	74	70	78	70	77	69	76	69	67
8	84	75	70	66	75	66	74	66	73	65	64
9	80	71	66	63	71	62	70	62	69	62	61
10	77	68	63	59	68	59	67	59	66	59	58

Room Cavity Ratio

25W LED, 3500K, 70° Wide 2000 lumen

Candela Curve



Frame: C7L20N1VBZ10V
Trim: C7L1520DL35KWCLWVB

CCT[1]:	3500K
Output lumens:	2224 lms
Input watts[2]:	25.2 W
Efficacy:	**88.3 lm/w**
CRI:	80 min
Spacing Crit.:	1.1
Beam Spread:	70°
Report no[3]:	706GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	1432	64.4%
0-40	2098	94.3%
0-60	2220	99.8%
0-90	2224	100.0%

Angle	Mean CP	Lumens
0	1304	
5	1267	127
10	1413	
15	1631	468
20	1844	
25	1870	837
30	1604	
35	1095	666
40	519	
45	66	116
50	9	
55	6	6
60	4	
65	3	3
70	2	
75	1	1
80	1	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	52	5.5'
6'	36	6.6'
7'	27	7.7'
8'	20	8.8'
9'	16	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	100.7	1.12
6'	66.1	0.73
7'	47.2	0.52
8'	39.3	0.44
9'	31.5	0.35

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	=100%
3000K	= 97%
2700K	= 87%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	108	106	108	104	104	101	100	98	93
2	107	102	98	95	101	93	97	91	94	89	86
3	102	95	90	85	93	85	91	83	88	82	79
4	96	88	82	78	87	77	85	76	83	75	73
5	91	82	76	71	81	71	79	70	77	69	67
6	86	76	70	65	75	65	74	65	72	64	62
7	81	71	65	60	70	60	69	60	68	59	57
8	76	66	60	56	66	55	65	55	63	55	53
9	72	62	56	51	61	51	60	51	60	51	49
10	68	58	52	48	58	48	57	48	56	47	46

Room Cavity Ratio

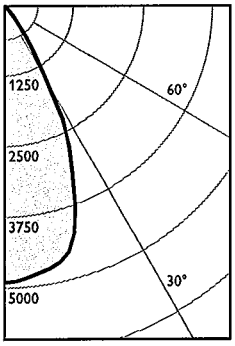
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Wattage controlled to within +/-5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

41W LED, 3500K, 55° Medium 3500 lumen

Candela Curve



Frame: C7L35N1VBZ10V
Trim: C7L1520DL35KMCLWVB

CCT[1]:	3500K
Output lumens:	3434 lms
Input watts[2]:	40.5 W
Efficacy:	**84.8 lm/w**
CRI:	80 min
Spacing Crit.:	0.8
Beam Spread:	55°
Report no[3]:	709GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	2920	85.0%
0-40	3370	98.1%
0-60	3432	99.9%
0-90	3434	100.0%

Angle	Mean CP	Lumens
0	4899	
5	4832	458
10	4724	
15	4511	1234
20	3746	
25	2772	1228
30	1475	
35	674	449
40	249	
45	50	58
50	7	
55	4	4
60	3	
65	2	2
70	1	
75	1	1
80	0	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	196	4.0'
6'	136	4.8'
7'	100	5.6'
8'	77	6.4'
9'	60	7.2'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	159.1	1.80
6'	104.4	1.18
7'	74.6	0.84
8'	62.2	0.70
9'	49.7	0.56

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	= 100%
3000K	= 97%
2700K	= 87%

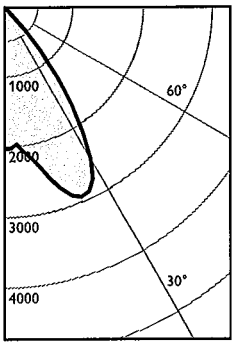
Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	114	112	109	107	109	106	105	102	102	99	95
2	109	105	101	98	103	97	100	95	97	93	89
3	104	99	94	91	97	90	95	88	92	87	84
4	100	93	88	84	92	84	90	83	88	82	80
5	95	88	83	79	87	79	85	78	84	77	75
6	91	83	78	74	83	74	81	73	80	73	71
7	87	79	74	70	78	70	77	69	76	69	67
8	84	75	70	66	75	66	74	66	73	65	64
9	80	71	66	63	71	62	70	62	69	62	61
10	77	68	63	59	68	59	67	59	66	59	58

Room Cavity Ratio

41W LED, 3500K, 70° Wide 3500 lumen

Candela Curve



Frame: C7L35N1VBZ10V
Trim: C7L1520DL35KWCLWVB

CCT[1]:	3500K
Output lumens:	3446 lms
Input watts[2]:	40.5 W
Efficacy:	**85.1 lm/w**
CRI:	80 min
Spacing Crit.:	1.1
Beam Spread:	70°
Report no[3]:	710GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	2217	64.3%
0-40	3249	94.3%
0-60	3439	99.8%
0-90	3446	100.0%

Angle	Mean CP	Lumens
0	2019	
5	1962	197
10	2186	
15	2523	724
20	2853	
25	2896	1297
30	2488	
35	1694	1032
40	804	
45	107	181
50	14	
55	10	9
60	7	
65	4	4
70	3	
75	2	2
80	1	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	81	5.5'
6'	56	6.6'
7'	41	7.7'
8'	32	8.8'
9'	25	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	155.9	1.80
6'	102.3	1.18
7'	73.1	0.84
8'	60.9	0.70
9'	48.7	0.56

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	= 100%
3000K	= 97%
2700K	= 87%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	110	108	105	108	104	104	101	100	98	93
2	107	102	98	94	100	93	97	91	94	89	86
3	102	95	90	85	93	85	91	83	88	82	79
4	96	88	82	78	87	77	85	76	83	75	73
5	91	82	76	71	81	71	79	70	77	69	67
6	86	76	70	65	75	65	74	65	72	64	62
7	81	71	65	60	70	60	69	60	68	59	57
8	76	66	60	55	66	55	65	55	63	55	53
9	72	62	56	51	61	51	60	51	60	51	49
10	68	58	52	48	58	48	57	47	56	47	46

Room Cavity Ratio

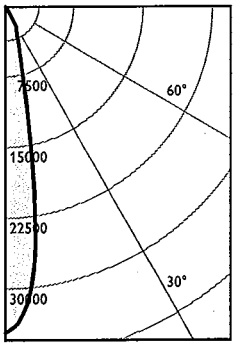
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Wattage controlled to within +/-5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

69W LED, 3500K, 20° Narrow 6000 lumen

Candela Curve



Frame: C7L50N1VBZ10V
Trim: C7L50DL35KNCLWVB

CCT[1]:	3500K
Output lumens:	6174 lms
Input watts[2]:	69.4 W
Efficacy:	**89.0 lm/w**
CRI:	80 min
Spacing Crit.:	0.3
Beam Spread:	20°
Report no[3]:	327GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	5902	95.6%
0-40	6133	99.3%
0-60	6169	99.9%
0-90	6174	100.0%

Angle	Mean CP	Lumens
0	34747	
5	30669	2475
10	16592	
15	6860	2151
20	4015	
25	2810	1276
30	1411	
35	146	231
40	100	
45	39	33
50	5	
55	2	3
60	3	
65	2	2
70	3	
75	1	2
80	0	
85	1	1
90	1	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	1390	1.5'
6'	965	1.8'
7'	709	2.1'
8'	543	2.4'
9'	429	2.7'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	294	3.08
6'	193	2.02
7'	138	1.44
8'	115	1.20
9'	92	0.96

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	= 100%
3000K	= 97%
2700K	= 87%

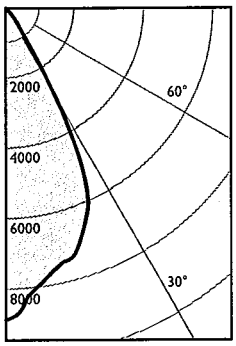
Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	115	113	111	109	111	108	107	104	103	101	97
2	111	108	105	102	106	101	103	99	100	97	94
3	108	103	100	97	102	96	100	95	97	93	91
4	105	99	95	92	98	92	96	91	94	90	88
5	102	96	92	89	95	88	93	88	92	87	85
6	99	93	88	85	92	85	91	85	89	84	83
7	96	90	86	83	89	82	88	82	87	82	80
8	93	87	83	80	86	80	86	80	85	79	78
9	91	84	80	78	84	78	83	77	83	77	76
10	89	82	78	76	82	76	81	75	81	75	74

Room Cavity Ratio

69W LED, 3500K, 55° Medium 6000 lumen

Candela Curve



Frame: C7L50N1VBZ10V
Trim: C7L50DL35KMCLWVB

CCT[1]:	3500K
Output lumens:	5963 lms
Input watts[2]:	69.2 W
Efficacy:	**86.2 lm/w**
CRI:	80 min
Spacing Crit.:	0.8
Beam Spread:	55°
Report no[3]:	329GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	5171	86.7%
0-40	5833	97.8%
0-60	5954	99.8%
0-90	5963	100.0%

Angle	Mean CP	Lumens
0	8911	
5	8195	770
10	7673	
15	7395	2052
20	6676	
25	5541	2348
30	2654	
35	839	662
40	421	
45	80	113
50	13	
55	10	8
60	7	
65	7	5
70	4	
75	3	4
80	1	
85	0	1
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	356	4.0'
6'	248	4.8'
7'	182	5.6'
8'	139	6.4'
9'	110	7.2'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	276	3.07
6'	181	2.01
7'	129	1.44
8'	108	1.20
9'	86	0.96

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	= 100%
3000K	= 97%
2700K	= 87%

Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	114	111	109	107	109	105	105	102	102	99	95
2	109	105	101	98	103	97	100	95	97	93	89
3	104	98	94	90	97	90	95	88	92	87	84
4	100	93	88	84	92	84	90	83	88	82	79
5	95	88	83	79	87	78	85	78	84	77	75
6	91	83	78	74	82	74	81	73	80	73	71
7	87	79	73	70	78	69	77	69	76	69	67
8	83	75	69	66	74	66	73	65	72	65	64
9	80	71	66	62	71	62	70	62	69	62	60
10	77	68	63	59	67	59	67	59	66	59	57

Room Cavity Ratio

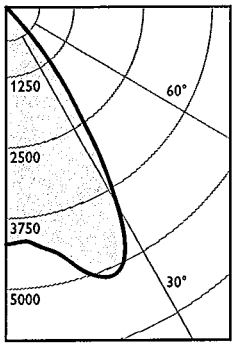
1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Wattage controlled to within +/-5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

C7L-DL-VB Calculite LED

7" Round Aperture, Downlight, Narrow Medium & Wide Beam 1500/2000/3500/6000lm

69W LED, 3500K, 70° Wide 6000 lumen

Candela Curve



Frame: C7L50N1VBZ10V
Trim: C7L50DL35KWCLWVB

CCT[1]:	3500K
Output lumens:	5889 lms
Input watts[2]:	69.2 W
Efficacy:	**85.1 lm/w**
CRI:	80 min
Spacing Crit.:	1.1
Beam Spread:	70°
Report no[3]:	328GFR

Zonal summary

Zone	Lumens	%Luminaire
0-30	4013	68.1%
0-40	5608	95.2%
0-60	5881	99.9%
0-90	5889	100.0%

Angle	Mean CP	Lumens
0	4197	
5	4120	404
10	4350	
15	4705	1348
20	5106	
25	5077	2261
30	4159	
35	2538	1595
40	1197	
45	150	265
50	11	
55	10	8
60	7	
65	4	5
70	3	
75	2	2
80	1	
85	0	0
90	0	

Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	168	5.5'
6'	117	6.6'
7'	86	7.7'
8'	66	8.8'
9'	52	9.9'

* Beam diameter is where foot-candles drop to 50% of maximum.

Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	268	3.07
6'	176	2.01
7'	125	1.44
8'	105	1.20
9'	84	0.96

38'x38'x10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Finish Adjust. factors

CL	=100%
CCL	= 95%
CCD	= 87%
CCZ	= 63%
WH	= 87%

CCT Adjust. factors

4000K	= 103%
3500K	= 100%
3000K	= 97%
2700K	= 87%

Coefficients of utilization

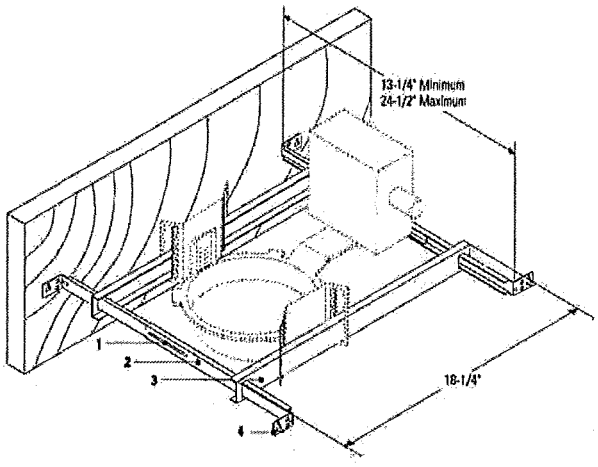
Ceiling	80%				70%		50%		30%		0%
Wall	70	50	30	10	50	10	50	10	50	10	0
RCR	Zonal cavity method - Effective floor reflectance = 20%										
0	119	119	119	119	116	116	111	111	106	106	100
1	113	111	108	106	108	104	104	101	101	98	93
2	108	103	99	95	101	94	98	92	95	90	86
3	102	95	90	86	94	86	91	84	89	83	80
4	97	89	83	79	88	78	85	77	83	76	74
5	91	83	77	72	82	72	80	71	78	71	69
6	86	77	71	67	76	66	75	66	74	66	64
7	82	72	66	62	72	61	70	61	69	61	59
8	78	68	61	57	67	57	66	57	65	57	55
9	74	63	57	53	63	53	62	53	61	53	51
10	70	60	54	50	59	50	58	49	58	49	48

Room Cavity Ratio

1. Correlated Color Temperature within specs as defined in ANSI_NEMA_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.
2. Wattage controlled to within +/-5%.
3. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.

Philips Lighting, North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Imported by: Philips Lighting,
A division of Philips Electronics Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008



Catalog No.

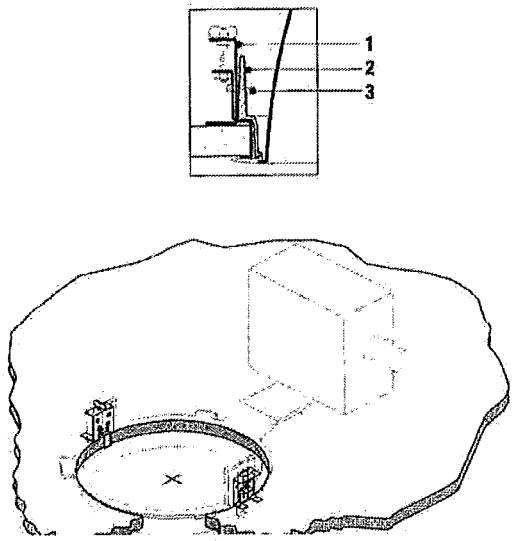
7994 Wood Joist Mounting Bars

Features

1. **Adjustment Slot:** Lockable with screws.
2. **Telescoping Mounting Bars:** Allow fixture to be positioned anywhere between joists spaced up to 24" on center. Can also be used on suspended ceilings.
3. **Crossbars:** Allow fixture to be positioned legnthwise or crosswise to the wood joist.
4. **Nail Tab**

Options & Accessories

Mounting Bars: **1950** - 18" Set of (2)
1951 - 27" Set of (2)
T-Bar Anchor Clips: **1956** - Set of (4), for use with above



Catalog No.

7998 Retaining Clips – Package of (2)

Features

1. **Retaining Clips:** 24 ga. steel with blackoxide finish.
2. **Mounting Frame:** Calculite® Modular System die-cast mounting frame (order seperately) with integral brackets attaches directly to existing ceiling retaining clips in place of the fixture's standard mounting bars.
3. **Mounting Screws:** (4) for mounting on each side.

Job Information **Type:** M

Job Name: MIDWEST REGIONAL BANK

Cat. No.: 1951

Lamp(s):

Notes:

Lightolier a Genlyte Thomas Company www.lightolier.com
631 Airport Road, Fall River, MA 02720 • (508) 679-8131 • Fax (508) 674-4710

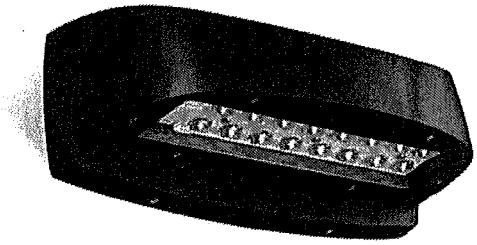
LIGHTOLIER®

PHILIPS
Stonco

Wall mount

LytePro LED Sconce

LPW16



Project: MIDWEST REGIONAL BANK

Location:

Cat.No: LPW16-78BZ

Type: Q

Quantity:

Notes:

The Philips Stonco LytePro LED Small Wall Sconce LPW16 features outstanding value in a compact, architectural design. This wall sconce features state-of-the-art, long-life and maintenance savings, in a combined discreet LED package with high precision over-optic design. This powerful and precise combination offers outstanding energy savings with excellent photometric performance. LPW16 is ideal for entryways and corridors in addition to wall lighting applications requiring strong lateral spacing and forward pattern projection.

Stocked luminaires – Ordering guide (LPW16 products are only available in the following stock luminaire configurations shown)

Catalog Number	Description	Master Pack, Qty	UPC Code
LPW16-58BZ	LPW16, 30W, 530mA, 4000K, 120-277V, Bronze textured paint	6	786034960540
LPW16-51BZPCB	LPW16, 30W, 530mA, 4000K, 120V, Bronze textured paint, w/button photocell	6	786034960557
LPW16-78BZ	LPW16, 40W, 700mA, 4000K, 120-277V, Bronze textured paint	6	786034960502
LPW16-78DGY	LPW16, 40W, 700mA, 4000K, 120-277V, Dark gray textured paint	6	786034960489
LPW16-71BZPCB	LPW16, 40W, 700mA, 4000K, 120V, Bronze textured paint, w/button photocell	6	786034960519

Stocked accessories - Ordering guide (Must be ordered separately)

Catalog Number	Description	Master Pack, Qty	UPC Code
LPWCVRPLT-BZ	LPW Universal wall cover mounting plate, Bronze textured paint	(none)	786034960618

LPW16 LytePro LED Small Wall Sconce

Features

LPW16 wall sconce delivers 3,374 lumens at 36W, with an efficacy of 93 lumens per watt. Other wattages available per charts noted below--.

- LP16W-5, 30W LED may effectively replace 70-100W HID luminaires[2]
- LP16W-7, 40W LED may effectively replace 100-150W HID luminaires[1]
- 4000K neutral white at 70 CRI (minimum) is standard
- Button photocell available in 120V, bronze luminaires only
- 5-year limited warranty, see philips.com/warranties for specific details

Performance/Specifications (LP16W-7)

Distribution	Type 3
Initial Lumens	3,374
Average Wattage	36
Lumens/Watt	93
BUG Rating*	B1/U0/G1
Luminaire Weight	~6lbs (2.7Kg)

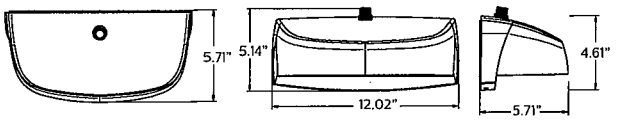
Performance/Specifications (LP16W-5)

Distribution	Type 3
Initial Lumens	2,698
Average Wattage	28
Lumens/Watt	96
BUG Rating	B1/U0/G1
Luminaire Weight	~6lbs (2.7Kg)

Ratings/Approbations/Certifications

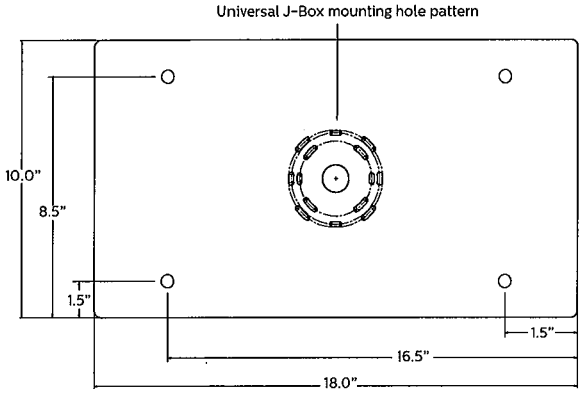
Ingress Protection	IP65 Optical
DLC Listed	DLC QPL
cETLus	Certified for use in wet locations
Rated Ambient Temperature	-40°C (-40°F) to 40°C (104°F)

Fixture Dimensions[3]



Accessory Dimensions (ordered separately)

LPWCVRPLT-BZ LPW Universal wall cover mounting plate, 0.08" aluminum, bronze textured paint (used to cover larger pre-existing opening or surfaces, field installed). Offers same J-Box pattern as luminaire or may lagged to wall using (4) knockouts.

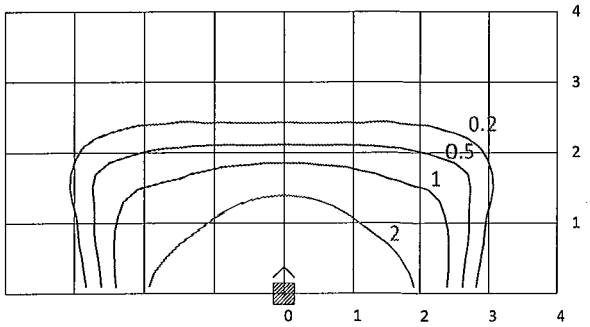


2. Comparable equivalency to HID and other lamp sources depends on multiple criteria including mounting height, fixture spacing, efficiency, performance and classification of the luminaire being replaced and application lighting criteria required for the given project.
3. PCB shown for placement only, available on specific models only (see ordering guide).

Distribution Pattern

LPW16-7, 10' MOUNTING HEIGHT			
MOUNTING HEIGHT	8'	10'	12'
MULTIPLIER	1.60	1.0	0.70

- Isolines shown at 2.0, 1.0, 0.5, & 0.2 FC.
- Choose mounting height. Use MULTIPLIER (X) EXISTING FC VALUE = NEW FC VALUE.
- FC values are based on initial lumen output.
- Gridline spacing is in units of chosen mounting height
- For LPW16-5 configuration, scale down by 29%.



LPW16 LytePro LED Small Wall Sconce

General Description

The Philips Stonco LytePro LED Small Wall Sconce LPW16 combines excellent performance, design and value to meet the needs of the energy and budget conscious. The LPW16 is available for use in downward facing, surface wall mount applications, over recessed j-boxes or where power can be directly fed through back surface, whereby connections splices can be made inside the luminaire housing. Five SKU's are available as in-stock configurations only (2-day quick ship).

40W Model: Two standard units are available in two different finishes. 120V button photocell is available in bronze only. 30W Model: Standard units available in bronze only, with and without photocell. 30W model is California Title 24 compliant.

Housing

Die-cast housing houses both the LED and driver assemblies. Design incorporates an integrated heat sink to maximize thermal performance and reliability. Backplate is corrosion free, composite polycarbonate, with built-in level bubble, offers integral interlocking hook and mount design for easy installation.

Mounting

Easy interlocking hook and mount housing/ backplate design for easy installation. Mounts over 3.5", 4" octagonal j-boxes and single gang switch boxes or can be directly lagged to surface. Ensure proper steps for gasket/ sealing luminaire to surface.

IP Rating

Optical compartment is IP65 rated.

LED Board and Array

Provides up to 93 lm/W in LPW16-7 and 96 lm/W in LPW16-5 at the system level. Standard color temp is 4000K +/- 250K, minimum 70 CRI.

Electrical

Driver efficiency (>90% standard). 120-277V. Temp range: -40°C (-40°F) to 40°C (104°F). Open/short circuit protection. Inherent surge protection up to (4KVA). RoHS compliant.

Listings

Product is cETLus listed suitable for Wet Locations. Suitable for use in ambients from -40°C to 40°C (-40°F to 104°F). DesignLights Consortium® qualified. Stocked SKUs of the LPW family are made in China.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish.

Warranty

LPW16 luminaires, the LED arrays, and the drivers are all covered by a 5-year limited warranty. See philips.com/warranties for details.

LED Performance:

PREDICTED LUMEN DEPRECIATION DATA[4,6]

Ambient Temp. °C	Calculated L70 hrs[5]	Reported L70 Per TM-21[5,6]	Calculated Lumen Maint. % @60,000 hrs
up to 40°C	>200,000 hrs	>60,000 hrs	94.0%

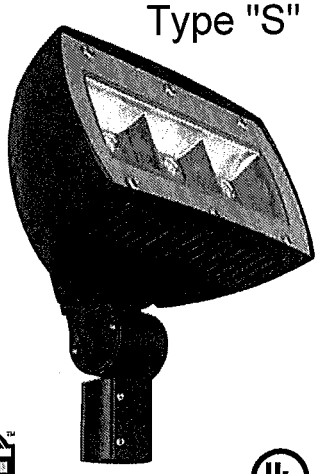
4. Calculated performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
5. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
6. Reported per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

A perfect blend of design, performance and value

LYTEPRO LED MEDIUM FLOODLIGHT 85W LPF3 Light Fixture Type "S"



PHILIPS STONCO LYTEPRO LED MEDIUM FLOODLIGHT
85W LPF3

The Philips Stonco LytePro LED Medium Floodlight allows precision and flexibility in a compact design. The LPF3 features state-of-the-art long-life LED technology and is ideal for landscapes, accenting signage or displays, facades, and many other lighting applications.

Project: MIDWEST REGIONAL BANK
Location:
Catalog No: LPF3-C-4K-FL-S-8-BZ
Fixture Type: S
Mfg: Lamps: Qty:
Notes:

Ordering guide[1]

example: LPF3-C-4K-FL-S-F1-PCB-1-BZ

Series / # of COB[2]	Drive Current	Color Temperature	Distribution	Mounting	Options	Voltage	Finish
LPF3 –	C –	4K –	FL –	S –	–	8 –	BZ
LPF3 LytePro LED Medium Floodlight 85W	**C** 700 mA	**4K** 4000K[3] **5K** 5000K[3]	**FL** Flood **SP** Spot	**S** Slipfitter 2-3/8" O.D. **T** Trunnion	**F1**[4] Single Fusing **F2**[5] Double Fusing **F3**[6] Double Fusing, Canada **PCB**[7] Photocontrol **DM25**[8,9] Dynadimmer	**1** 120V **2** 208V **3** 240V **4** 277V **6** 347V **8** 120-277V	**BZ** Textured Dark Bronze **WH** Textured White **DGY** Textured Dark Gray

Accessories – Ordering Guide (must be ordered separately)

Catalog #	Description
LPF3WG[10,11]	Wire Guard
LPF3SG[10,11]	Stone Guard

Stocked Luminaires – Ordering Guide[12,13,14,15]

Catalog #	Description	Master Pack, QTY	UPC Code
STKLPF3S-8	LPF3, Slipfitter Mount, 120-277V	Yes, 2	786034956949

Footnotes:
1. MTO configurations are assembled in the USA.
2. COB denotes Chip On Board LED platform.
3. Both 4K and 5K options have a minimum 80 CRI.
4. 'F1' for 120, 277, 347V.
5. 'F2' for 208, 240V.
6. 'F3' for 208, 240V Canadian double pull.
7. Specify voltage. 'PCB' not available with '8' universal voltage option.
8. 'DM25' only available 120-277V and dims to 25% for 6 hours.
9. Dynadimmer is suitable for use from -30°C to 40° temperature ambient only.
10. Limited quantities stocked in our Carrollton RDC.
11. Contact factory for availability of large order quantities.
12. All stock products are 'BZ' Textured Dark Bronze, '4K' Neutral White and 'FL' Flood Optics.
13. Stock LPF products ship out of our Carrollton Distribution facility within 2-days of receipt of order.
14. Always consult factory for current inventory levels. Larger quantities may be converted to MTO if necessary.
15. LPF3 is provided with full 4-color POP packaging.

PHILIPS Stonco

LYTEPRO
LED MEDIUM FLOODLIGHT 85W LPF3

Features

- LPF3 flood distribution delivers 7,012 lumens at 85W, with an efficacy of 82 lumens per watt
- LPF3 spot distribution delivers 6,807 lumens at 85W, with an efficacy of 80 lumens per watt
- Effectively replaces equivalent 175-250W HID
- 4000K neutral white is standard, 5000K cool white is optional, minimum 80 CRI
- DLC certified optics provide excellent uniformity ideal for general facade, target and landscape illumination
- Fixtures are IP66 rated and suitable for use in ambients from -40°C to 40°C
- Rated system life of 80K hours for the driver and LED (>L_{70}) at ambients up to 30°C
- 5-year limited warranty, see philips.com/warranties for details
- LPF3 stocked in dark bronze, slipfitter mount, flood optic, 120-277V, and 4000K Neutral White for quick 2-day shipment
- Additional made to order versions available that are assembled in the USA, consult factory for current lead time

Performance Specifications

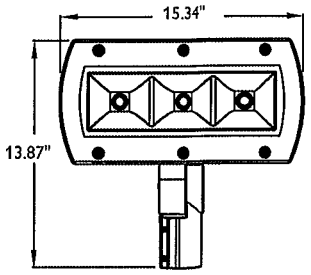
Beam Specs	Flood (FL)	Spot (SP)
Initial Lumens (4K and 5K)[16]	7,012	6,807
Average Wattage[17]	85W	85W
Lumens/Watt	82	80
NEMA Beam	6H x 6V	3H x 3V
50% beam (horizontal X vertical)	101° x 97°	17° x 17°
10% beam (horizontal X vertical)	130° x 125°	41° x 38°
Max Candela	3,100 cd	33,122 cd

16. Lumen values based on photometric tests performed in compliance with IESNA LM-79.
17. System input wattage may vary based on input voltage, by up to +/- 8%, and based on manufacturer forward voltage, by up to +/- 4%.

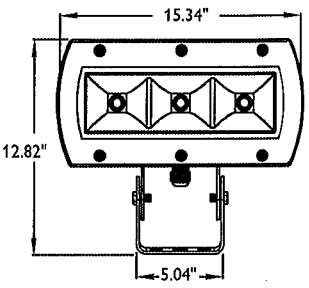
Dimensions

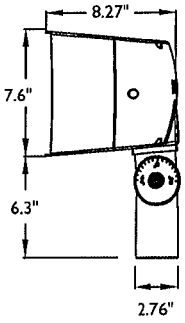
Approximate luminaire weight – 19lbs (8.6kg)
Fixture EPA - 0.74 sq. ft.

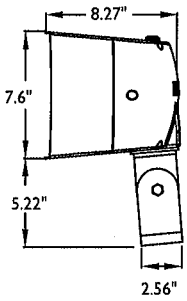
Slipfitter (S)



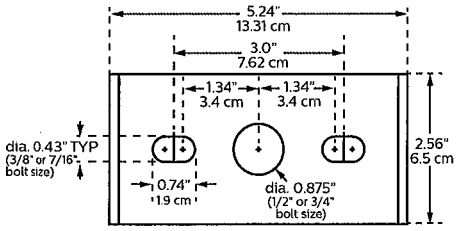
Trunnion Mount (T)





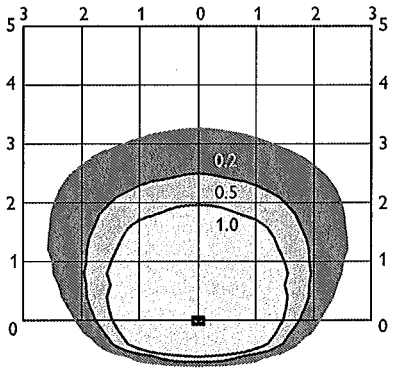


Trunnion Mount Bolt Pattern



Photometrics

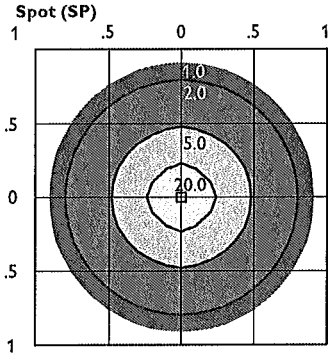
Flood (FL)



LPF3 85W - 15' Mounting Height, 30° Tilt

Mounting Height	25	20	15	12	10
Multiplier	0.20	0.44	1.0	1.7	2.7

Spot (SP)

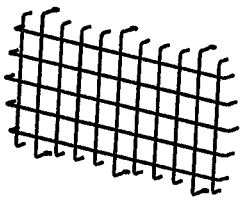


LPF3 85W - 20' Mounting Height, 0° Tilt

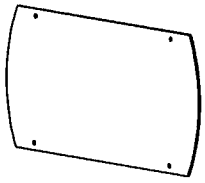
Mounting Height	30	25	20	15	10
Multiplier	0.44	0.64	1.0	1.8	4.0

Accessory Details (must be ordered separately)

LPF3WG wire guard (field installed)



LPF3SG stone guard (field installed)



Notes: Grid is in multiples of mounting height and values shown are in footcandles.
Values shown are based on initial lumens.

LYTEPRO LED MEDIUM FLOODLIGHT 85W LPF3

Specifications

General Description

The Philips Stonco LytePro LED Medium Floodlight 85W LPF3 combines excellent performance, design and value to meet the needs for the energy and budget conscious. The LPF3 is available with slipfitter or trunnion mounting and flood or spot optical distributions suitable for use on a wide range of applications. A single primary SKU is available in stock for 2-day quick ship while a more comprehensive offering is available made-to-order with multiple offerings that include fusing, photocontrol, Dynadimmer, NW and CW color temps and three standard finishes.

Housing

Die-cast housing houses both the LED and driver assemblies. Design incorporates integrated heatsinking to maximize thermal performance and reliability.

Mounting

The LPF3 is available with slipfitter or trunnion mounting to allow for wide range of aiming and adjustability. Caution: Philips Stonco is not responsible for failure of mounting components supplied by others. Proper care should be exercised in mounting component selection and installation to insure adequate luminaire support, given system weight, vibration potential, exposure to the elements, thermal conditions present in the given application, etc. If luminaires are not properly supported and installed correctly per local codes and requirements, this may result in damage or injury caused by the luminaire, for which Philips Stonco is not responsible.

IP Rating

Entire fixture is rated IP66, including driver and optical assemblies.

LED Board and Array

The LPF3 utilizes three Citizen CLL032 COB (Chip On Board) LEDs. Provides up to 82 lm/W at the system level. Standard color temp is 4000K +/- 250K, with optional 5000K available. Both color temps have a minimum 80 CRI.

LED Thermal Management

Housing design integrates thermal heatsinking between the optical and driver assemblies, allowing for pass-through convective cooling which promotes airflow for improved and maximum heat dissipation. This results in maximized performance and reliability of critical components to ensure long LED system life.

Optical Systems

LPF3 Flood 'FL' is standard with a Flood 'FL' optic that consists of a specular vacuum metalized reflector that provides a very uniform and highly efficient all purpose flood distribution. Optional Spot 'SP' optic consists of a TIR lens to provide a tight spot. Both optics are suitable for use in wide range of applications.

Energy saving benefits and controls

The LPF3 has a system efficacy of 82 lm/W at a system wattage of 85W using the flood distribution. With the spot distribution it has a system efficacy of 80 lm/W at a system wattage of 85W. It provides significant energy savings over traditional HID systems less controls. Optional Dynadimmer controls provides additional maximum energy savings by dimming to 25% low for 6 hours.

Electrical

Driver efficiency (>90% standard). 120-347V available (restrictions apply). Temp range: -40°C (-40°F) to 40°C (104°F). Open/short circuit protection. RoHS compliant. Surge protector standard and is in accordance with IEEE / ANSI C62.41.2 guidelines, with a surge current rating of 10,000 amps (10KVA).

Listings

Product is UL and cUL listed to the UL1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40°C to 40°C (-40°F to 104°F). The LPF3 luminaire with either 4K Neutral White or 5K Cool White LEDs and flood or spot optics is DesignLights Consortium® qualified. Stock SKUs of the LPF family are made in China while all made-to-order configurations are assembled in the USA.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard finish on all stocked LPF luminaires is Textured Dark Bronze. Textured White and Dark Gray are also available as optional colors for made-to-order products.

Warranty

LPF3 luminaires, the LED arrays, and the drivers are all covered by a 5-year limited warranty. See philips.com/warranties for details.

Predicted Lumen Depreciation Data[18]

Ambient Temp. °C	TM-21 Calculated L_{70} hrs[18,19]	Reported L_{70} Per TM-21[19,20]	Lumen Maint. % @60,000 hrs
up to 40°C	269,000 hrs	>48,000 hrs	91.5%

18. Calculated performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
19. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output.
20. Reported per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours.

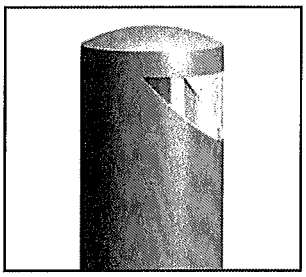
Philips Lighting
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873
Phone: 855-486-2216

Philips Lighting Company
281 Hillmount Road
Markham ON, Canada L6C 2S3
Phone: 800-668-9008

Light Fixture Type "T"

Notch Bollard LED

selux



Project: MIDWEST REGIONAL BANK

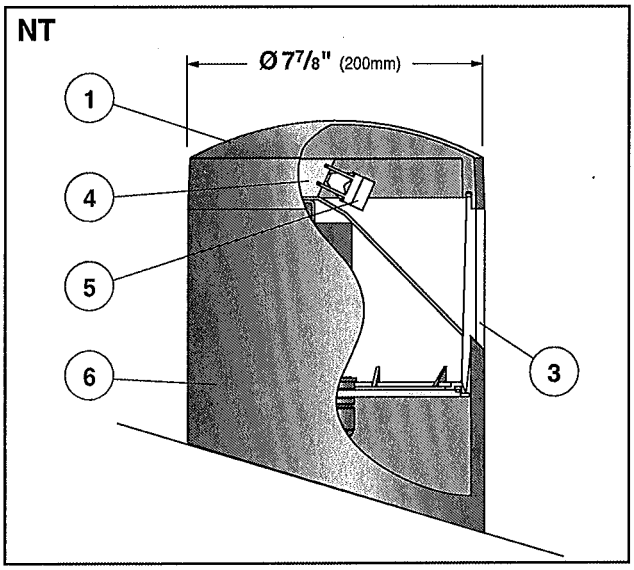
Type: T **Qty:** _____

NT	–	2.5	–	LG3700	–	40	–	BZ	–	120
Series		Height		Light Engine		CCT		Finish		Voltage

Options: _____

Series	Height	Light Engine	CCT	Finish	Voltage	Options
(NT) Notch Bollard LED	2 2 ft. (.6m) (2.5) 2.5 ft. (.74m) 3 3 ft. (.9m) 3.5 3.5 ft. (1.1m) 4 4 ft. (1.2m) or specify custom height	LG3500 8.5W (LG3700) 12W (6) high flux white LEDs	30 3000K 35 3500K (40) 4000K 50 5000K For other CCT please consult factory	WH White BK Black (BZ) Bronze SV Silver SP Specify Premium Color	(120) 208 240 277 347[2] 480[2]	HL[1] Hi-Lo Switching for LG3700 only (see p.4 for details) DM 0-10VDimming for LG3700 only

[1] 120V, 240V and 277 only. [2] With internal stepdown transformer



1. Luminaire Cover - Die-cast, aluminum cover, low copper alloy.

2. Gasketing - (not shown) Continuous gasket provides weather-proofing, dust, and insect control at shielding base, and fixture cover.

3. Shielding - Transparent, continuous one-piece injection molded, UV stabilized polycarbonate lens, minimum wall thickness 5/16" (8.25mm). Shielding is flush with column surface completely enclosing optic chamber.

4. Light Engine - (6) High flux LEDs mounted to metal core PC boards attached to an aluminum heatsink for maximum LED performance and life. Includes LED drivers and precise high performance injection-molded lenses. Complete light engine can be easily replaced. LEDs can be started and re-started instantly at temperatures as low as -20°C. For lumen maintenance information, see IESTM-21-11 details.

5. Optics - Six individual precision injected molded lenses consisting of total internal reflection (TIR) collimator and precision light shaping lens. Lenses produce an asymmetric distribution.

6. Column - Extruded, thick-walled low copper aluminum, minimum wall thickness 0.118" (3mm) with internal anchor bolts and flush handhole cover.

7. Surge Protector - (not shown) Designed to protect luminaire from electical surge (10kA).

Exterior Luminaire Finish - Selux utilizes a high quality Polyester Powder Coating. All Selux luminaires and poles are finished in our Tiger Drylac certified facility and undergo a five stage intensive pretreatment process where product is thoroughly cleaned, phosphated and sealed. Selux powder coated products provide excellent salt and humidity resistance as well as ultra violet resistance for color retention. All products are tested in accordance with test specifications for coatings from ASTM and PCI.

Standard exterior colors are White (WH), Black (BK), Bronze (BZ), and Silver (SV). Selux premium colors (SP) are available, please specify from your Selux color selection guide.

5 Year Limited LED Luminaire Warranty - Selux offers a 5 year limited warranty to the original purchaser that the Notch LED Bollard shall be free from defects in material and workmansip for up to five (5) years from date of shipment. This limited warranty covers the LED driver and LEDs when installed and operated according to Selux instructions. Luminaire suitable for ambient temperature up to 45°C. For details and exclusions, see Selux Terms and Conditions of sale.

Listings and Ratings - Luminaire Tested to IESNA LM-79-08, LEDs tested to LM-80 standards.

TEL (845) 834-1400
FAX (845) 834-1401
www.selux.us

NRTL Listed (i.e. UL, CSA) for wet locations

Union Made Affiliated with **IBEW** *Local 363*

IP65 IK10

Notch Bollard LED

selux

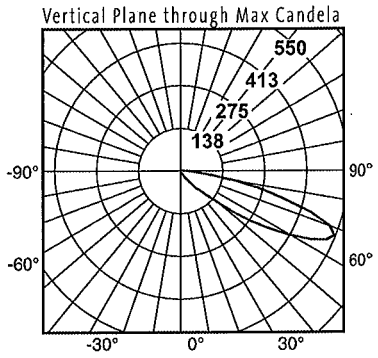
Photometry

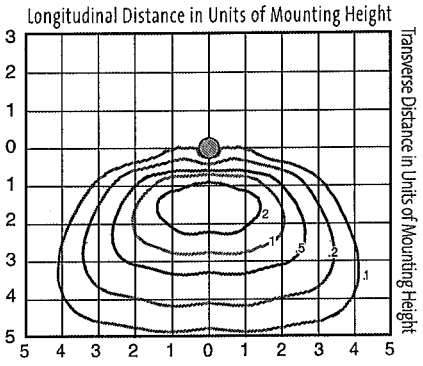
8.5W LED / 3500K CCT

Catalog # NT-4-LG3500-35
Report # S1207053-R1-1

- Ideal for applications requiring linear distributions.
- Maximum candela of 550 at 67.5° from vertical.
- IES classification - B0-U1-G1
- Mounting Height = 4' (1.22 M)
- 434 Delivered Lumens
- 51 Lumens per Watt

DOWNLOAD IES FILE:
http://www.selux.us/fileadmin/us/exterior/ies_file/NT_IES.zip



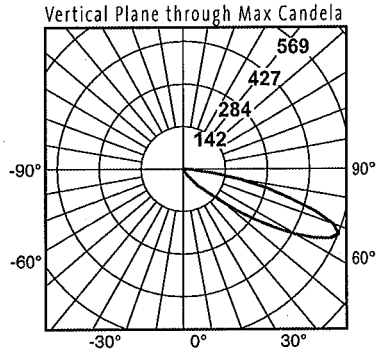


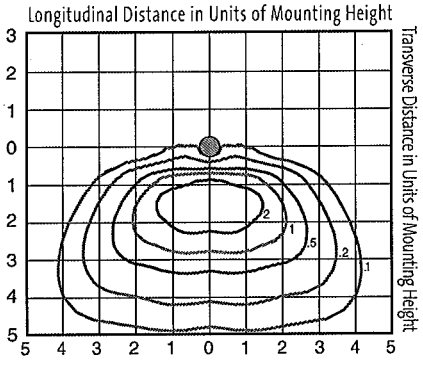
8.5W LED / 5000K CCT

Catalog # NT-4-LG3500-50
Report # S1207053-R1-3

- Ideal for applications requiring linear distributions.
- Maximum candela of 569 at 67.5° from vertical.
- IES classification - B0-U1-G1
- Mounting Height = 4' (1.22 M)
- 449 Delivered Lumens
- 53 Lumens per Watt

DOWNLOAD IES FILE:
http://www.selux.us/fileadmin/us/exterior/ies_file/NT_IES.zip



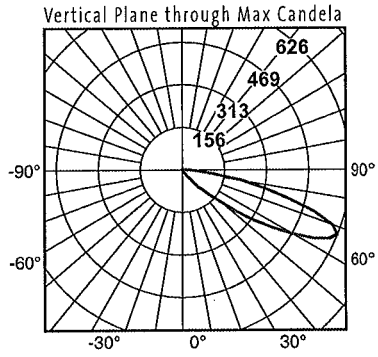


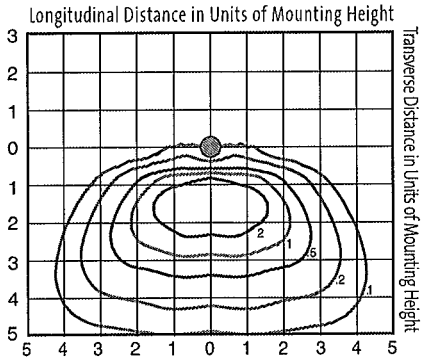
12W LED / 3500K CCT

Catalog # NT-4-LG3700-35
Report # S1207053-R1-1

- Ideal for applications requiring linear distributions.
- Maximum candela of 626 at 67.5° from vertical.
- IES classification - B0-U1-G1
- Mounting Height = 4' (1.22 M)
- 494 Delivered Lumens
- 35 Lumens per Watt

DOWNLOAD IES FILE:
http://www.selux.us/fileadmin/us/exterior/ies_file/NT_IES.zip





Notch Bollard LED

selux

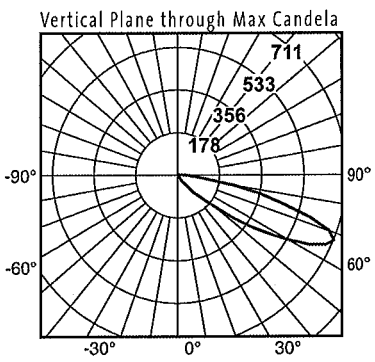
Photometry

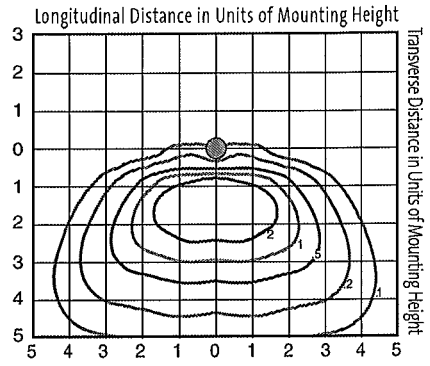
12W LED / 5000K CCT

Catalog # NT-4-LG3700-50
Report # S1207053-R1

- Ideal for applications requiring linear distributions.
- Maximum candela of 711 at 67.5° from vertical.
- IES classification - B0-U1-G1
- Mounting Height = 4' (1.22 M)
- 561 Delivered Lumens
- 40 Lumens per Watt

DOWNLOAD IES FILE:
http://www.selux.us/fileadmin/us/exterior/ies_file/NT_IES.zip





Conversion Chart
Values based on 3' (.9m) mounting height

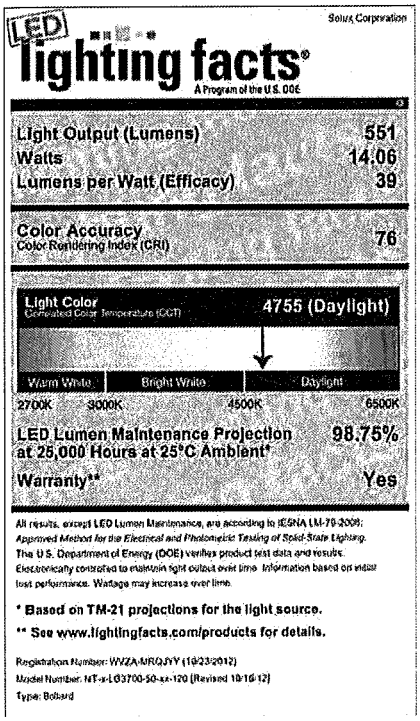
Mounting Height	Multiply
2.0' (.6m)	1.22
2.5' (.8m)	1.09
3.0' (.9m)	1.00
3.5' (1.1m)	0.92
4.0' (1.2m)	0.87

LED CCT Prorate Table
Values based on Flux Binning

CCT	Theoretical Multiplier
3000K	0.77
3500K	0.85
4000K	0.92
5000K	1.00

IES TM-21-11 Report Results
Based on an ambient temperature of 25°C / 77°F

- Reported L70 (6k)(hours) > 36,000
- Calculated L70 (6k)(hours) 601,000
- 25,000h lumen maintenance predicted to be 98.75%


Selux Corporation

LED lighting facts®
A Program of the U.S. DOE

Light Output (Lumens)	551
Watts	14.06
Lumens per Watt (Efficacy)	39
Color Accuracy (Color Rendering Index (CRI))	76
Light Color (Correlated Color Temperature (CCT))	4755 (Daylight)

Warm White | Bright White | Daylight
2700K 3000K 4500K 6500K

LED Lumen Maintenance Projection at 25,000 Hours at 25°C Ambient*	98.75%
Warranty**	Yes

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: *Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.* The U.S. Department of Energy (DOE) verifies product test data and results. Electronically controlled to maintain light output over time. Information based on initial test performance. Wattage may increase over time.

* Based on TM-21 projections for the light source.
** See www.lightingfacts.com/products for details.

Registration Number: WVZA-MRQJVY (10/23/2012)
Model Number: NT-x-LG3700-50-xx-120 (Revised 10/16/12)
Type: Bollard

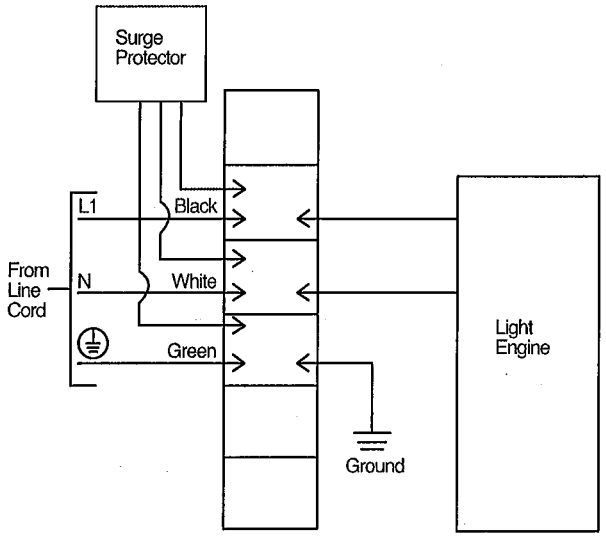
Notch Bollard LED

selux

Wiring

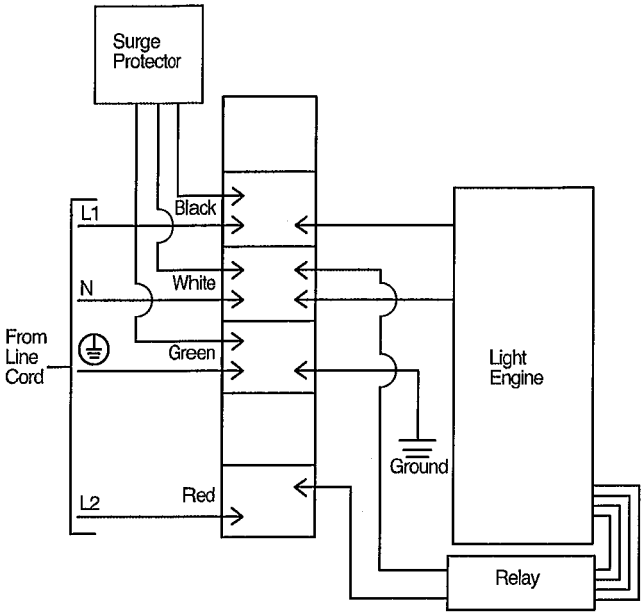
Standard Single Wiring

LG3700 at 120-277V for high output. LG3500 at 120-277V for low output.



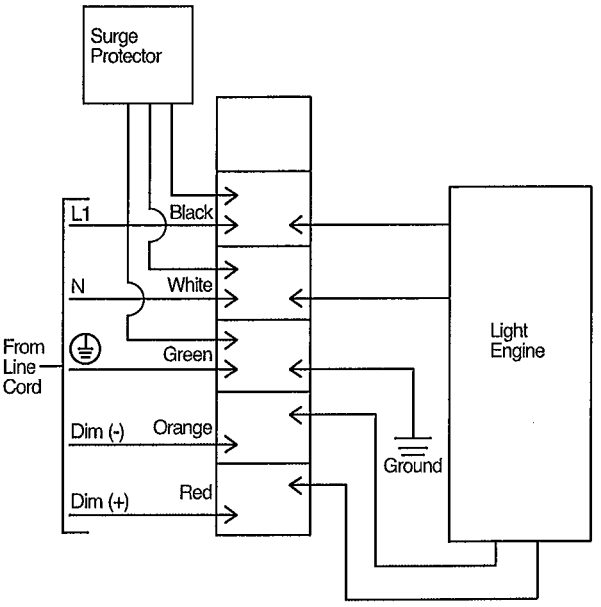
Hi-Lo Switching Option (HL) Wiring

LG3700 120-277V. When red is energized, power consumption will be at "Lo" level. Lo = 70% power consumption.



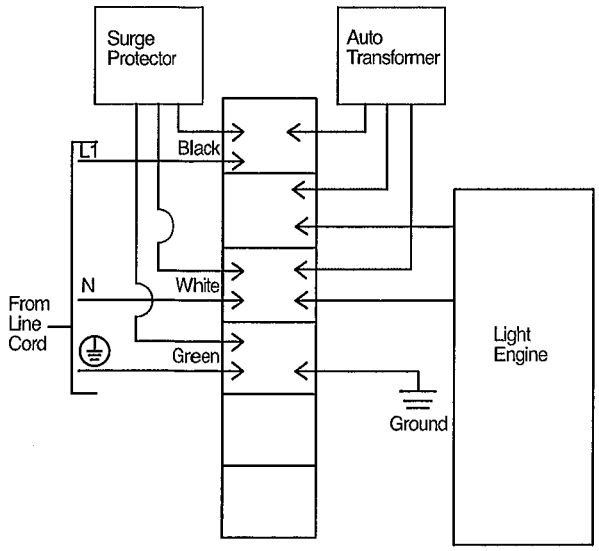
0-10V Dimming Option (DM) Wiring

LG3700 120-277V.



347/480V

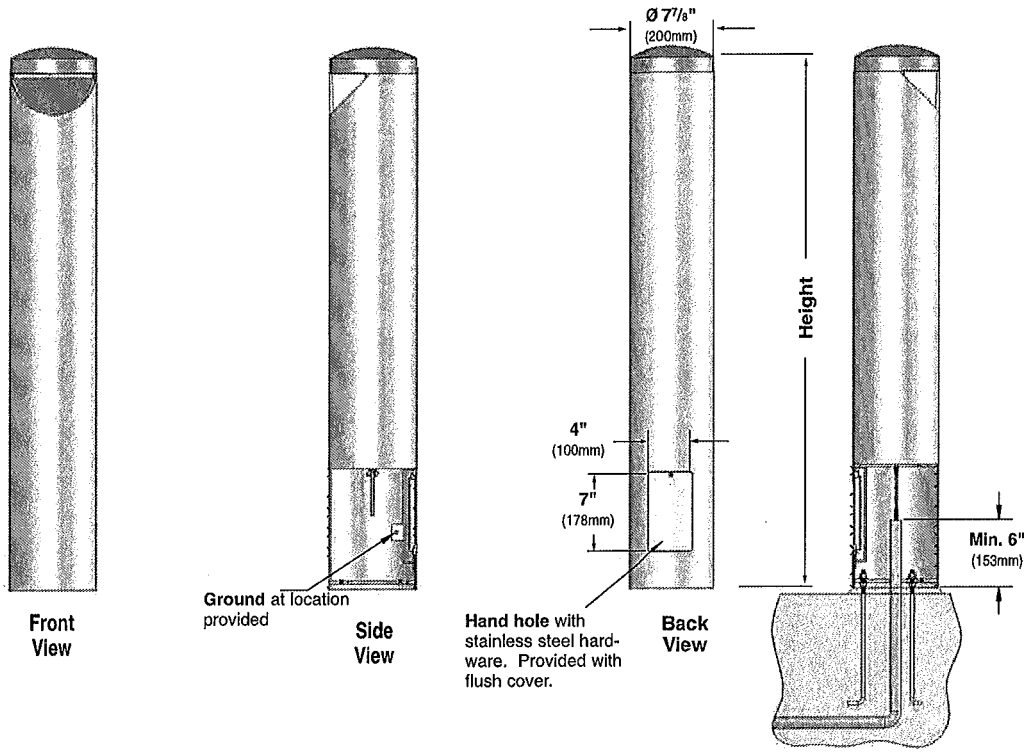
LG3700 at 347/480V for high output. LG3500 at 347/480V for low output.



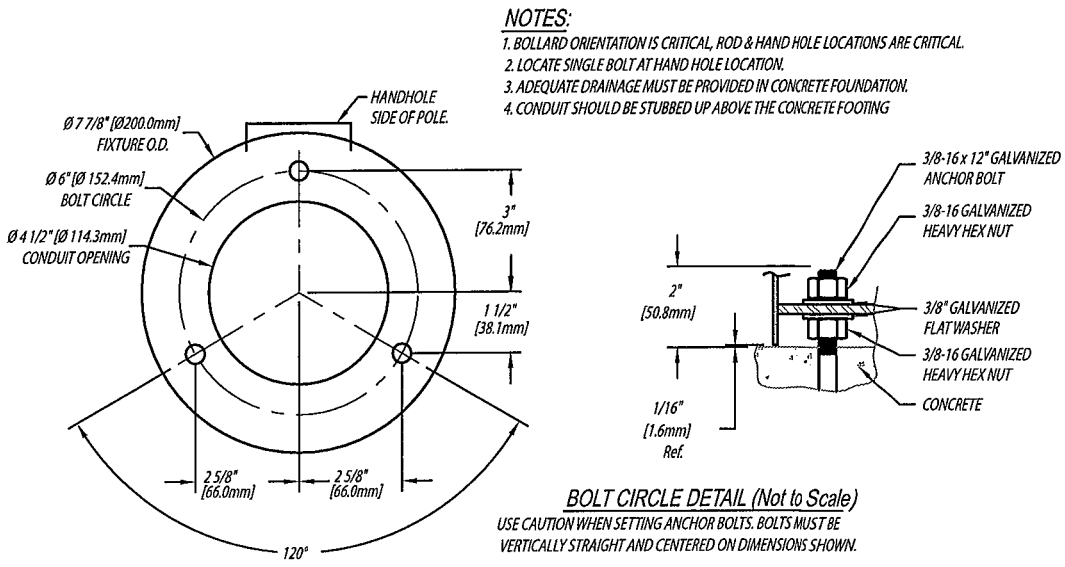
Notch Bollard LED

selux

Profile

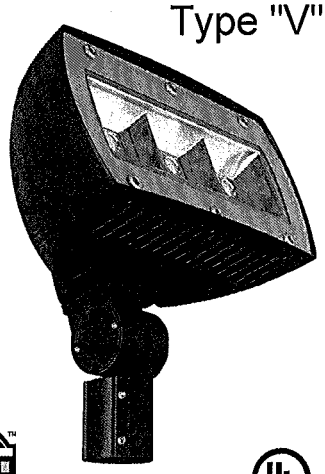


Anchorage Information



A perfect blend of design, performance and value

LYTEPRO LED MEDIUM FLOODLIGHT 85W LPF3 Light Fixture Type "V"



PHILIPS STONCO LYTEPRO LED MEDIUM FLOODLIGHT
85W LPF3

The Philips Stonco LytePro LED Medium Floodlight allows precision and flexibility in a compact design. The LPF3 features state-of-the-art long-life LED technology and is ideal for landscapes, accenting signage or displays, facades, and many other lighting applications.

Project:
Location:
Catalog No:
Fixture Type: V
Mfg: Lamps: Qty:
Notes:

Ordering guide[1]

example: LPF3-C-4K-FL-S-F1-PCB-1-BZ

Series / # of COB[2]	Drive Current	Color Temperature	Distribution	Mounting	Options	Voltage	Finish
LPF3 -	C -	4K -	SP -	S -	-	8 -	BZ
LPF3 LytePro LED Medium Floodlight 85W	**C** 700 mA	**4K** 4000K[3] **5K** 5000K[3]	**FL** Flood **SP** Spot	**S** Slipfitter 2-3/8" O.D. **T** Trunnion	**F1**[4] Single Fusing **F2**[5] Double Fusing **F3**[6] Double Fusing, Canada **PCB**[7] Photocontrol **DM25**[8,9] Dynadimmer	**1** 120V **2** 208V **3** 240V **4** 277V **6** 347V **8** 120-277V	**BZ** Textured Dark Bronze **WH** Textured White **DGY** Textured Dark Gray

Accessories – Ordering Guide (must be ordered separately)

Catalog #	Description
LPF3WG[10,11]	Wire Guard
LPF3SG[10,11]	Stone Guard

Stocked Luminaires – Ordering Guide[12,13,14,15]

Catalog #	Description	Master Pack, QTY	UPC Code
STKLPF3S-8	LPF3, Slipfitter Mount, 120-277V	Yes, 2	786034956949

Footnotes:
1. MTO configurations are assembled in the USA.
2. COB denotes Chip On Board LED platform.
3. Both 4K and 5K options have a minimum 80 CRI.
4. 'F1' for 120, 277, 347V.
5. 'F2' for 208, 240V.
6. 'F3' for 208, 240V Canadian double pull.
7. Specify voltage. 'PCB' not available with '8' universal voltage option.
8. 'DM25' only available 120-277V and dims to 25% for 6 hours.
9. Dynadimmer is suitable for use from -30°C to 40° temperature ambient only.
10. Limited quantities stocked in our Carrollton RDC.
11. Contact factory for availability of large order quantities.
12. All stock products are 'BZ' Textured Dark Bronze, '4K' Neutral White and 'FL' Flood Optics.
13. Stock LPF products ship out of our Carrollton Distribution facility within 2-days of receipt of order.
14. Always consult factory for current inventory levels. Larger quantities may be converted to MTO if necessary.
15. LPF3 is provided with full 4-color POP packaging.

PHILIPS Stonco

LYTEPRO
LED MEDIUM FLOODLIGHT 85W LPF3

Features

- LPF3 flood distribution delivers 7,012 lumens at 85W, with an efficacy of 82 lumens per watt
- LPF3 spot distribution delivers 6,807 lumens at 85W, with an efficacy of 80 lumens per watt
- Effectively replaces equivalent 175-250W HID
- 4000K neutral white is standard, 5000K cool white is optional, minimum 80 CRI
- DLC certified optics provide excellent uniformity ideal for general facade, target and landscape illumination
- Fixtures are IP66 rated and suitable for use in ambients from -40°C to 40°C
- Rated system life of 80K hours for the driver and LED (>L_{70}) at ambients up to 30°C
- 5-year limited warranty, see philips.com/warranties for details
- LPF3 stocked in dark bronze, slipfitter mount, flood optic, 120-277V, and 4000K Neutral White for quick 2-day shipment
- Additional made to order versions available that are assembled in the USA, consult factory for current lead time

Performance Specifications

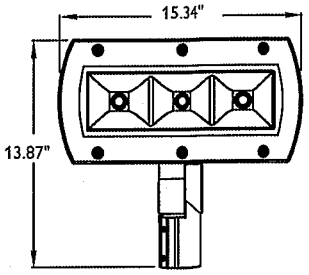
Beam Specs	Flood (FL)	Spot (SP)
Initial Lumens (4K and 5K)[16]	7,012	6,807
Average Wattage[17]	85W	85W
Lumens/Watt	82	80
NEMA Beam	6H x 6V	3H x 3V
50% beam (horizontal X vertical)	101° x 97°	17° x 17°
10% beam (horizontal X vertical)	130° x 125°	41° x 38°
Max Candela	3,100 cd	33,122 cd

16. Lumen values based on photometric tests performed in compliance with IESNA LM-79.
17. System input wattage may vary based on input voltage, by up to +/- 8%, and based on manufacturer forward voltage, by up to +/- 4%.

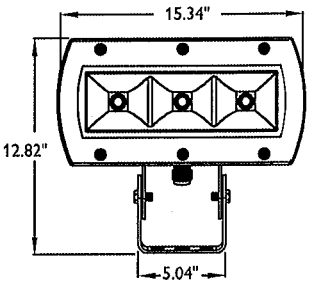
Dimensions

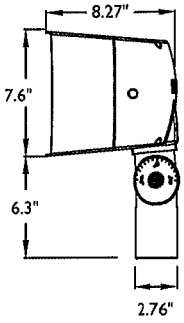
Approximate luminaire weight – 19lbs (8.6kg)
Fixture EPA - 0.74 sq. ft.

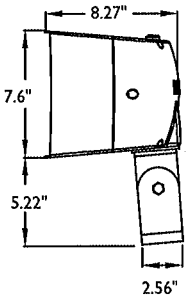
Slipfitter (S)



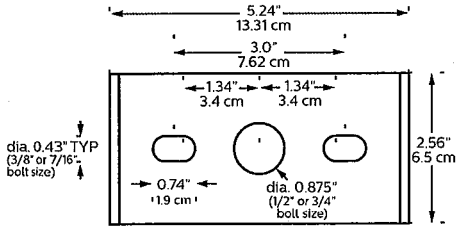
Trunnion Mount (T)





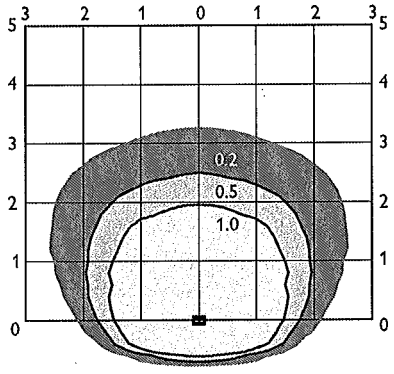


Trunnion Mount Bolt Pattern



Photometrics

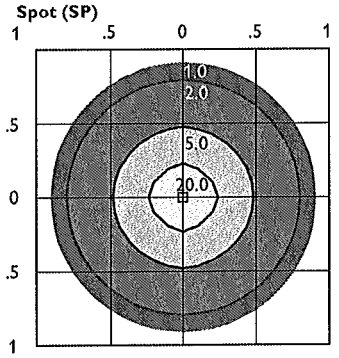
Flood (FL)



LPF3 85W - 15' Mounting Height, 30° Tilt

Mounting Height	25	20	15	12	10
Multiplier	0.20	0.44	1.0	1.7	2.7

Spot (SP)

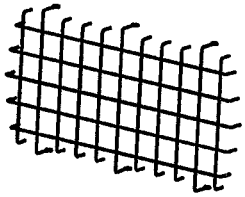


LPF3 85W - 20' Mounting Height, 0° Tilt

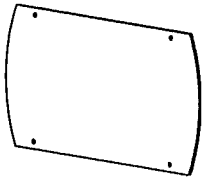
Mounting Height	30	25	20	15	10
Multiplier	0.44	0.64	1.0	1.8	4.0

Accessory Details (must be ordered separately)

LPF3WG wire guard (field installed)



LPF3SG stone guard (field installed)



Notes: Grid is in multiples of mounting height and values shown are in footcandles. Values shown are based on initial lumens.

LYTEPRO LED MEDIUM FLOODLIGHT 85W LPF3

Specifications

General Description

The Philips Stonco LytePro LED Medium Floodlight 85W LPF3 combines excellent performance, design and value to meet the needs for the energy and budget conscious. The LPF3 is available with slipfitter or trunnion mounting and flood or spot optical distributions suitable for use on a wide range of applications. A single primary SKU is available in stock for 2-day quick ship while a more comprehensive offering is available made-to-order with multiple offerings that include fusing, photocontrol, Dynadimmer, NW and CW color temps and three standard finishes.

Housing

Die-cast housing houses both the LED and driver assemblies. Design incorporates integrated heatsinking to maximize thermal performance and reliability.

Mounting

The LPF3 is available with slipfitter or trunnion mounting to allow for wide range of aiming and adjustability. Caution: Philips Stonco is not responsible for failure of mounting components supplied by others. Proper care should be exercised in mounting component selection and installation to insure adequate luminaire support, given system weight, vibration potential, exposure to the elements, thermal conditions present in the given application, etc. If luminaires are not properly supported and installed correctly per local codes and requirements, this may result in damage or injury caused by the luminaire, for which Philips Stonco is not responsible.

IP Rating

Entire fixture is rated IP66, including driver and optical assemblies.

LED Board and Array

The LPF3 utilizes three Citizen CLL032 COB (Chip On Board) LEDs. Provides up to 82 lm/W at the system level. Standard color temp is 4000K +/- 250K, with optional 5000K available. Both color temps have a minimum 80 CRI.

LED Thermal Management

Housing design integrates thermal heatsinking between the optical and driver assemblies, allowing for pass-through convective cooling which promotes airflow for improved and maximum heat dissipation. This results in maximized performance and reliability of critical components to ensure long LED system life.

Optical Systems

LPF3 Flood 'FL' is standard with a Flood 'FL' optic that consists of a specular vacuum metalized reflector that provides a very uniform and highly efficient all purpose flood distribution. Optional Spot 'SP' optic consists of a TIR lens to provide a tight spot. Both optics are suitable for use in wide range of applications.

Energy saving benefits and controls

The LPF3 has a system efficacy of 82 lm/W at a system wattage of 85W using the flood distribution. With the spot distribution it has a system efficacy of 80 lm/W at a system wattage of 85W. It provides significant energy savings over traditional HID systems less controls. Optional Dynadimmer controls provides additional maximum energy savings by dimming to 25% low for 6 hours.

Electrical

Driver efficiency (>90% standard). 120-347V available (restrictions apply). Temp range: -40°C (-40°F) to 40°C (104°F). Open/short circuit protection. RoHS compliant. Surge protector standard and is in accordance with IEEE / ANSI C62.41.2 guidelines, with a surge current rating of 10,000 amps (10KVA).

Listings

Product is UL and cUL listed to the UL1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40°C to 40°C (-40°F to 104°F). The LPF3 luminaire with either 4K Neutral White or 5K Cool White LEDs and flood or spot optics is DesignLights Consortium® qualified. Stock SKUs of the LPF family are made in China while all made-to-order configurations are assembled in the USA.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard finish on all stocked LPF luminaires is Textured Dark Bronze. Textured White and Dark Gray are also available as optional colors for made-to-order products.

Warranty

LPF3 luminaires, the LED arrays, and the drivers are all covered by a 5-year limited warranty. See philips.com/warranties for details.

Predicted Lumen Depreciation Data[18]

Ambient Temp. °C	TM-21 Calculated L_{70} hrs[18,19]	Reported L_{70} Per TM-21[19,20]	Lumen Maint. % @60,000 hrs
up to 40°C	269,000 hrs	>48,000 hrs	91.5%

18. Calculated performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
19. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output.
20. Reported per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours.

Philips Lighting
North America Corporation
200 Franklin Square Drive
Somerset, NJ 08873
Phone: 855-486-2216

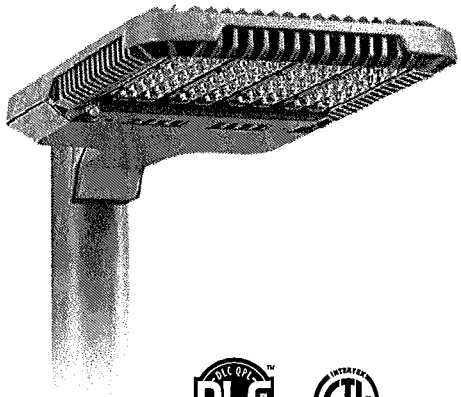
Philips Lighting Company
281 Hillmount Road
Markham ON, Canada L6C 2S3
Phone: 800-668-9008

PHILIPS

GARDCO

Site & Area

EcoForm



Light Fixture
Type "U1"

LED

Project:

Location:

Cat.No:

Type:

Qty:

Notes:

Philips Gardco EcoForm LED luminaire combines economy with performance. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optical System	Wattage	Color Temp	Voltage	Finish	Options
ECF EcoForm	— Standard luminaire (leave blank) **DIM** 0-10V Dimming **APD**[1] Auto Profile Dimming **APD-MRO**[2] Auto Profile Dimming and Motion Response Override pole mounted motion sensor **APD-MRI**[2,3] APD with Motion Response Override luminaire sensor **MRI**[2,3] Motion Response at 50% low luminaire sensor **MR50**[2] Motion Response at 50% low, pole mounted sensor **Wireless Controls** (Remote wireless controller available. See p.2 for details) **LLC2**[1,4] #2 lens for 8' mounting heights **LLC3**[1,4] #3 lens for 9-20' mounting heights **LLC4**[1,4] #4 lens for 21-40' mounting heights	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **3@120** 3@120 **4** 4@90 **WS** Wall mount including surface conduit rear entry permitted **MA** Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	530 mA **55LA-3253**[1] **75LA-4853** **100LA-6453** 700mA **70LA-3270** **105LA-4870** **135LA-6470** 1050mA **105LA-321A**[1] **160LA-481A** **215LA-641A**	**CW** Cool White 5,700K 70 CRI (nominal) **NW** Neutral White 4,000K 70 CRI (nominal) **WW**[5] Warm White 3,000K 70 CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **SC** Special color Specify, must supply color chip. Requires factory quote.	**TL** Tool-Less entry and driver removal hardware **TB**[3] Terminal Block **IS**[6] Internal Shield **LF**[7] Line Fusing **LFC**[7] Line Fusing for Canada **PC**[5,7,8] Receptacle with Photocell (Includes PCR5) **PCB**[4,7,8] Photocell Button **PCR5**[4,9,10] Photocell Receptacle only with 2 dimming connections **PCR7**[4,10,11] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **RAM** Retrofit Arm Mount kit **PTF2**[12] Pole Top Fitter for 2 3/8"- 3" Tenon **PTF3**[12] Pole Top Fitter for 3"- 3 1/2" Tenon **PTF4**[12] Pole Top Fitter for 3 1/2"- 4" Tenon **RPA**[13] Round Pole Adapter for 3"- 3.9" O.D. **BD** Bird Deterrent (field installed only)

1. Available in 120V–277V Voltages only (UNV, 120, 208, 240 & 277).
2. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3. ECF-MRI requires outboarded sensor when used with Terminal Block (TB) Option.
4. LLC2/LLC3/LLC4 Wireless Controls are not configurable with PC/PCB/PCR5/PCR7 Options. See page 6-7 for more info.
5. Contact factory for lead times on warm white.
6. Not configurable with Type 5 (5) Optics.
7. Not configurable with 120-277V (UNV) Voltage. Voltage must be specified.
8. Not configurable with 480V (480) Voltage.
9. Works with 3-pin or 5-pin NEMA photocell/ dimming device.
10. If ordered with DIM, APD, MRI, MR50, APD-MRI, APD-MRO, dimming will not be connected to NEMA receptacle.
11. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
12. Not configurable with 3@120 (3@120) Mounting.
13. No adaptor required for 4" round poles. RPAs provided with Black Paint standard.

ECF EcoForm LED luminaire

EcoForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. If desired, only one is needed per job.

MS-A-120V

120V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

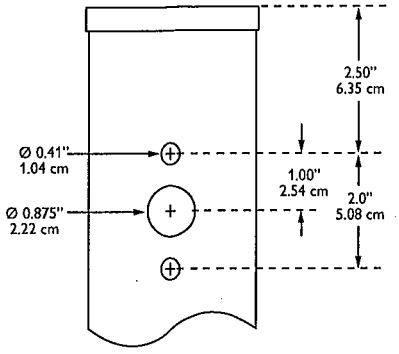
MS-A-277V

277V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MR50 or APD-MRO luminaires. See Luminaire Configuration Information on page 5 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)



EcoForm Wireless Controls Accessories (for wall or pole mount)[1,2,3,4]

LLCR2-(F)

Standalone wall or pole wireless controller with #2 Lens.

LLCR3-(F)

Standalone wall or pole wireless controller with #3 Lens.

LLCR4-(F)

Standalone wall or pole wireless controller with #4 Lens.

1. When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size)
2. 120-277V only.
3. Must specify finish (F=Specify matching finish)
4. Luminaire configuration must include 0-10V Dimming 'ECF-DIM' option when Wireless Controls Accessories are specified

LED Wattage and Lumen Values (standard EcoForm luminaire)

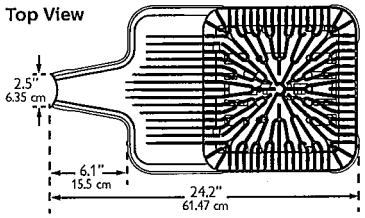
						Type 2			Type 3			Type 4			Type 5		
Ordering Code	No. of LED Modules (16 LEDs per Module)	Total LEDs	LED Current (mA)	Average System Watts[5]	Color Temp.	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating
55LA-3253	2	32	530	52	4000K	6,294	122	B1-U0-G1	6,190	120	B2-U0-G2	6,106	118	B1-U0-G2	5,867	114	B3-U0-G2
70LA-3270	2	32	700	69	4000K	7,754	112	B2-U0-G2	7,955	115	B2-U0-G2	7,659	111	B2-U0-G2	7,421	107	B3-U0-G2
75LA-4853	3	48	530	77	4000K	9,344	121	B2-U0-G2	9,191	119	B2-U0-G2	9,086	117	B2-U0-G2	8,712	113	B3-U0-G2
105LA-321A	2	32	1050	107	4000K	10,709	100	B2-U0-G2	10,981	103	B3-U0-G2	10,576	99	B2-U0-G2	10,255	96	B4-U0-G2
105LA-4870	3	48	700	104	4000K	11,513	111	B2-U0-G2	11,812	114	B3-U0-G2	11,373	110	B2-U0-G2	11,019	106	B4-U0-G2
100LA-6453	4	64	530	103	4000K	12,491	121	B2-U0-G2	12,285	119	B3-U0-G2	12,129	118	B2-U0-G2	11,645	113	B4-U0-G2
135LA-6470	4	64	700	139	4000K	15,390	111	B3-U0-G2	15,789	114	B3-U0-G2	15,192	110	B3-U0-G3	14,729	106	B4-U0-G2
160LA-481A	3	48	1050	158	4000K	15,901	101	B3-U0-G3	16,343	103	B3-U0-G2	15,696	99	B3-U0-G3	15,188	96	B4-U0-G2
215LA-641A	4	64	1050	211	4000K	21,255	101	B3-U0-G3	21,265	100	B4-U0-G3	20,984	99	B3-U0-G3	20,874	99	B5-U0-G3

5. System input wattage may vary based on input voltage, by up to +/- 10% , and based on manufacturer forward voltage, by up to +/- 8%.
6. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

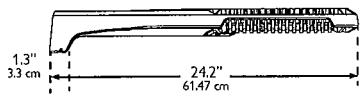
Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

Top View



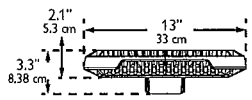
Side View



EPA (ft^2/m^2)

Single	Twin (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

End View

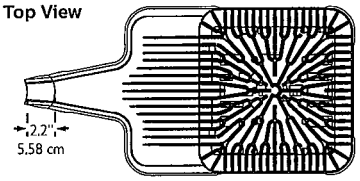


Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

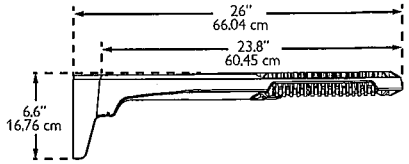
ECF EcoForm LED luminaire

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

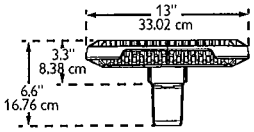
Top View



Side View



End View



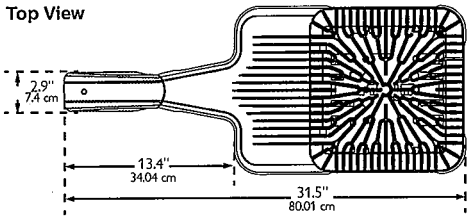
EPA (ft²/m²)

Single	Twin (2@180)	3/4@90
0.3 / 0.028	0.6 / 0.056	0.7 / 0.065

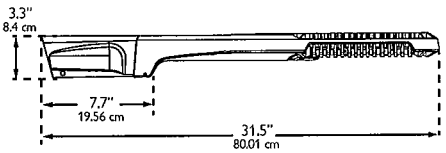
Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

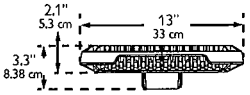
Top View



Side View



End View



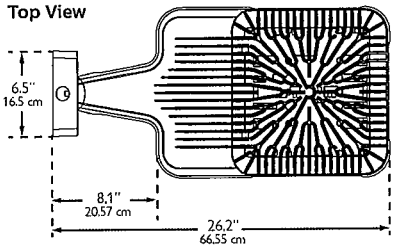
EPA (ft²/m²)

Single
0.51 / 0.047

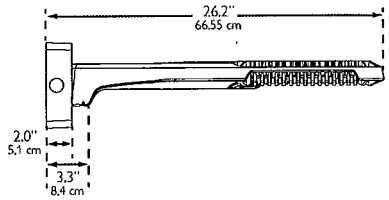
Approximate Luminaire Weight:
21.5 Lbs (9.77 Kg)

Dimensions – EcoForm with Wall Mount (WS)

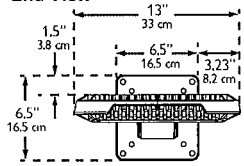
Top View



Side View



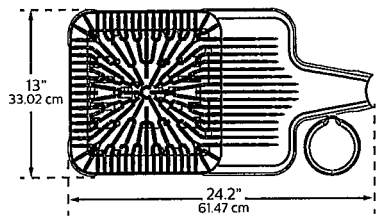
End View



Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

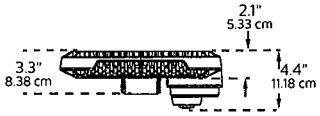
Dimensions – EcoForm with wireless controls (luminaire mounted controller)

Top View



Side View

End View



ECF EcoForm LED luminaire

Luminaire Configuration Information

ECF

Philips Gardco EcoForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

ECF-DIM

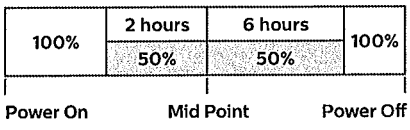
Philips Gardco EcoForm LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

ECF-APD

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a Philips DynaDimmer module, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Philips DynaDimmer module based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

ECF-APD is available in 120V–277V input only.

ECF-APD Dimming Profile:

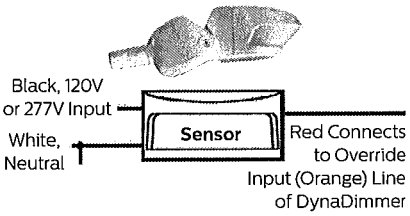


ECF-MR50

Philips Gardco EcoForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

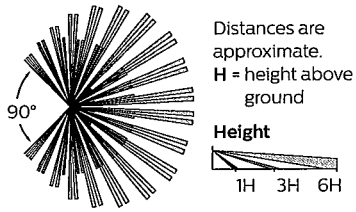
ECF-MR50 is available in 120V–277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.



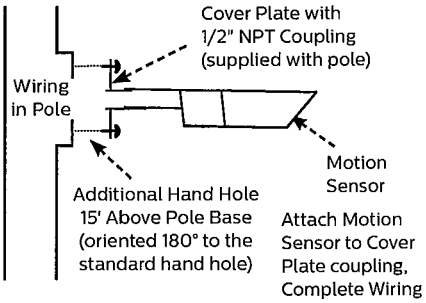
The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

Area PIR Motion Sensor Coverage Pattern:



Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.

Mounting to a Philips Gardco Pole:



ECF-APD-MRO

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The ECF-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the ECF-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

Notes:

ECF-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.

The ECF-APD-MRO has the same pole requirements and utilizes the same motion sensors as the ECF-MR50. The motion sensor mounts and wires identically as well. The ECF-APD-MRO utilizes the identical dimming profile as shown for the ECF-APD.

By combining the benefits of automatic profile dimming and motion response, the ECF-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

All motion sensors utilized consume 0.0 watts in the off state.

Luminaire Configuration Information (Continued)

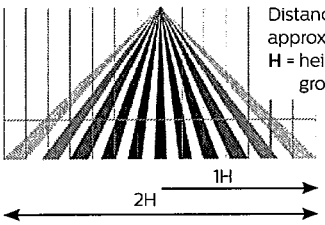
ECF-MRI

Luminaires with Motion Response include a LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

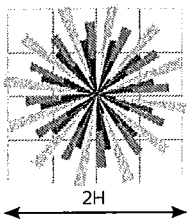
The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern

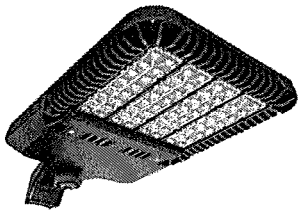


Distances are approximate.
H = height above ground

Top Coverage Pattern



ECF-APD-MRI



Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize Philips DynaDimmer. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for ECF-MRI.

FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of ECF-MRI and ECF-APD-MRI sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

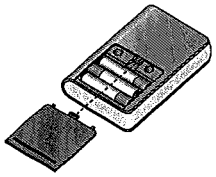
The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

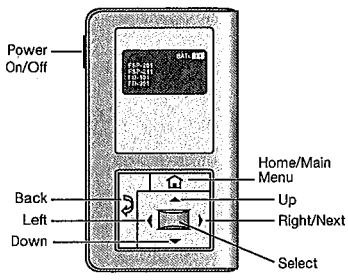
The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool. Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.

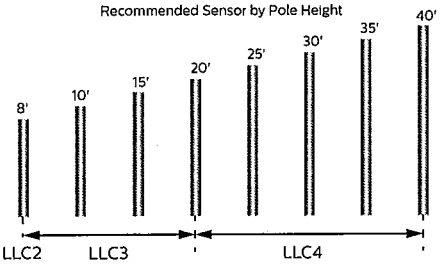


ECF EcoForm LED luminaire

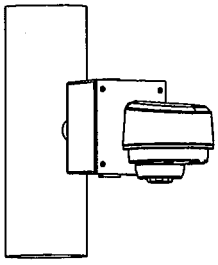
Luminaire Configuration Information – EcoForm with wireless controls

ECF-LLC2/3/4 Luminaire Mounted Controller

Wireless controller attached to luminaire and Includes radio, photocell and motion sensor with #2, 3, or 4 lens for 8-40' mounting heights.



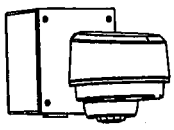
LLCR2/3/4 Pole Mounted Controller



In this configuration, the wireless controller will be mounted to the pole at a fifteen foot mounting height. The number of luminaires on each pole, as well as the specific wattage chosen, will determine how many controllers will be required.

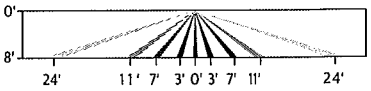
When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size). Confirm required orientation of luminaire and wireless controller. Indicate height above pole base and orientation to handhold. Recommended min pole height is 18ft, with option (CL) 15ft above pole base. Other heights are possible when choosing the appropriate sensor lens type. See pole specification sheets for more information.

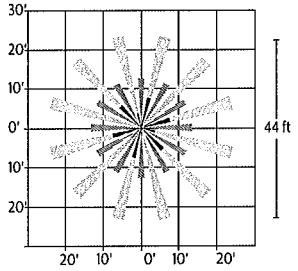
Remote Mount Wireless Controller



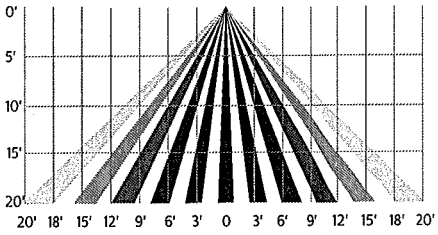
Used to extend the communication on site, to extend motion response and add other luminaires that are not pole mounted. Consult factory for more information.

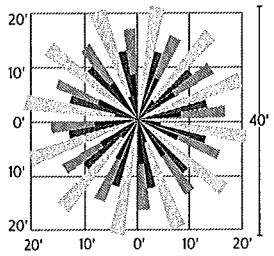
LLC2/LLCR2 (for pole or remote mount only)



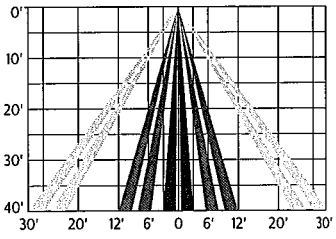


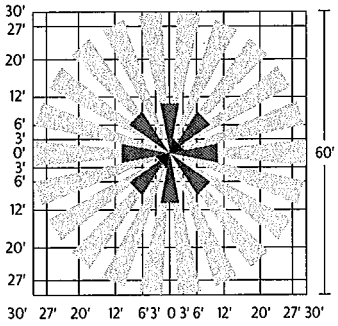
LLC3/LLCR3 (for luminaire, pole, or remote mount)



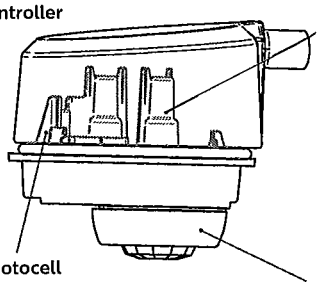


LLC4/LLCR4 (for luminaire, pole, or remote mount)





Controller



Photocell

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

Wireless Radio

- 1.8 Watts max (no load draw)
- Operating voltage 120-277 VAC RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from Gateway
- Reports ambient light readings to 1500 Ft-Cd
- Transmission Systems Operating within the band 2400-2483.5Mhz
- ROHS Compliant

Motion Response

- Detects motion through passive infrared sensing technology with three different lens configurations
- Motion sensor coverage can be adjusted from a narrow to a wide detection range, which helps reduce false triggers to further increase energy savings.
- Sensing profiles can be updated to adapt to activity levels in the environment, such as occupancy level, wind, and mounting height

ECF EcoForm LED luminaire

Luminaire Configuration Information (EcoForm with wireless controls)

Gateway

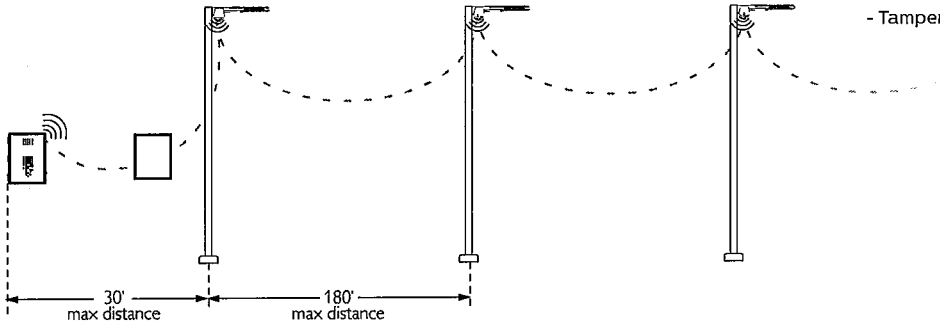
Overview: One gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the EcoForm luminaires (or pole), allowing you to control your fixtures straight from the web. One gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

Installation: Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

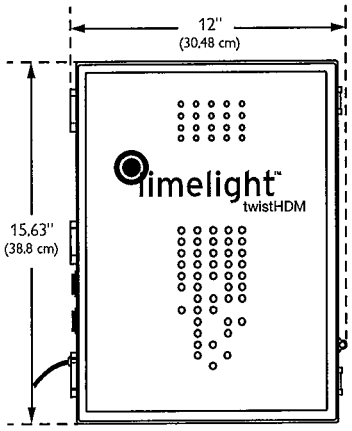
Requirements: The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

Specifications:

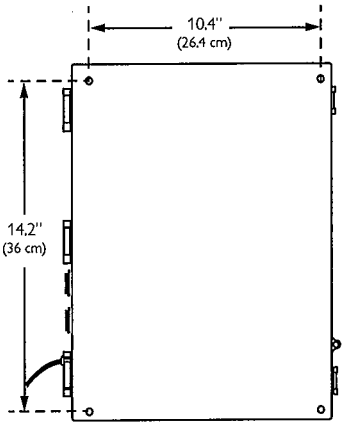
- High density RF Mesh coordinator
- Ethernet or wireless internet connection to server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



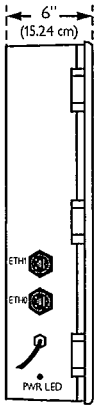
Front View



Back View



Side View



ECF EcoForm LED luminaire

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66.

Vibration Resistance

EcoForm with Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5700K +/- 250K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal Management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy Saving Benefits

System efficacy up to 95 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

LED Performance

Predicted Lumen Depreciation Data[1]				
Ambient Temperature °C	**Driver** (mA)	**Calculated L_{70} Hours[1,2]**	**L_{70} Per TM-21[2,3]**	**Lumen Maintenance % @ 60,000 hours**
Up to 40 °C	Up to 1050 mA	> 350,000 hours	> 60,000 hours	97%

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Wireless Controls

The wireless controls system includes: gateway, controller (with wireless radio, motion response, and photocell), and commissioning/ training. This intelligent web-based system operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See wireless controls pages 6-7 for details and technical information.

Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MRI, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods. See pages 4-6 for complete details.

Optical Systems

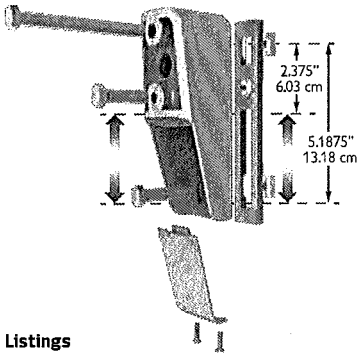
Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.



Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. All EcoForm luminaires equipped with NW and CW are DesignLights Consortium® qualified.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

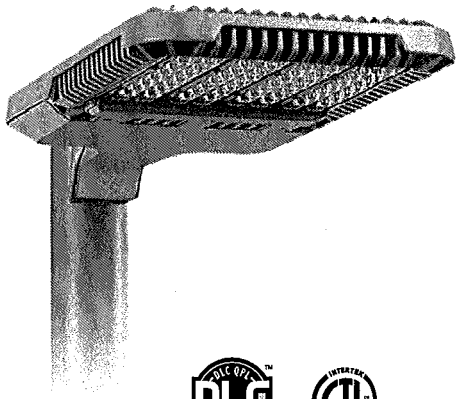
PHILIPS

GARDCO

Site & Area

EcoForm

Light Fixture Type "U2"



Project:

Location:

Cat.No:

Type:

Qty:

Notes:

Philips Gardco EcoForm LED luminaire combines economy with performance. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optical System	Wattage	Color Temp	Voltage	Finish	Options
ECF EcoForm	**—** Standard luminaire (leave blank) **DIM** 0-10V Dimming **APD**[1] Auto Profile Dimming **APD-MRO**[2] Auto Profile Dimming and Motion Response Override pole mounted motion sensor **APD-MRI**[2,3] APD with Motion Response Override luminaire sensor **MRI**[2,3] Motion Response at 50% low luminaire sensor **MR50**[2] Motion Response at 50% low, pole mounted sensor **Wireless Controls** (Remote wireless controller available. See p.2 for details) **LLC2**[1,4] #2 lens for 8' mounting heights **LLC3**[1,4] #3 lens for 9-20' mounting heights **LLC4**[1,4] #4 lens for 21-40' mounting heights	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **3@120** 3@120 **4** 4@90 **WS** Wall mount including surface conduit rear entry permitted **MA** Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	**530 mA** **55LA-3253**[1] **75LA-4853** **100LA-6453** **700mA** **70LA-3270** **105LA-4870** **135LA-6470** **1050mA** **105LA-321A**[1] **160LA-481A** **215LA-641A**	**CW** Cool White 5,700K 70CRI (nominal) **NW** Neutral White 4,000K 70CRI (nominal) **WW**[5] Warm White 3,000K 70CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **SC** Special color Specify, must supply color chip. Requires factory quote.	**TL** Tool-Less entry and driver removal hardware **TB**[3] Terminal Block **IS**[6] Internal Shield **LF**[7] Line Fusing **LFC**[7] Line Fusing for Canada **PC**[5,7,8] Receptacle with Photocell (Includes PCR5) **PCB**[4,7,8] Photocell Button **PCR5**[4,9,10] Photocell Receptacle only with 2 dimming connections **PCR7**[4,10,11] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **RAM** Retrofit Arm Mount kit **PTF2**[12] Pole Top Fitter for 2 3/8"-3" Tenon **PTF3**[12] Pole Top Fitter for 3"-3 1/2" Tenon **PTF4**[12] Pole Top Fitter for 3 1/2"-4" Tenon **RPA**[13] Round Pole Adapter for 3"-3.9" O.D. **BD** Bird Deterrent (field installed only)

1. Available in 120V–277V Voltages only (UNV, 120, 208, 240 & 277).
2. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3. ECF-MRI requires outboarded sensor when used with Terminal Block (TB) Option.
4. LLC2/LLC3/LLC4 Wireless Controls are not configurable with PC/PCB/PCR5/PCR7 Options. See page 6-7 for more info.
5. Contact factory for lead times on warm white.
6. Not configurable with Type 5 (5) Optics.
7. Not configurable with 120-277V (UNV) Voltage. Voltage must be specified.
8. Not configurable with 480V (480) Voltage.
9. Works with 3-pin or 5-pin NEMA photocell/ dimming device.
10. If ordered with DIM, APD, MRI, MR50, APD-MRI, APD-MRO, dimming will not be connected to NEMA receptacle.
11. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
12. Not configurable with 3@120 (3@120) Mounting.
13. No adaptor required for 4" round poles. RPAs provided with Black Paint standard.

ECF EcoForm LED luminaire

EcoForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. If desired, only one is needed per job.

MS-A-120V

120V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

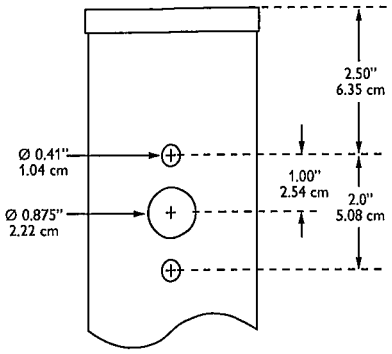
MS-A-277V

277V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MR50 or APD-MRO luminaires. See Luminaire Configuration Information on page 5 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)



EcoForm Wireless Controls Accessories (for wall or pole mount)[1,2,3,4]

LLCR2-(F)

Standalone wall or pole wireless controller with #2 Lens.

LLCR3-(F)

Standalone wall or pole wireless controller with #3 Lens.

LLCR4-(F)

Standalone wall or pole wireless controller with #4 Lens.

1. When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size)
2. 120-277V only.
3. Must specify finish (F=Specify matching finish)
4. Luminaire configuration must include 0-10V Dimming 'ECF-DIM' option when Wireless Controls Accessories are specified

LED Wattage and Lumen Values (standard EcoForm luminaire)

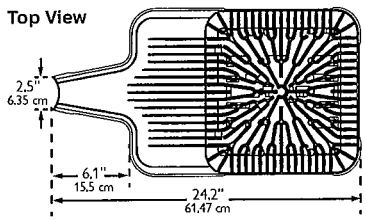
						Type 2			Type 3			Type 4			Type 5		
Ordering Code	No. of LED Modules (16 LEDs per Module)	Total LEDs	LED Current (mA)	Average System Watts[5]	Color Temp.	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating
55LA-3253	2	32	530	52	4000K	6,294	122	B1-U0-G1	6,190	120	B2-U0-G2	6,106	118	B1-U0-G2	5,867	114	B3-U0-G2
70LA-3270	2	32	700	69	4000K	7,754	112	B2-U0-G2	7,955	115	B2-U0-G2	7,659	111	B2-U0-G2	7,421	107	B3-U0-G2
75LA-4853	3	48	530	77	4000K	9,344	121	B2-U0-G2	9,191	119	B2-U0-G2	9,086	117	B2-U0-G2	8,712	113	B3-U0-G2
105LA-321A	2	32	1050	107	4000K	10,709	100	B2-U0-G2	10,981	103	B3-U0-G2	10,576	99	B2-U0-G2	10,255	96	B4-U0-G2
105LA-4870	3	48	700	104	4000K	11,513	111	B2-U0-G2	11,812	114	B3-U0-G2	11,373	110	B2-U0-G2	11,019	106	B4-U0-G2
100LA-6453	4	64	530	103	4000K	12,491	121	B2-U0-G2	12,285	119	B3-U0-G2	12,129	118	B2-U0-G2	11,645	113	B4-U0-G2
135LA-6470	4	64	700	139	4000K	15,390	111	B3-U0-G2	15,789	114	B3-U0-G2	15,192	110	B3-U0-G3	14,729	106	B4-U0-G2
160LA-481A	3	48	1050	158	4000K	15,901	101	B3-U0-G3	16,343	103	B3-U0-G2	15,696	99	B3-U0-G3	15,188	96	B4-U0-G2
215LA-641A	4	64	1050	211	4000K	21,255	101	B3-U0-G3	21,265	100	B4-U0-G3	20,984	99	B3-U0-G3	20,874	99	B5-U0-G3

5. System input wattage may vary based on input voltage, by up to +/- 10% , and based on manufacturer forward voltage, by up to +/- 8%.
6. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

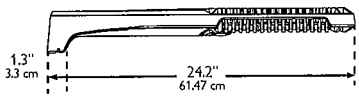
Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

Top View



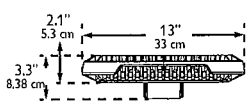
Side View



EPA (ft^2/m^2)

Single	Twin (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

End View

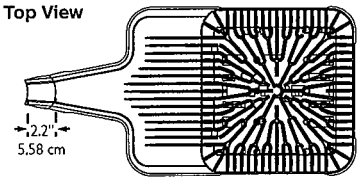


Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

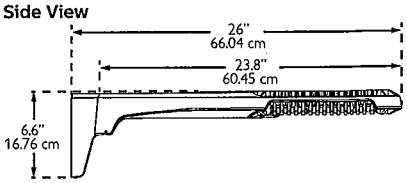
ECF EcoForm LED luminaire

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

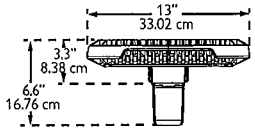
Top View



Side View



End View



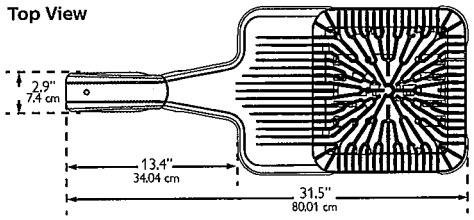
EPA (ft^2/m^2)

Single	Twin (2@180)	3/4@90
0.3 / 0.028	0.6 / 0.056	0.7 / 0.065

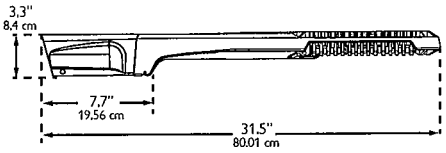
Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

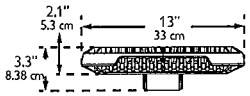
Top View



Side View



End View



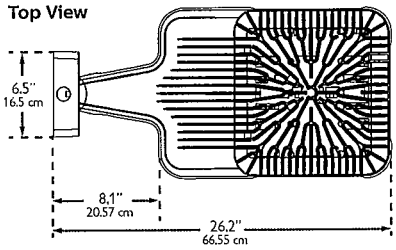
EPA (ft^2/m^2)

Single
0.51 / 0.047

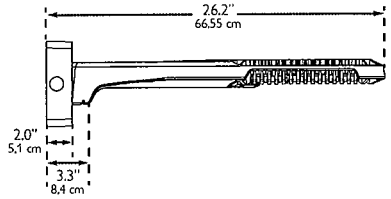
Approximate Luminaire Weight:
21.5 Lbs (9.77 Kg)

Dimensions – EcoForm with Wall Mount (WS)

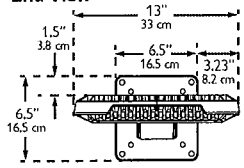
Top View



Side View



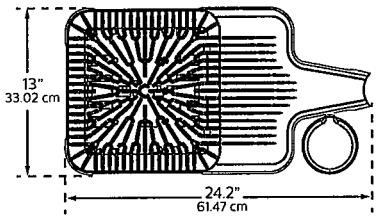
End View



Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

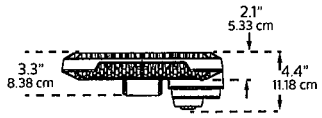
Dimensions – EcoForm with wireless controls (luminaire mounted controller)

Top View



Side View

End View



ECF EcoForm LED luminaire

Luminaire Configuration Information

ECF

Philips Gardco EcoForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

ECF-DIM

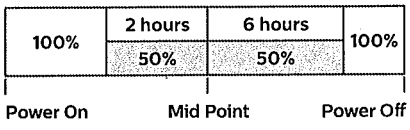
Philips Gardco EcoForm LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

ECF-APD

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a Philips DynaDimmer module, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Philips DynaDimmer module based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

ECF-APD is available in 120V–277V input only.

ECF-APD Dimming Profile:

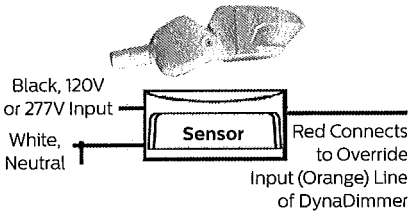


ECF-MR50

Philips Gardco EcoForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

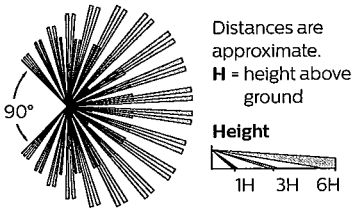
ECF-MR50 is available in 120V–277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.



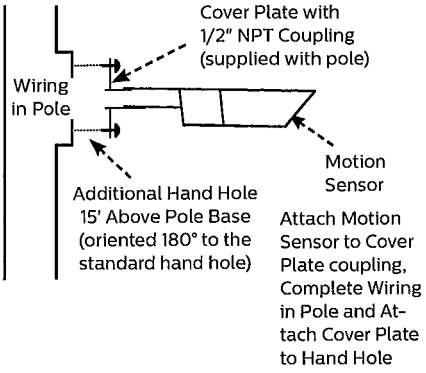
The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

Area PIR Motion Sensor Coverage Pattern:



Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.

Mounting to a Philips Gardco Pole:



ECF-APD-MRO

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The ECF-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the ECF-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

Notes:

ECF-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.

The ECF-APD-MRO has the same pole requirements and utilizes the same motion sensors as the ECF-MR50. The motion sensor mounts and wires identically as well. The ECF-APD-MRO utilizes the identical dimming profile as shown for the ECF-APD.

By combining the benefits of automatic profile dimming and motion response, the ECF-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

All motion sensors utilized consume 0.0 watts in the off state.

ECF EcoForm LED luminaire

Luminaire Configuration Information (Continued)

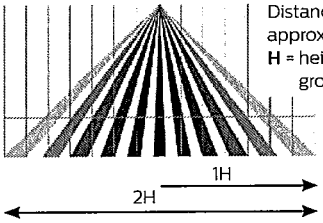
ECF-MRI

Luminaires with Motion Response include a LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

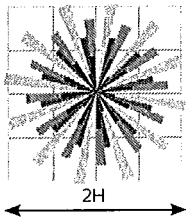
The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern

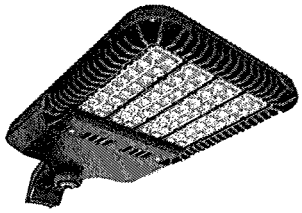


Distances are approximate.
H = height above ground

Top Coverage Pattern



ECF-APD-MRI



Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize Philips DynaDimmer. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for ECF-MRI.

FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of ECF-MRI and ECF-APD-MRI sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

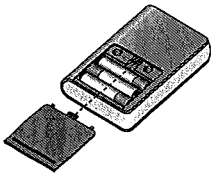
The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

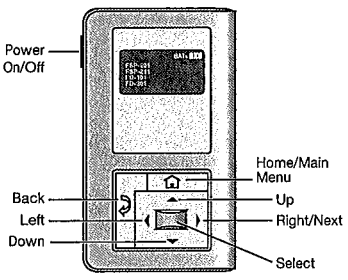
The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool. Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.

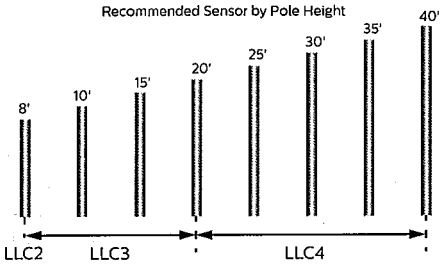


ECF EcoForm LED luminaire

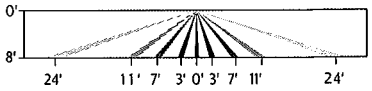
Luminaire Configuration Information – EcoForm with wireless controls

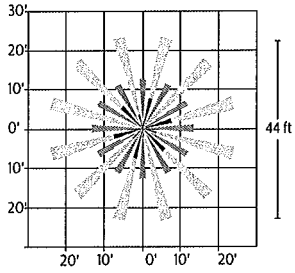
ECF-LLC2/3/4 Luminaire Mounted Controller

Wireless controller attached to luminaire and Includes radio, photocell and motion sensor with #2, 3, or 4 lens for 8-40' mounting heights.

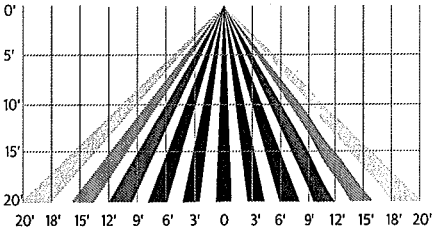


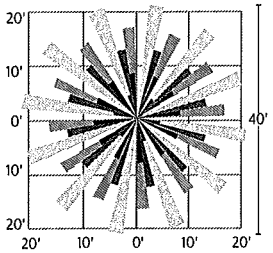
LLC2/LLCR2 (for pole or remote mount only)



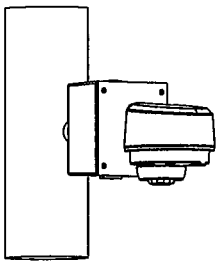


LLC3/LLCR3 (for luminaire, pole, or remote mount)





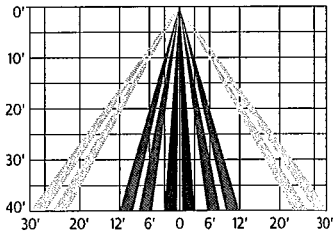
LLCR2/3/4 Pole Mounted Controller

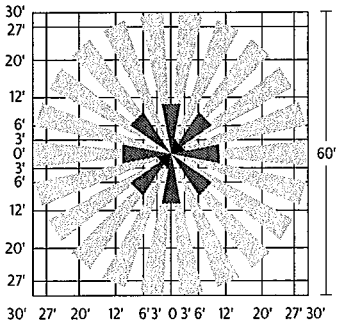


In this configuration, the wireless controller will be mounted to the pole at a fifteen foot mounting height. The number of luminaires on each pole, as well as the specific wattage chosen, will determine how many controllers will be required.

When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size). Confirm required orientation of luminaire and wireless controller. Indicate height above pole base and orientation to handhold. Recommended min pole height is 18ft, with option (CL) 15ft above pole base. Other heights are possible when choosing the appropriate sensor lens type. See pole specification sheets for more information.

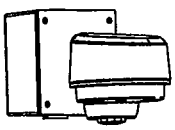
LLC4/LLCR4 (for luminaire, pole, or remote mount)



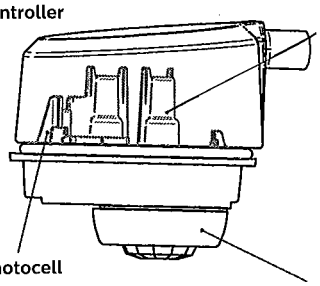


Remote Mount Wireless Controller

Used to extend the communication on site, to extend motion response and add other luminaires that are not pole mounted. Consult factory for more information.



Controller



Photocell

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

Wireless Radio

- 1.8 Watts max (no load draw)
- Operating voltage 120-277 VAC RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from Gateway
- Reports ambient light readings to 1500 Ft-Cd
- Transmission Systems Operating within the band 2400-2483.5Mhz
- ROHS Compliant

Motion Response

- Detects motion through passive infrared sensing technology with three different lens configurations
- Motion sensor coverage can be adjusted from a narrow to a wide detection range, which helps reduce false triggers to further increase energy savings.
- Sensing profiles can be updated to adapt to activity levels in the environment, such as occupancy level, wind, and mounting height

ECF EcoForm LED luminaire

Luminaire Configuration Information (EcoForm with wireless controls)

Gateway

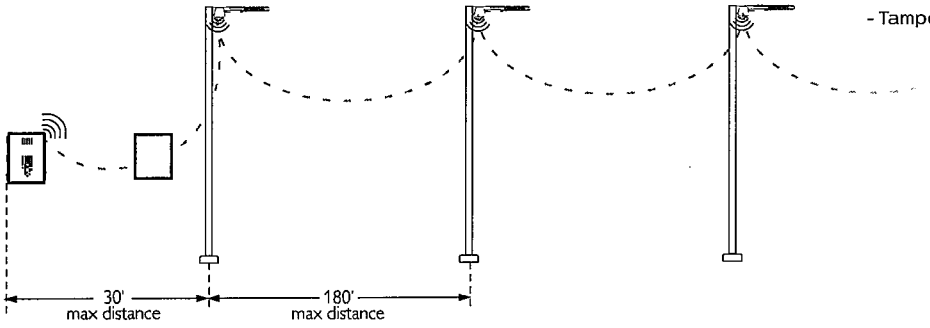
Overview: One gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the EcoForm luminaires (or pole), allowing you to control your fixtures straight from the web. One gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

Installation: Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

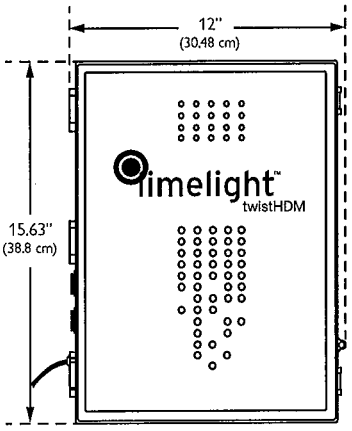
Requirements: The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

Specifications:

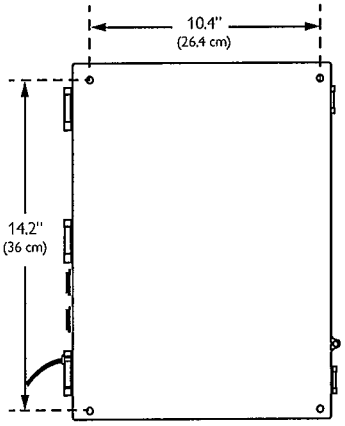
- High density RF Mesh coordinator
- Ethernet or wireless internet connection to server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



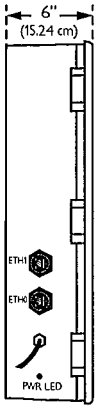
Front View



Back View



Side View



ECF EcoForm LED luminaire

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66.

Vibration Resistance

EcoForm with Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5700K +/- 250K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal Management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy Saving Benefits

System efficacy up to 95 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Wireless Controls

The wireless controls system includes: gateway, controller (with wireless radio, motion response, and photocell), and commissioning/ training. This intelligent web-based system operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See wireless controls pages 6-7 for details and technical information.

Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MRI, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods. See pages 4-6 for complete details.

Optical Systems

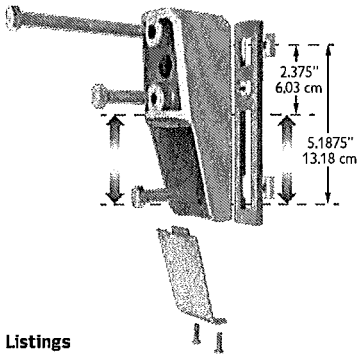
Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.



Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. All EcoForm luminaires equipped with NW and CW are DesignLights Consortium® qualified.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

LED Performance

Predicted Lumen Depreciation Data[1]

Ambient Temperature °C	Driver (mA)	Calculated L_{70} Hours[1,2]	L_{70} Per TM-21[2,3]	Lumen Maintenance % @ 60,000 hours
Up to 40 °C	Up to 1050 mA	> 350,000 hours	> 60,000 hours	97%

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

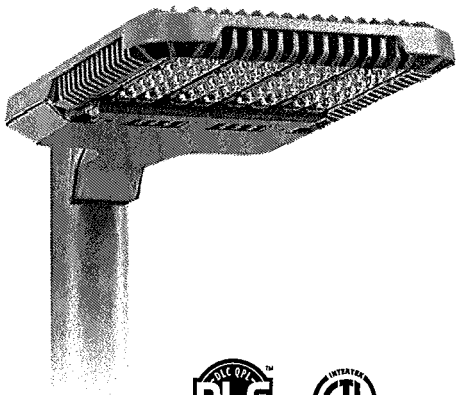
Light Fixture Type "U3"

PHILIPS

GARDCO

Site & Area

EcoForm



Project:

Location:

Cat.No:

Type:

Qty:

Notes:

Philips Gardco EcoForm LED luminaire combines economy with performance. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optical System	Wattage	Color Temp	Voltage	Finish	Options
ECF EcoForm	— Standard luminaire (leave blank) **DIM** 0-10V Dimming **APD**[1] Auto Profile Dimming **APD-MRO**[2] Auto Profile Dimming and Motion Response Override pole mounted motion sensor **APD-MRI**[2,3] APD with Motion Response Override luminaire sensor **MRI**[2,3] Motion Response at 50% low luminaire sensor **MR50**[2] Motion Response at 50% low, pole mounted sensor **Wireless Controls** (Remote wireless controller available. See p.2 for details) **LLC2**[1,4] #2 lens for 8' mounting heights **LLC3**[1,4] #3 lens for 9-20' mounting heights **LLC4**[1,4] #4 lens for 21-40' mounting heights	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **3@120** 3@120 **4** 4@90 **WS** Wall mount including surface conduit rear entry permitted **MA** Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	**530 mA** **55LA-3253**[1] **75LA-4853** **100LA-6453** **700mA** **70LA-3270** **105LA-4870** **135LA-6470** **1050mA** **105LA-321A**[1] **160LA-481A** **215LA-641A**	**CW** Cool White 5,700K 70CRI (nominal) **NW** Neutral White 4,000K 70CRI (nominal) **WW**[5] Warm White 3,000K 70CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **SC** Special color Specify, must supply color chip. Requires factory quote.	**TL** Tool-Less entry and driver removal hardware **TB**[3] Terminal Block **IS**[6] Internal Shield **LF**[7] Line Fusing **LFC**[7] Line Fusing for Canada **PC**[5,7,8] Receptacle with Photocell (Includes PCR5) **PCB**[4,7,8] Photocell Button **PCR5**[4,9,10] Photocell Receptacle only with 2 dimming connections **PCR7**[4,10,11] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **RAM** Retrofit Arm Mount kit **PTF2**[12] Pole Top Fitter for 2 3/8"-3" Tenon **PTF3**[12] Pole Top Fitter for 3"-3½" Tenon **PTF4**[12] Pole Top Fitter for 3½"-4" Tenon **RPA**[13] Round Pole Adapter for 3"-3.9" O.D. **BD** Bird Deterrent (field installed only)

1. Available in 120V–277V Voltages only (UNV, 120, 208, 240 & 277).
2. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3. ECF-MRI requires outboarded sensor when used with Terminal Block (TB) Option.
4. LLC2/LLC3/LLC4 Wireless Controls are not configurable with PC/PCB/PCR5/PCR7 Options. See page 6-7 for more info.
5. Contact factory for lead times on warm white.
6. Not configurable with Type 5 (5) Optics.
7. Not configurable with 120-277V (UNV) Voltage. Voltage must be specified.
8. Not configurable with 480V (480) Voltage.
9. Works with 3-pin or 5-pin NEMA photocell/ dimming device.
10. If ordered with DIM, APD, MRI, MR50, APD-MRI, APD-MRO, dimming will not be connected to NEMA receptacle.
11. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
12. Not configurable with 3@120 (3@120) Mounting.
13. No adaptor required for 4" round poles. RPAs provided with Black Paint standard.

ECF EcoForm LED luminaire

EcoForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. If desired, only one is needed per job.

MS-A-120V

120V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

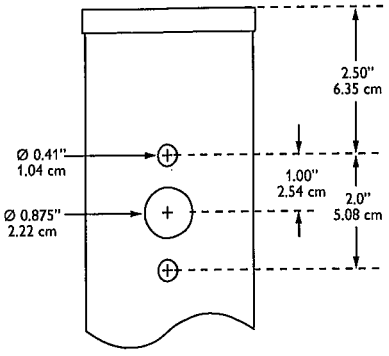
MS-A-277V

277V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MR50 or APD-MRO luminaires. See Luminaire Configuration Information on page 5 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)



EcoForm Wireless Controls Accessories (for wall or pole mount)[1,2,3,4]

LLCR2-(F)

Standalone wall or pole wireless controller with #2 Lens.

LLCR3-(F)

Standalone wall or pole wireless controller with #3 Lens.

LLCR4-(F)

Standalone wall or pole wireless controller with #4 Lens.

1. When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size)
2. 120-277V only.
3. Must specify finish (F=Specify matching finish)
4. Luminaire configuration must include 0-10V Dimming 'ECF-DIM' option when Wireless Controls Accessories are specified

LED Wattage and Lumen Values (standard EcoForm luminaire)

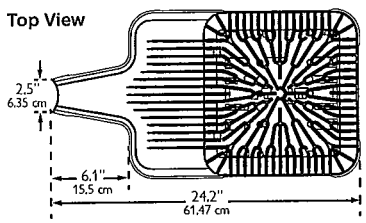
						Type 2			Type 3			Type 4			Type 5		
Ordering Code	No. of LED Modules (16 LEDs per Module)	Total LEDs	LED Current (mA)	Average System Watts[5]	Color Temp.	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating
55LA-3253	2	32	530	52	4000K	6,294	122	B1-U0-G1	6,190	120	B2-U0-G2	6,106	118	B1-U0-G2	5,867	114	B3-U0-G2
70LA-3270	2	32	700	69	4000K	7,754	112	B2-U0-G2	7,955	115	B2-U0-G2	7,659	111	B2-U0-G2	7,421	107	B3-U0-G2
75LA-4853	3	48	530	77	4000K	9,344	121	B2-U0-G2	9,191	119	B2-U0-G2	9,086	117	B2-U0-G2	8,712	113	B3-U0-G2
105LA-321A	2	32	1050	107	4000K	10,709	100	B2-U0-G2	10,981	103	B3-U0-G2	10,576	99	B2-U0-G2	10,255	96	B4-U0-G2
105LA-4870	3	48	700	104	4000K	11,513	111	B2-U0-G2	11,812	114	B3-U0-G2	11,373	110	B2-U0-G2	11,019	106	B4-U0-G2
100LA-6453	4	64	530	103	4000K	12,491	121	B2-U0-G2	12,285	119	B3-U0-G2	12,129	118	B2-U0-G2	11,645	113	B4-U0-G2
135LA-6470	4	64	700	139	4000K	15,390	111	B3-U0-G2	15,789	114	B3-U0-G2	15,192	110	B3-U0-G3	14,729	106	B4-U0-G2
160LA-481A	3	48	1050	158	4000K	15,901	101	B3-U0-G3	16,343	103	B3-U0-G2	15,696	99	B3-U0-G3	15,188	96	B4-U0-G2
215LA-641A	4	64	1050	211	4000K	21,255	101	B3-U0-G3	21,265	100	B4-U0-G3	20,984	99	B3-U0-G3	20,874	99	B5-U0-G3

5. System input wattage may vary based on input voltage, by up to +/- 10% , and based on manufacturer forward voltage, by up to +/- 8%.
6. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

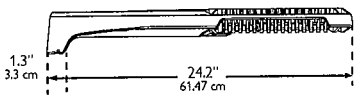
Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

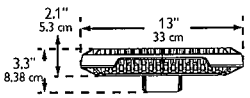
Top View



Side View



End View



EPA (ft^2/m^2)

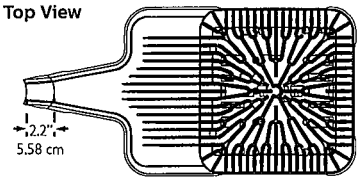
Single	Twin (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

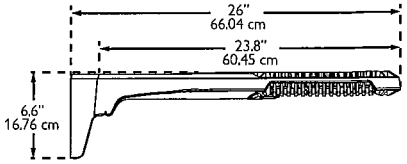
ECF EcoForm LED luminaire

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

Top View



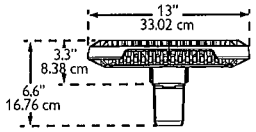
Side View



EPA (ft²/m²)

Single	Twin (2@180)	3/4@90
0.3 / 0.028	0.6 / 0.056	0.7 / 0.065

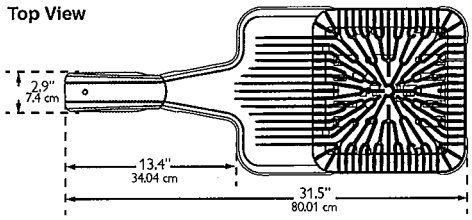
End View



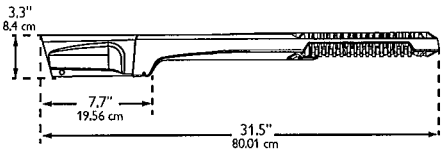
Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

Top View



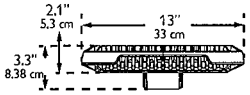
Side View



EPA (ft²/m²)

Single
0.51 / 0.047

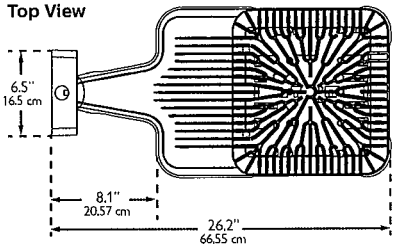
End View



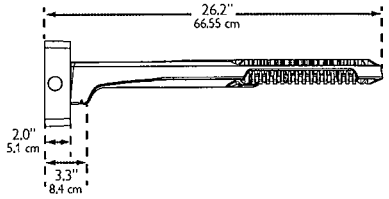
Approximate Luminaire Weight:
21.5 Lbs (9.77 Kg)

Dimensions – EcoForm with Wall Mount (WS)

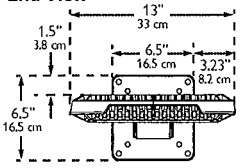
Top View



Side View



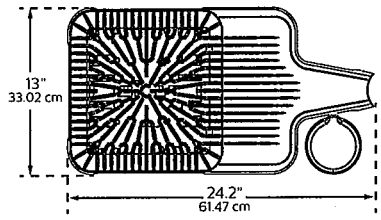
End View



Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

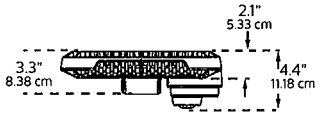
Dimensions – EcoForm with wireless controls (luminaire mounted controller)

Top View



Side View

End View



ECF EcoForm LED luminaire

Luminaire Configuration Information

ECF

Philips Gardco EcoForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

ECF-DIM

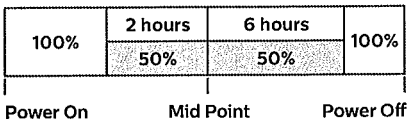
Philips Gardco EcoForm LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

ECF-APD

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a Philips DynaDimmer module, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Philips DynaDimmer module based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

ECF-APD is available in 120V–277V input only.

ECF-APD Dimming Profile:

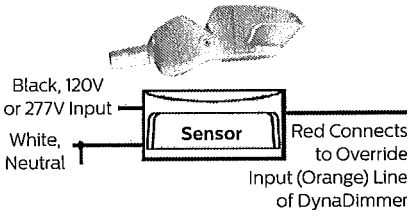


ECF-MR50

Philips Gardco EcoForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

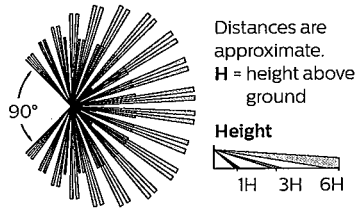
ECF-MR50 is available in 120V–277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.



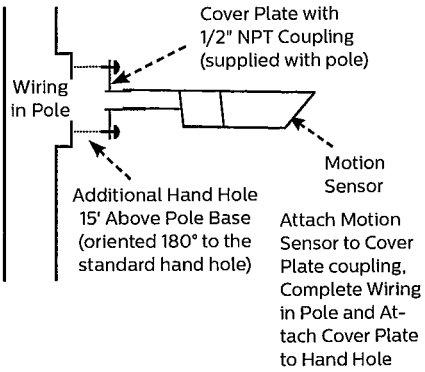
The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

Area PIR Motion Sensor Coverage Pattern:



Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.

Mounting to a Philips Gardco Pole:



ECF-APD-MRO

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The ECF-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the ECF-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

Notes:

ECF-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.

The ECF-APD-MRO has the same pole requirements and utilizes the same motion sensors as the ECF-MR50. The motion sensor mounts and wires identically as well. The ECF-APD-MRO utilizes the identical dimming profile as shown for the ECF-APD.

By combining the benefits of automatic profile dimming and motion response, the ECF-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

All motion sensors utilized consume 0.0 watts in the off state.

ECF EcoForm LED luminaire

Luminaire Configuration Information (Continued)

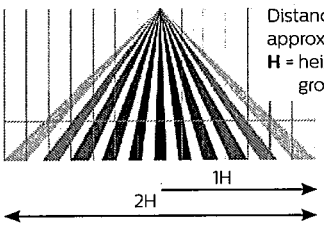
ECF-MRI

Luminaires with Motion Response include a LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

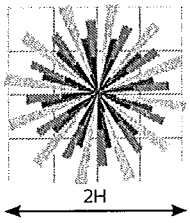
The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern

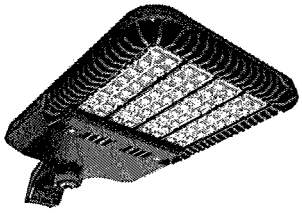


Distances are approximate.
H = height above ground

Top Coverage Pattern



ECF-APD-MRI



Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize Philips DynaDimmer. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for ECF-MRI.

FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of ECF-MRI and ECF-APD-MRI sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

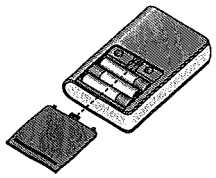
The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

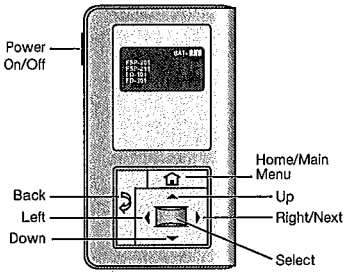
The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool. Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.

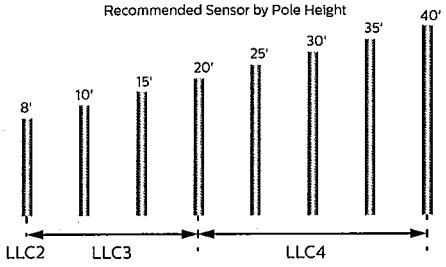


ECF EcoForm LED luminaire

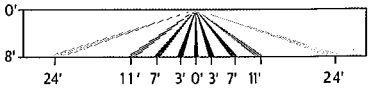
Luminaire Configuration Information – EcoForm with wireless controls

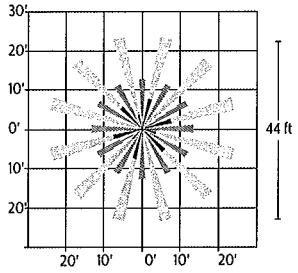
ECF-LLC2/3/4 Luminaire Mounted Controller

Wireless controller attached to luminaire and Includes radio, photocell and motion sensor with #2, 3, or 4 lens for 8-40' mounting heights.

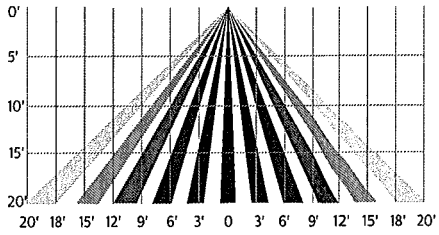


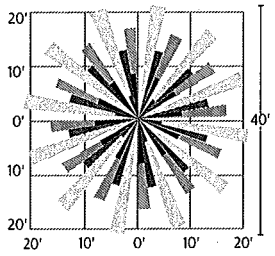
LLC2/LLCR2 (for pole or remote mount only)





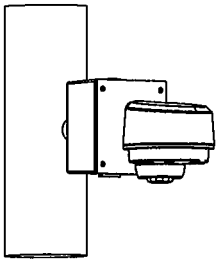
LLC3/LLCR3 (for luminaire, pole, or remote mount)





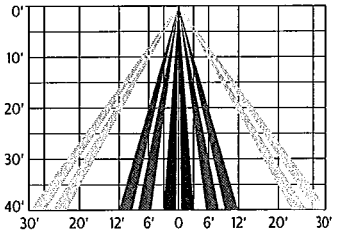
LLCR2/3/4 Pole Mounted Controller

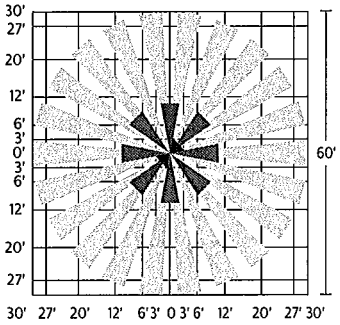
In this configuration, the wireless controller will be mounted to the pole at a fifteen foot mounting height. The number of luminaires on each pole, as well as the specific wattage chosen, will determine how many controllers will be required.



When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size). Confirm required orientation of luminaire and wireless controller. Indicate height above pole base and orientation to handhold. Recommended min pole height is 18ft, with option (CL) 15ft above pole base. Other heights are possible when choosing the appropriate sensor lens type. See pole specification sheets for more information.

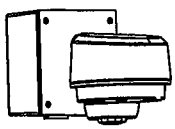
LLC4/LLCR4 (for luminaire, pole, or remote mount)



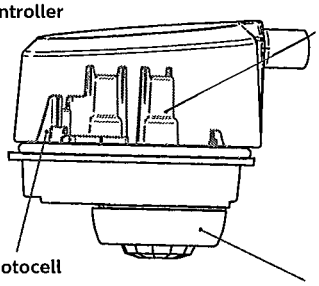


Remote Mount Wireless Controller

Used to extend the communication on site, to extend motion response and add other luminaires that are not pole mounted. Consult factory for more information.



Controller



Photocell

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

Wireless Radio

- 1.8 Watts max (no load draw)
- Operating voltage 120-277 VAC RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from Gateway
- Reports ambient light readings to 1500 Ft-Cd
- Transmission Systems Operating within the band 2400-2483.5Mhz
- ROHS Compliant

Motion Response

- Detects motion through passive infrared sensing technology with three different lens configurations
- Motion sensor coverage can be adjusted from a narrow to a wide detection range, which helps reduce false triggers to further increase energy savings.
- Sensing profiles can be updated to adapt to activity levels in the environment, such as occupancy level, wind, and mounting height

ECF EcoForm LED luminaire

Luminaire Configuration Information (EcoForm with wireless controls)

Gateway

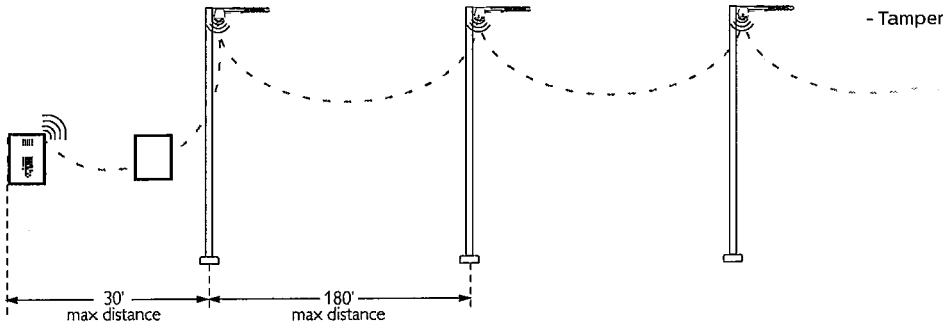
Overview: One gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the EcoForm luminaires (or pole), allowing you to control your fixtures straight from the web. One gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

Installation: Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

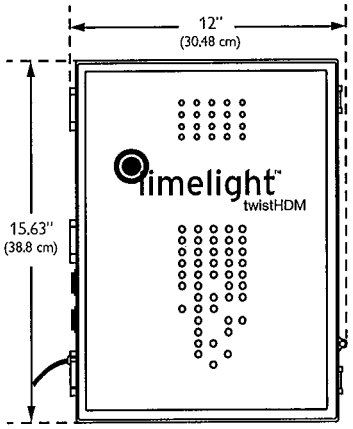
Requirements: The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

Specifications:

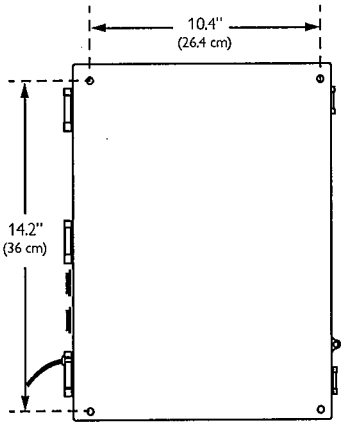
- High density RF Mesh coordinator
- Ethernet or wireless internet connection to server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



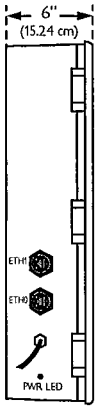
Front View



Back View



Side View



ECF EcoForm LED luminaire

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66.

Vibration Resistance

EcoForm with Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5700K +/- 250K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal Management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy Saving Benefits

System efficacy up to 95 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Wireless Controls

The wireless controls system includes: gateway, controller (with wireless radio, motion response, and photocell), and commissioning/ training. This intelligent web-based system operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See wireless controls pages 6-7 for details and technical information.

Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MRI, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods. See pages 4-6 for complete details.

Optical Systems

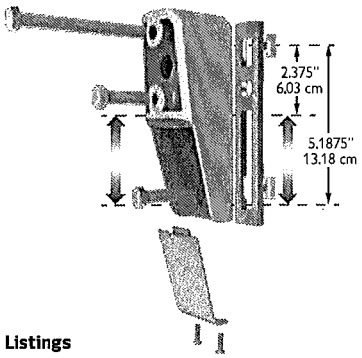
Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.



Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. All EcoForm luminaires equipped with NW and CW are DesignLights Consortium® qualified.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

LED Performance

Predicted Lumen Depreciation Data[1]				
Ambient Temperature °C	Driver (mA)	Calculated L_{70} Hours[1,2]	L_{70} Per TM-21[2,3]	Lumen Maintenance % @ 60,000 hours
Up to 40 °C	Up to 1050 mA	> 350,000 hours	> 60,000 hours	97%

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

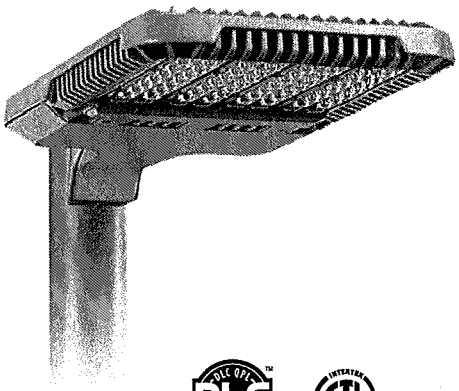
Light Fixture Type "U4"

PHILIPS

GARDCO

Site & Area

EcoForm



Project:

Location:

Cat.No:

Type:

Qty:

Notes:

Philips Gardco EcoForm LED luminaire combines economy with performance. Capable of delivering up to 20,000 lumens or more in a compact, low profile housing, EcoForm offers a new level of customer value. EcoForm features an innovative retrofit arm kit, simplifying site conversions to LED by eliminating the need to drill additional holes in most existing poles. Integral control systems, including motion response and wireless controls are available for further energy savings during off peak hours.

Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optical System	Wattage	Color Temp	Voltage	Finish	Options
ECF EcoForm	— Standard luminaire (leave blank) **DIM** 0-10V Dimming **APD**[1] Auto Profile Dimming **APD-MRO**[2] Auto Profile Dimming and Motion Response Override pole mounted motion sensor **APD-MRI**[2,3] APD with Motion Response Override luminaire sensor **MRI**[2,3] Motion Response at 50% low luminaire sensor **MR50**[2] Motion Response at 50% low, pole mounted sensor **Wireless Controls** (Remote wireless controller available. See p.2 for details) **LLC2**[1,4] #2 lens for 8' mounting heights **LLC3**[1,4] #3 lens for 9-20' mounting heights **LLC4**[1,4] #4 lens for 21-40' mounting heights	**1** Standard **2** 2@180 **2@90** 2@90 **3** 3@90 **3@120** 3@120 **4** 4@90 **WS** Wall mount including surface conduit rear entry permitted **MA** Mast Arm Fitter (requires 2-3/8" O.D. Mast Arm)	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	**530 mA** **55LA-3253**[1] **75LA-4853** **100LA-6453** **700mA** **70LA-3270** **105LA-4870** **135LA-6470** **1050mA** **105LA-321A**[1] **160LA-481A** **215LA-641A**	**CW** Cool White 5,700K 70CRI (nominal) **NW** Neutral White 4,000K 70CRI (nominal) **WW**[5] Warm White 3,000K 70CRI (nominal)	**120** 120V **208** 208V **240** 240V **277** 277V **347** 347V **480** 480V **UNV** 120-277V 50hz/60hz **HVU** 347-480V 50hz/60hz	**BRP** Bronze Paint **BLP** Black Paint **WP** White Paint **NP** Natural Paint **OC** Optional Color Specify optional color or RAL (ex: OC-LGP or OC-RAL7024) **SC** Special color Specify, must supply color chip. Requires factory quote.	**TL** Tool-Less entry and driver removal hardware **TB**[3] Terminal Block **IS**[6] Internal Shield **LF**[7] Line Fusing **LFC**[7] Line Fusing for Canada **PC**[5,7,8] Receptacle with Photocell (Includes PCR5) **PCB**[4,7,8] Photocell Button **PCR5**[4,9,10] Photocell Receptacle only with 2 dimming connections **PCR7**[4,10,11] Photocell Receptacle only with 2 dimming and 2 auxiliary connections **RAM** Retrofit Arm Mount kit **PTF2**[12] Pole Top Fitter for 2 3/8"- 3" Tenon **PTF3**[12] Pole Top Fitter for 3"- 3 1/2" Tenon **PTF4**[12] Pole Top Fitter for 3 1/2"- 4" Tenon **RPA**[13] Round Pole Adapter for 3"- 3.9" O.D. **BD** Bird Deterrent (field installed only)

1. Available in 120V–277V Voltages only (UNV, 120, 208, 240 & 277).
2. MR50 and APD-MRO luminaires require one motion sensor per pole, ordered separately. See page 2 for Accessories. Available in 120V or 277V only.
3. ECF-MRI requires outboarded sensor when used with Terminal Block (TB) Option.
4. LLC2/LLC3/LLC4 Wireless Controls are not configurable with PC/PCB/PCR5/PCR7 Options. See page 6-7 for more info.
5. Contact factory for lead times on warm white.
6. Not configurable with Type 5 (5) Optics.
7. Not configurable with 120-277V (UNV) Voltage. Voltage must be specified.
8. Not configurable with 480V (480) Voltage.
9. Works with 3-pin or 5-pin NEMA photocell/ dimming device.
10. If ordered with DIM, APD, MRI, MR50, APD-MRI, APD-MRO, dimming will not be connected to NEMA receptacle.
11. Works with 3-pin or 5-pin NEMA photocell/dimming device and auxiliary connections are not connected (for future use only).
12. Not configurable with 3@120 (3@120) Mounting.
13. No adaptor required for 4" round poles. RPAs provided with Black Paint standard.

ECF EcoForm LED luminaire

EcoForm Accessories (order separately)

FS1R-100

MR hand held programmer

For use with 'MRI' motion response when field programming is required. If desired, only one is needed per job.

MS-A-120V

120V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

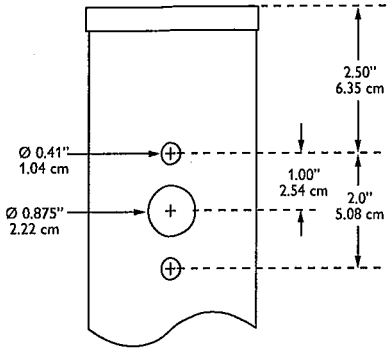
MS-A-277V

277V Input Area Motion Sensor

For MR50 (Motion Response) or APD-MRO (Automatic Profile Dimming with Motion Response Override)

Note: Motion Sensors are ordered separately, with one (1) motion sensor required per pole location for MR50 or APD-MRO luminaires. See Luminaire Configuration Information on page 5 for more details. Area motion sensor color is Arctic White. MRI and APD-MRI luminaires include an integral motion sensor.

EcoForm Drill Template (standard arm mount)



EcoForm Wireless Controls Accessories (for wall or pole mount)[1,2,3,4]

LLCR2-(F)

Standalone wall or pole wireless controller with #2 Lens.

LLCR3-(F)

Standalone wall or pole wireless controller with #3 Lens.

LLCR4-(F)

Standalone wall or pole wireless controller with #4 Lens.

1. When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size)
2. 120-277V only.
3. Must specify finish (F=Specify matching finish)
4. Luminaire configuration must include 0-10V Dimming 'ECF-DIM' option when Wireless Controls Accessories are specified

LED Wattage and Lumen Values (standard EcoForm luminaire)

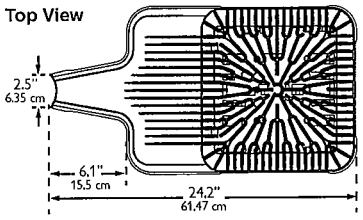
						Type 2			Type 3			Type 4			Type 5		
Ordering Code	No. of LED Modules (16 LEDs per Module)	Total LEDs	LED Current (mA)	Average System Watts[5]	Color Temp.	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating	Delivered Lumens[6]	Efficacy (LPW)	BUG Rating
55LA-3253	2	32	530	52	4000K	6,294	122	B1-U0-G1	6,190	120	B2-U0-G2	6,106	118	B1-U0-G2	5,867	114	B3-U0-G2
70LA-3270	2	32	700	69	4000K	7,754	112	B2-U0-G2	7,955	115	B2-U0-G2	7,659	111	B2-U0-G2	7,421	107	B3-U0-G2
75LA-4853	3	48	530	77	4000K	9,344	121	B2-U0-G2	9,191	119	B2-U0-G2	9,086	117	B2-U0-G2	8,712	113	B3-U0-G2
105LA-321A	2	32	1050	107	4000K	10,709	100	B2-U0-G2	10,981	103	B3-U0-G2	10,576	99	B2-U0-G2	10,255	96	B4-U0-G2
105LA-4870	3	48	700	104	4000K	11,513	111	B2-U0-G2	11,812	114	B3-U0-G2	11,373	110	B2-U0-G2	11,019	106	B4-U0-G2
100LA-6453	4	64	530	103	4000K	12,491	121	B2-U0-G2	12,285	119	B3-U0-G2	12,129	118	B2-U0-G2	11,645	113	B4-U0-G2
135LA-6470	4	64	700	139	4000K	15,390	111	B3-U0-G2	15,789	114	B3-U0-G2	15,192	110	B3-U0-G3	14,729	106	B4-U0-G2
160LA-481A	3	48	1050	158	4000K	15,901	101	B3-U0-G3	16,343	103	B3-U0-G2	15,696	99	B3-U0-G3	15,188	96	B4-U0-G2
215LA-641A	4	64	1050	211	4000K	21,255	101	B3-U0-G3	21,265	100	B4-U0-G3	20,984	99	B3-U0-G3	20,874	99	B5-U0-G3

5. System input wattage may vary based on input voltage, by up to +/- 10% , and based on manufacturer forward voltage, by up to +/- 8%.
6. Lumen values based on photometric tests performed in compliance with IESNA LM-79.

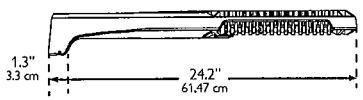
Note: Some data may be scaled based on tests of similar, but not identical, luminaires.

Dimensions – Standard EcoForm luminaire

Top View



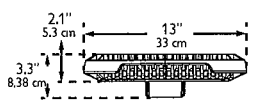
Side View



EPA (ft^2/m^2)

Single	Twin (2@180)	3/4@90
0.2 / 0.019	0.5 / 0.046	0.5 / 0.046

End View

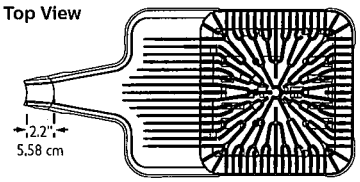


Approximate Luminaire Weight:
20 Lbs (9.07 Kg)

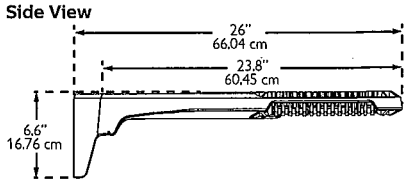
ECF EcoForm LED luminaire

Dimensions – EcoForm with Retrofit Arm Mount (RAM)

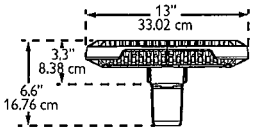
Top View



Side View



End View



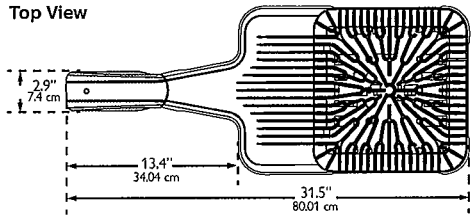
EPA (ft²/m²)

Single	Twin (2@180)	3/4@90
0.3 / 0.028	0.6 / 0.056	0.7 / 0.065

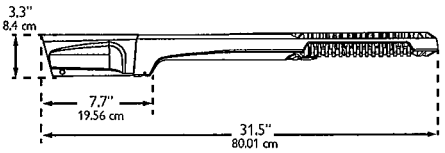
Approximate Luminaire Weight:
21 Lbs (9.53 Kg)

Dimensions – EcoForm with Mast Arm Fitter (MA)

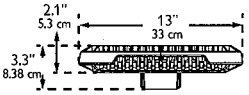
Top View



Side View



End View



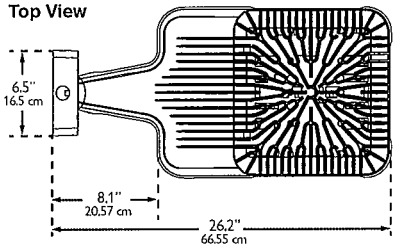
EPA (ft²/m²)

Single
0.51 / 0.047

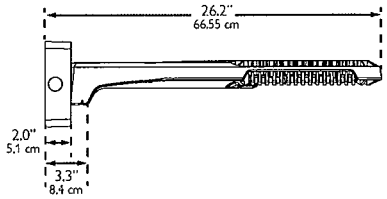
Approximate Luminaire Weight:
21.5 Lbs (9.77 Kg)

Dimensions – EcoForm with Wall Mount (WS)

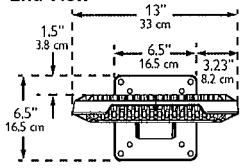
Top View



Side View



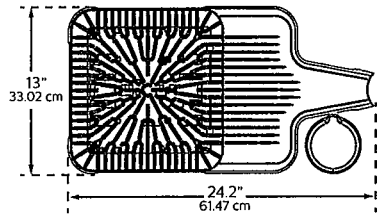
End View



Approximate Luminaire Weight:
23.36 Lbs (10.6 Kg)

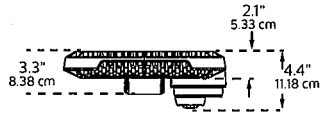
Dimensions – EcoForm with wireless controls (luminaire mounted controller)

Top View



Side View

End View



ECF EcoForm LED luminaire

Luminaire Configuration Information

ECF

Philips Gardco EcoForm LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

ECF-DIM

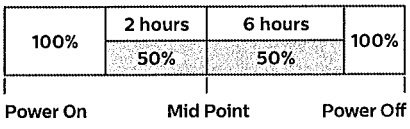
Philips Gardco EcoForm LED luminaire provided with 0-10V dimming for connection to a control system provided by others.

ECF-APD

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming. Luminaire is provided with a Philips DynaDimmer module, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Philips DynaDimmer module based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

ECF-APD is available in 120V–277V input only.

ECF-APD Dimming Profile:

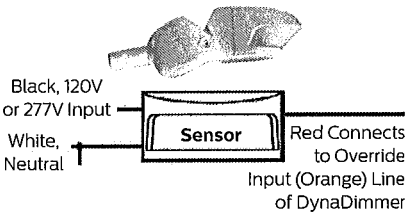


ECF-MR50

Philips Gardco EcoForm LED luminaire with motion response, providing a 50% power reduction on low and a commensurate reduction in light output. The power and light output reduction is accomplished utilizing the Philips DynaDimmer module, programmed for a constant 50% power. Power supplied by the motion sensor connected to the override line on the DynaDimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

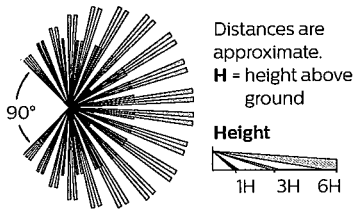
ECF-MR50 is available in 120V–277V input only to the luminaire. Motion sensors require single voltage 120V or 277V input.

The Area PIR motion sensor is the WattStopper EW-200-120-W (120V Input - MSA-120V) or the WattStopper EW-200-277-W (277V Input - MSA-277V.) One motion sensor per pole is required and is ordered separately. Area sensors require single voltage 120V or 277V input.



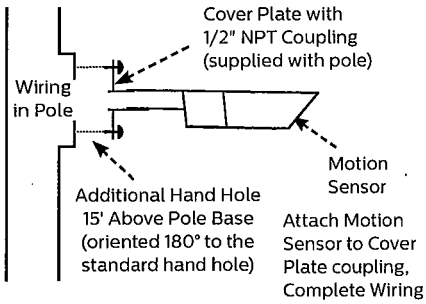
The area motion detector provides coverage equal to up to 6 times the sensor height above ground, 270° from the front-center of the sensor.

Area PIR Motion Sensor Coverage Pattern:



Motion response requires that the pole include an additional hand hole 15 feet above the pole base, normally oriented 180° to the standard hand hole. For Philips Gardco poles, order the pole with the Motion Sensor Mounting (MSM) option which includes the hand hole and a special hand hole cover plate for the sensor with a 1/2" NPT receptacle centered on the hand hole cover plate into which the motion sensor mounts. Once the motion sensor is connected to the hand hole cover plate, then wiring connections are completed in the pole. The plate (complete with motion sensor attached and wired) is then mounted to the hand hole. If poles are supplied by others, the customer is responsible for providing suitable mounting accommodations for the motion sensor in the pole.

Mounting to a Philips Gardco Pole:



ECF-APD-MRO

Philips Gardco EcoForm LED luminaire with Automatic Profile Dimming, with Motion Response Override. The ECF-APD-MRO combines the benefits of both automatic profile dimming and motion response, using the Philips DynaDimmer module. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for the ECF-APD. If motion is detected during the time that the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes, and is field adjustable from 5 minutes up to 15 minutes.

Notes:

ECF-APD-MRO is available in 120V through 277V input only to luminaire. The motion sensor requires either 120V or 277V input to the motion sensor.

The ECF-APD-MRO has the same pole requirements and utilizes the same motion sensors as the ECF-MR50. The motion sensor mounts and wires identically as well. The ECF-APD-MRO utilizes the identical dimming profile as shown for the ECF-APD.

By combining the benefits of automatic profile dimming and motion response, the ECF-APD-MRO assures maximum energy savings, and insures that adequate light is present if motion is detected.

All motion sensors utilized consume 0.0 watts in the off state.

ECF EcoForm LED luminaire

Luminaire Configuration Information (Continued)

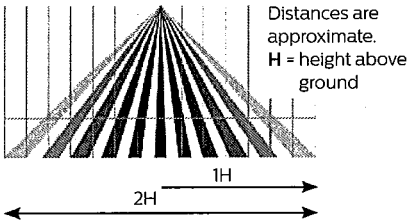
ECF-MRI

Luminaires with Motion Response include a LED driver and an integral programmable motion sensor. The motion sensor is set to a constant 50%. When motion is detected, the luminaire goes to 100%. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes. Available with 120V or 277V only.

Luminaires include a passive infrared (PIR) motion sensor, WattStopper® FSP-211 equipped with an FSP-L3 lens, capable of detecting motion within 20 feet of the sensor, 180° around the luminaire, when placed at a 20 foot mounting height, or mounted on a wall. Available in 120V or 277V input only. Motion sensor off state power is 0.0 watts.

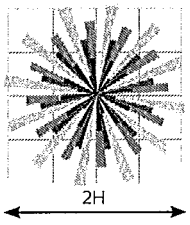
The approximate motion sensor coverage pattern is as shown below.

Side Coverage Pattern

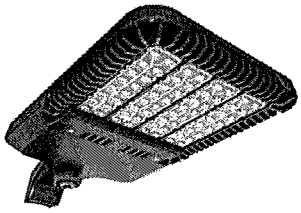


Distances are approximate.
H = height above ground

Top Coverage Pattern



ECF-APD-MRI



Luminaires with Automatic Profile Dimming and Motion Response Override combine the benefits of both automatic profile dimming and motion response. APD-MRI luminaires utilize Philips DynaDimmer. The luminaire will dim to 50% power, 50% light output, per the dimming profile shown for APD luminaires (see page 4). If motion is detected during the time that the luminaire is operating at 50%, the luminaire goes to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 5 minutes.

APD-MRI luminaires are available with 120V or 277V input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for ECF-MRI.

FS1R-100 Wireless Remote Programming Tool

The FS1R-100 Remote Programming Tool accessory permits adjustment of ECF-MRI and ECF-APD-MRI sensor settings, including duration and dimming level on low, without the need to connect any wires to the luminaire.

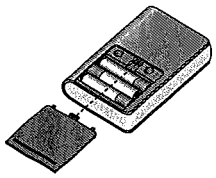
The FS1R-100 Wireless IR Programming Tool is a handheld tool for setup and testing of WattStopper FSP-211. It provides wireless access to the FSP-211 sensors for setup and parameter changes.

The FS1R-100 display shows menus and prompts to lead you through each process. The navigation pad provides a familiar way to navigate through the customization fields.

Within a certain mounting height of the sensor, the FS1R-100 allows modification of the system without requiring ladders or tools simply with a touch of a few buttons.

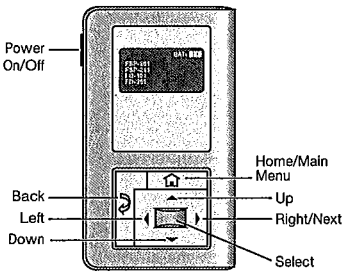
The FS1R-100 IR transceiver allows bi-directional communication between the FSP-211 and the FS1R-100 programming tool. Simple menu screens let you see the current status of the system and make changes. It can change FSP-211 sensor parameters such as high/low mode, sensitivity, time delay, cut off and more. With the FS1R-100 you can also establish and store FSP-211 parameter profiles.

The FS1R-100 operates on three standard 1.5V AAA Alkaline batteries or three rechargeable AAA NiMH batteries. The battery status displays in the upper right corner of the display. Three bars next to BAT= indicates a full battery charge. A warning appears on the display when the battery level falls below a minimum acceptable level. To conserve battery power, the FS1R-100 automatically shuts off 10 minutes after the last key press.



You navigate from one field to another using (up) or (down) arrow keys. The active field is indicated by flashing (alternates between yellow text on black background and black text on yellow background.)

Once active, use the Select button to move to a menu or function within the active field. Value fields are used to adjust parameter settings. They are shown in "less-than/greater-than" symbols: <value>. Once active, change them using (left) and (right) arrow keys. In general the up key increments and the down key decrements a value. Selections wrap-around if you continue to press the key beyond maximum or minimum values. Moving away from the value field overwrites the original value. The Home button takes you to the main menu. The Back button can be thought of as an undo function. It takes you back one screen. Changes that were in process prior to pressing the key are lost.More information on the FS1R-100 Remote Programming Tool is available at wattstopper.com.

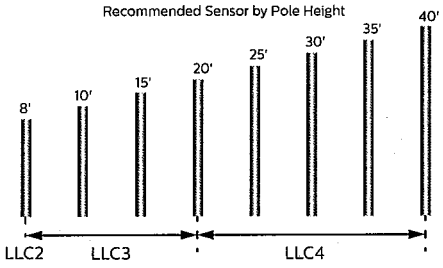


ECF EcoForm LED luminaire

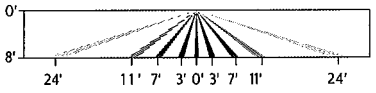
Luminaire Configuration Information – EcoForm with wireless controls

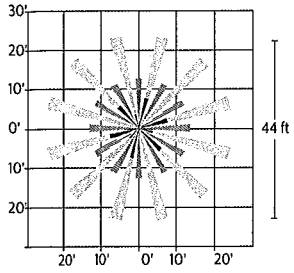
ECF-LLC2/3/4 Luminaire Mounted Controller

Wireless controller attached to luminaire and Includes radio, photocell and motion sensor with #2, 3, or 4 lens for 8-40' mounting heights.

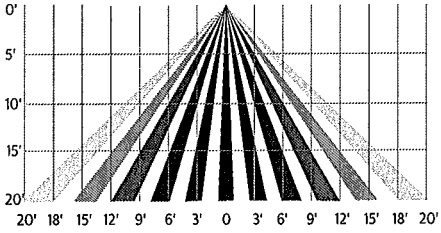


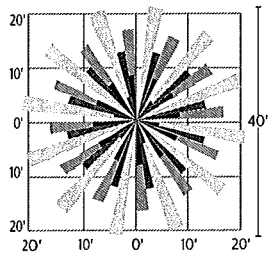
LLC2/LLCR2 (for pole or remote mount only)



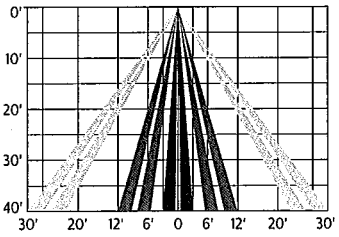


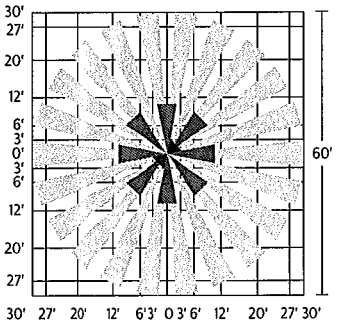
LLC3/LLCR3 (for luminaire, pole, or remote mount)



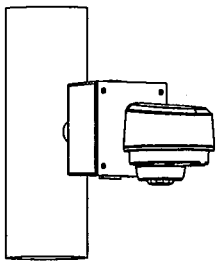


LLC4/LLCR4 (for luminaire, pole, or remote mount)





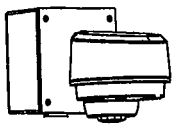
I.LCR2/3/4 Pole Mounted Controller



In this configuration, the wireless controller will be mounted to the pole at a fifteen foot mounting height. The number of luminaires on each pole, as well as the specific wattage chosen, will determine how many controllers will be required.

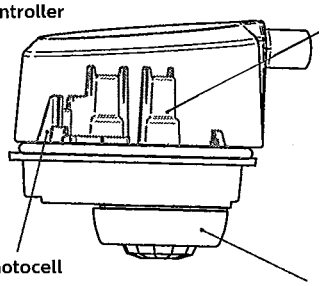
When using the wireless remote accessory option (LLCR-F) in a pole mount application, specify pole option (CL=Coupling Internal Thread, 3/4" size). Confirm required orientation of luminaire and wireless controller. Indicate height above pole base and orientation to handhold. Recommended min pole height is 18ft, with option (CL) 15ft above pole base. Other heights are possible when choosing the appropriate sensor lens type. See pole specification sheets for more information.

Remote Mount Wireless Controller



Used to extend the communication on site, to extend motion response and add other luminaires that are not pole mounted. Consult factory for more information.

Controller



Photocell

- Ambient light photocell on every wireless radio that averages the light levels of up to 5 controllers for an accurate reading and optimal light harvesting activity.
- Reports ambient light readings to 1500 Fc.

Wireless Radio

- 1.8 Watts max (no load draw)
- Operating voltage 120-277 VAC RMS
- Communicates using the ZigBee protocol
- Carries out dimming commands from Gateway
- Reports ambient light readings to 1500 Ft-Cd
- Transmission Systems Operating within the band 2400-2483.5Mhz
- ROHS Compliant

Motion Response

- Detects motion through passive infrared sensing technology with three different lens configurations
- Motion sensor coverage can be adjusted from a narrow to a wide detection range, which helps reduce false triggers to further increase energy savings.
- Sensing profiles can be updated to adapt to activity levels in the environment, such as occupancy level, wind, and mounting height

ECF EcoForm LED luminaire

Luminaire Configuration Information (EcoForm with wireless controls)

Gateway

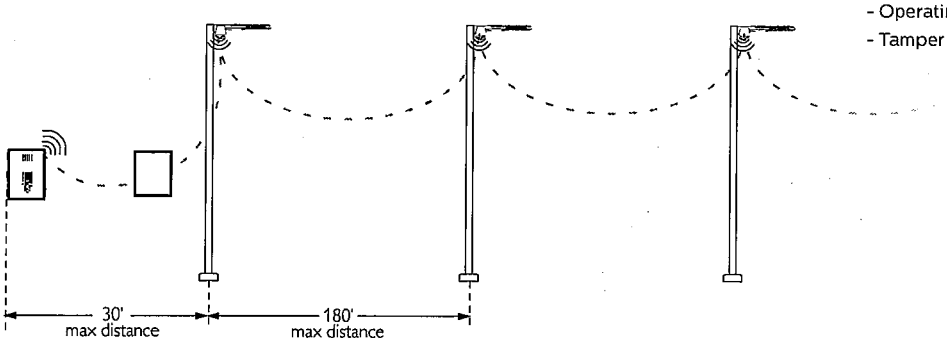
Overview: One gateway is included with the wireless controls system. The gateway opens up communication with the wireless radios installed with the EcoForm luminaires (or pole), allowing you to control your fixtures straight from the web. One gateway can communicate with up to 800 fixtures. Typically one unit is required per parking lot.

Installation: Gateway has 4 blind threaded holes on the back side that accept 10-32 screws. Mount spacing is 10.41" across and 14.19" vertical.

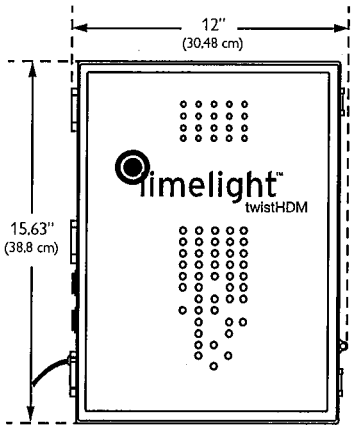
Requirements: The gateway must be mounted in a secure on-site location. The gateway requires 120V. Distance of gateway to the first radio varies upon application; contact factory. Strong internet connection required.

Specifications:

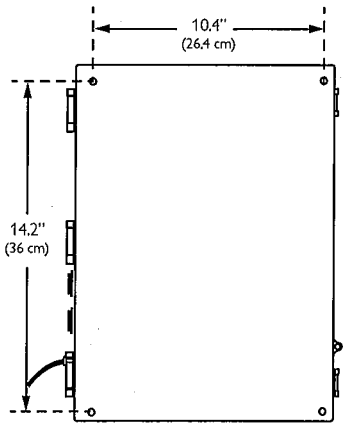
- High density RF Mesh coordinator
- Ethernet or wireless internet connection to server
- Proprietor of software "rules of operation"
- Watertight Ethernet connections
- Highly protected, long life ac/dc power supply
- Single board, ARM compliant 520Mhz Intel computer.
- Operating Temperature -20°C to 55°C
- Tamper proof housing



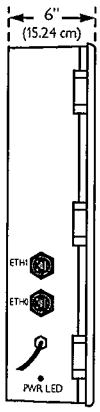
Front View



Back View



Side View



ECF EcoForm LED luminaire

Specifications

Housing

One piece die cast aluminum housing with integral arm and separate,self retained hinged, one piece die cast door frame.

IP Rating

LED light engine rated IP66.

Vibration Resistance

EcoForm with Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 3G acceleration in three axes, all performed on the same luminaire.

Electrical

Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. Optional 0-10V dimming to 10% power. RoHS compliant. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5700K +/- 250K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

LED Thermal Management

The housing design allows the one piece housing to provide excellent thermal management critical to long LED system life.

Energy Saving Benefits

System efficacy up to 95 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Wireless Controls

The wireless controls system includes: gateway, controller (with wireless radio, motion response, and photocell), and commissioning/ training. This intelligent web-based system operates through a high density mesh (HDM) wireless technology. Wireless radios with motion response and photocell sensors are integrated with PureForm luminaires, and enable the fixtures to communicate via the ZigBee protocol. The gateway is a mini computer that connects to the internet, and is located in a secure location. The central database channels communication to and from the gateway, allowing data to be viewed or managed through the web-based graphical user interface (GUI). See wireless controls pages 6-7 for details and technical information.

Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MRI, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods. See pages 4-6 for complete details.

Optical Systems

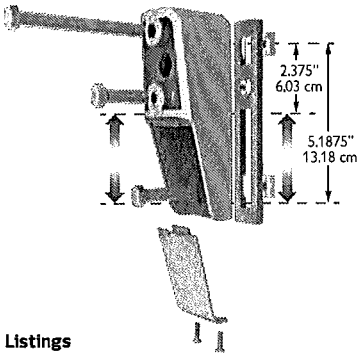
Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 3-3.9" poles.

Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be boxed separately.



Listings

ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -40° to 40°C (-40° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards. All EcoForm luminaires equipped with NW and CW are DesignLights Consortium® qualified.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty covering the LED arrays. LED Drivers also carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

LED Performance

Predicted Lumen Depreciation Data[1]

Ambient Temperature °C	Driver (mA)	Calculated L_{70} Hours[1,2]	L_{70} Per TM-21[2,3]	Lumen Maintenance % @ 60,000 hours
Up to 40 °C	Up to 1050 mA	> 350,000 hours	> 60,000 hours	97%

1. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.
2. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output.
3. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Philips Lighting North America Corporation
200 Franklin Square Drive, Somerset, NJ 08873
Tel. 855-486-2216

Philips Lighting Canada Ltd.
281 Hillmount Rd, Markham, ON, Canada L6C 2S3
Tel. 800-668-9008

Dawdy & ASSOCIATES, INC. Architects —Planners

Architect's Statement of Design

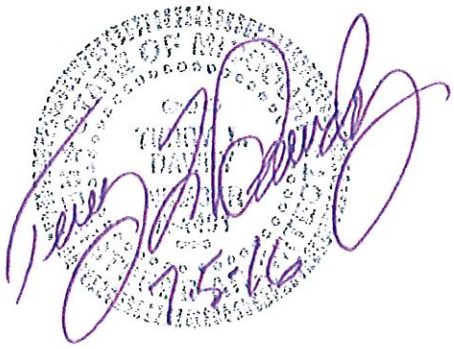
Midwest Regional Bank – Chesterfield, MO

The proposed new Chesterfield branch building for Midwest Regional Bank will be located in the center lot on North Outer 40 Road and Boones Crossing Road adjacent to the existing West Bridge Mortgage building.

The design of the building strengthens the existing street alignment and patterns of the city. While it has its own expression, it is designed as a good neighbor to the surrounding buildings. The site design allows movement around the site, continuously activating the streetscape. The form of the building maximizes the opportunity offered from the site and naturally directs traffic around the drive-thru without impacting neighboring business.

The careful proportioning of the entry element adds character to the streetscape. The overall building design closely relates to the neighboring buildings in material, scale and detail. A simple palette of materials detailed carefully, creates an impression of quality and longevity.

Terry L. Dawdy, AIA



1850 Craigshire Road, Suite 105
St. Louis, Missouri 63146-4013

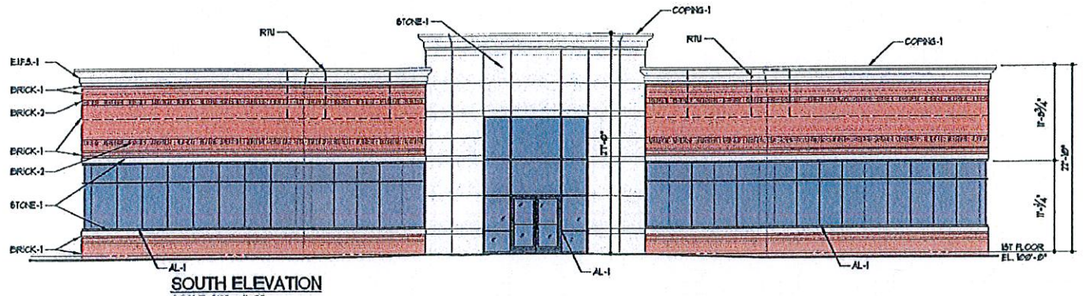
Phone: 314-434-0700
Fax: 314-434-0701

Brinkmann CONSTRUCTORS
16650 CHESTERFIELD GROVE ROAD
CHESTERFIELD MO 63005

MIDWEST REGIONAL BANK
CHESTERFIELD , MISSOURI

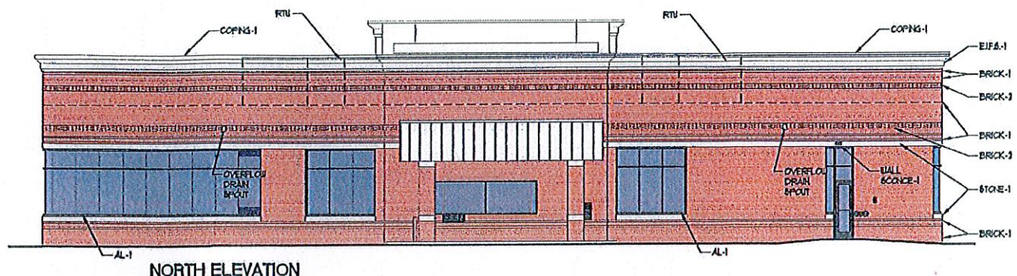
Dawdy & ASSOCIATES, INC.

06-10-2016
JOB # 21373



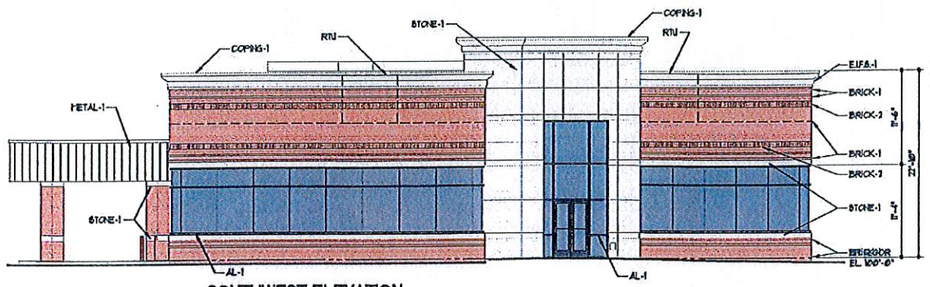
SOUTH ELEVATION

SCALE: 1/8" = 1'-0"



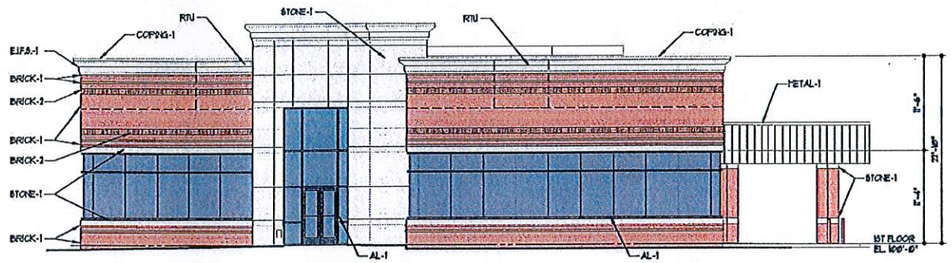
NORTH ELEVATION

SCALE: 1/8" = 1'-0"



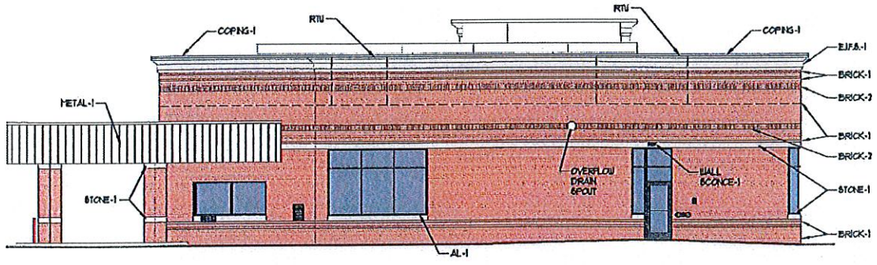
SOUTHWEST ELEVATION

SCALE: 1/8" = 1'-0"



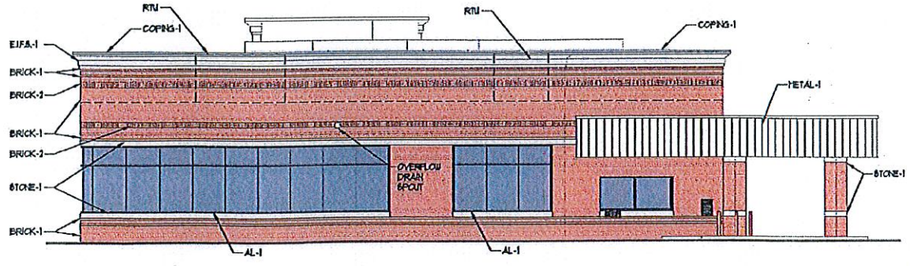
SOUTHEAST ELEVATION

SCALE: 1/8" = 1'-0"



NORTHWEST ELEVATION

SCALE: 1/8" = 1'-0"



NORTHEAST ELEVATION

SCALE: 1/8" = 1'-0"

EXTERIOR FINISH LEGEND				
NO	MANUFACTURER	COLOR	FINISH	REMARKS
AL-1	TBD	DARK BRONZE	PREFINISHED	GLAZED ALUM. CURTAIN WALL W/ 1" SOLAR GREY INSULATED GLASS
BRICK-1	BORAL	MONTICELLO BLEND	N/A	
BRICK-2	BORAL	MONTICELLO BLEND	N/A	SOLDIER COURSE
COPING-1	DIMENSIONAL METALS INC.	SANDSTONE	PREFINISHED	
EIFS-1	DRYVIT	MATCH STONE-1	SANDBLAST	EIFS TO MATCH STONE-1 COLOR
STONE-1	ARCHITECTURAL CAST STONE	TAN	N/A	
METAL-1	DIMENSIONAL METALS INC.	SANDSTONE	PREFINISHED	
WALL SCONCE-1	PHILIPS STONCO	DARK BRONZE	PREFINISHED	EGRESS LIGHT

1-5-16

Brinkmann CONSTRUCTORS

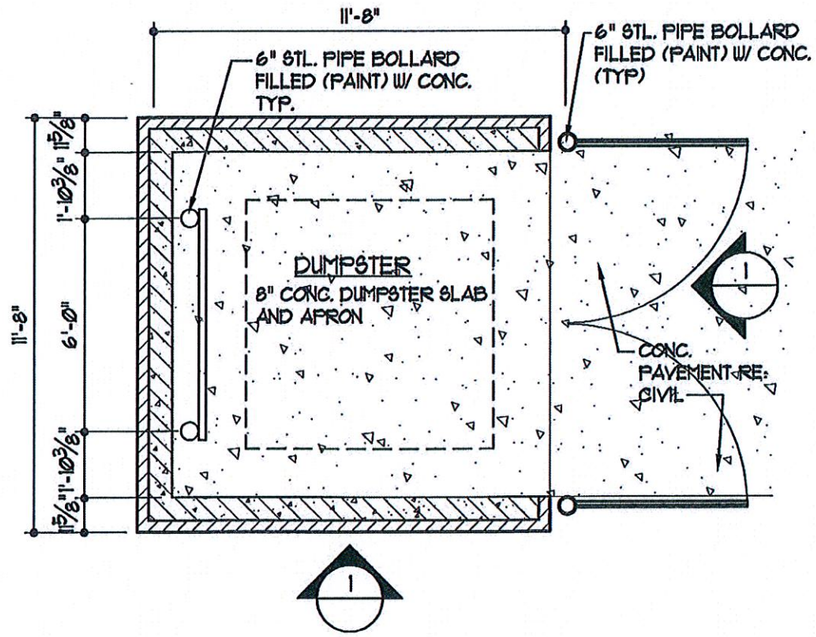
16650 CHESTERFIELD GROVE ROAD
CHESTERFIELD MO 63005

MIDWEST REGIONAL BANK

CHESTERFIELD, MISSOURI

Dawdy & ASSOCIATES, INC.

06-01-2016
JOB # 21373

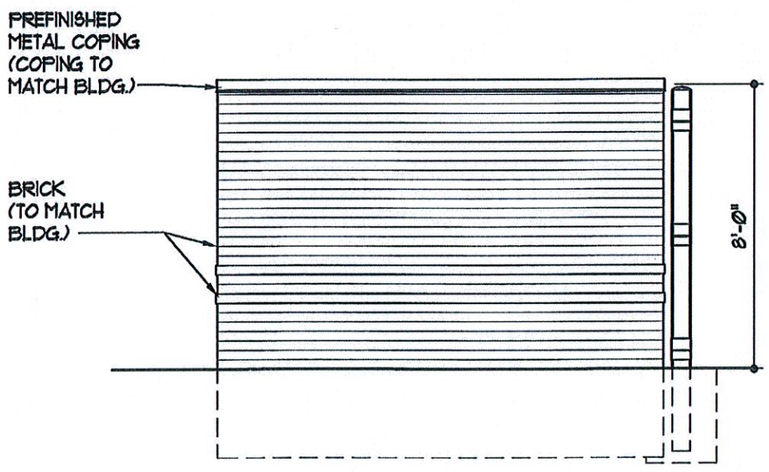


2 DUMPSTER SCREEN PLAN
ASP-1

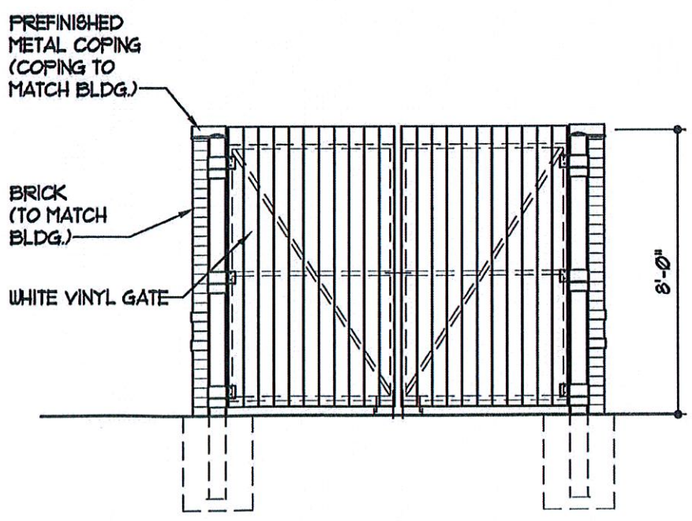
SCALE: 1/4" = 1'-0"

TRASH ENCLOSURE NOTES

1. ALL SWING GATES - GATE MANUFACTURER TO PROVIDE ALL NECESSARY HARDWARE
2. DUMPSTER STOP - (2) 6"ϕ PIPE BOLLARDS 6'-0" C/C W/ 6" STL. CHANNEL WELDED TO BOLLARDS (PAINT) REF. DETAIL 13/ASP-1



1 DUMPSTER ENCLOSURE ELEVATION
SCALE: 1/4" = 1'-0"



2 DUMPSTER SCREEN GATE ELEVATION
SCALE: 1/4" = 1'-0"

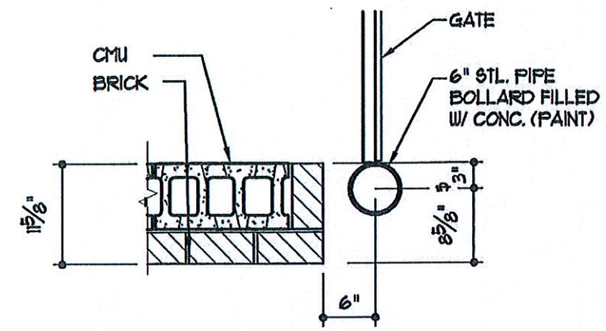
Dawdy 1-5-16

MIDWEST REGIONAL BANK

Midwest Regional Bank
Chesterfield, Missouri

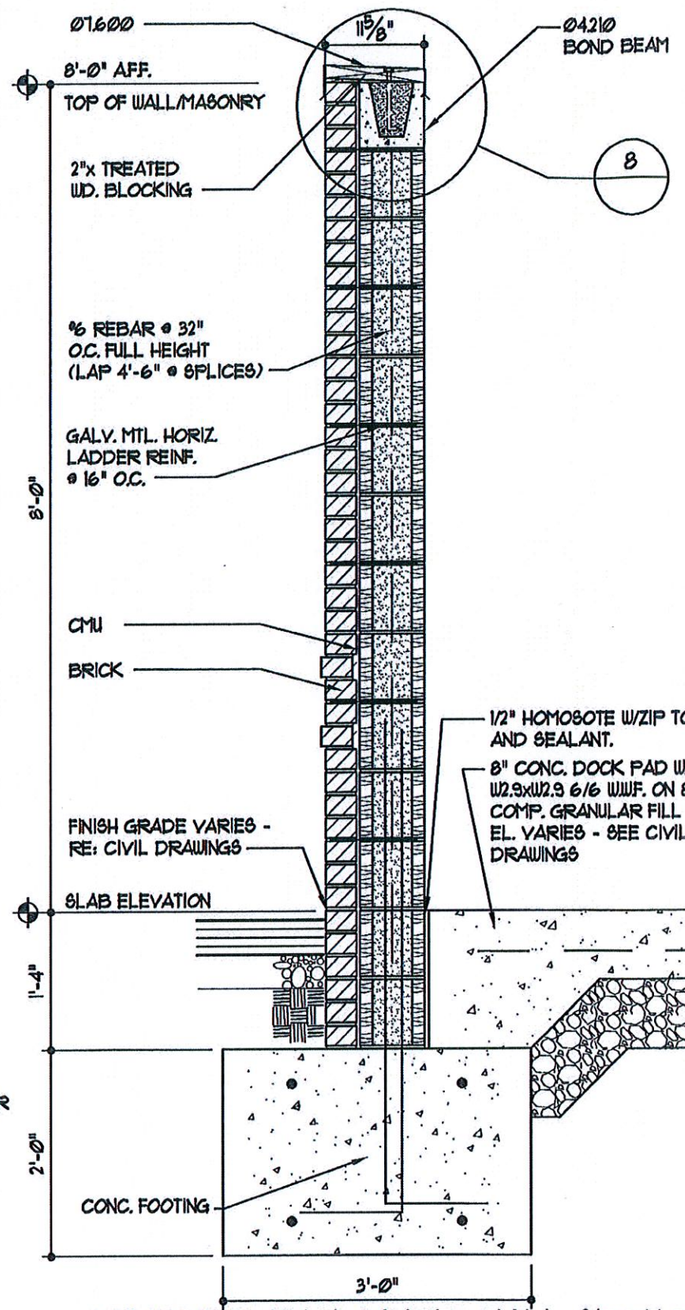
Dawdy & ASSOCIATES, INC.

Phone: 314-434-0700
06-14-16



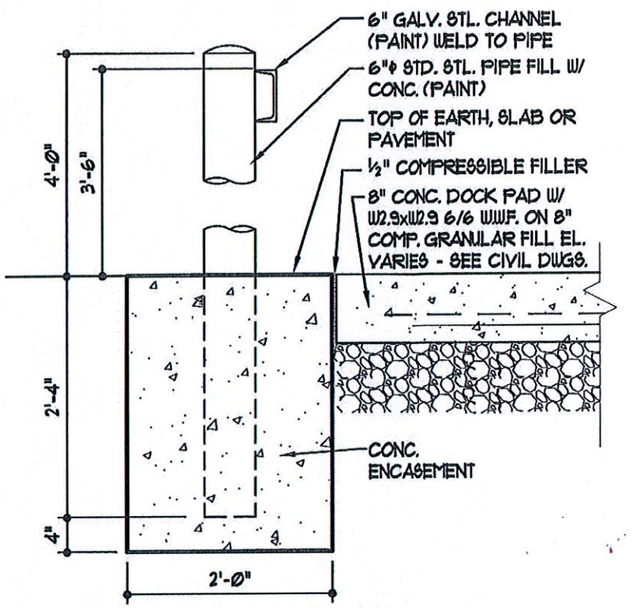
6 GATE POST DETAIL

SCALE: 3/4" = 1'-0"



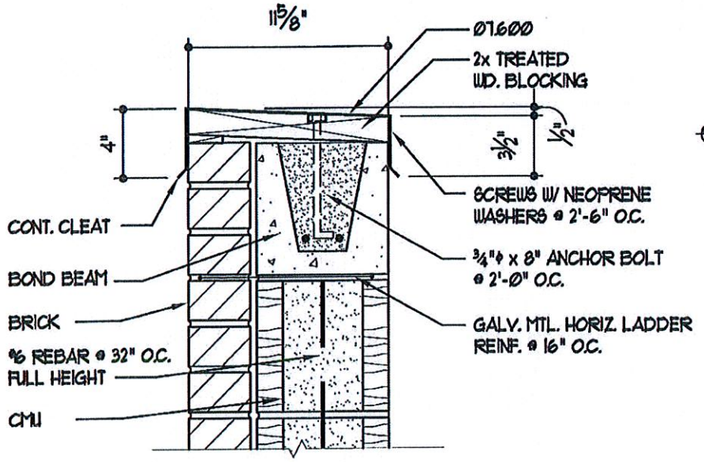
9 DUMPSTER ENCLOSURE WALL SECTION

SCALE: 3/4" = 1'-0"



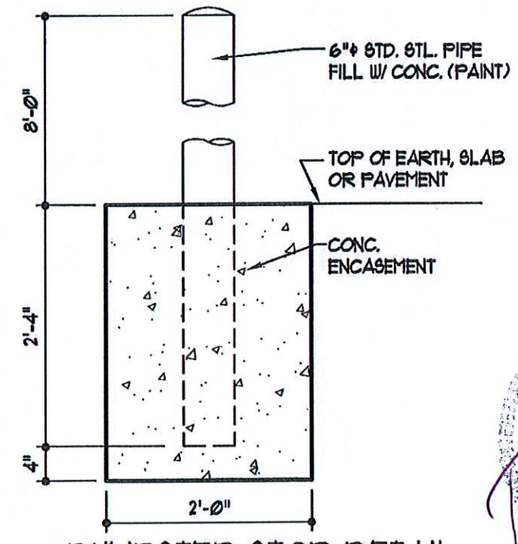
13 DUMPSTER STOP DETAIL

SCALE: 3/4"=1'-0"



8 DUMPSTER ENCLOSURE COPING DET.

SCALE: 1 1/2"=1'-0"



10 DUMPSTER STOP DETAIL

SCALE: 3/4"=1'-0"

MIDWEST REGIONAL BANK

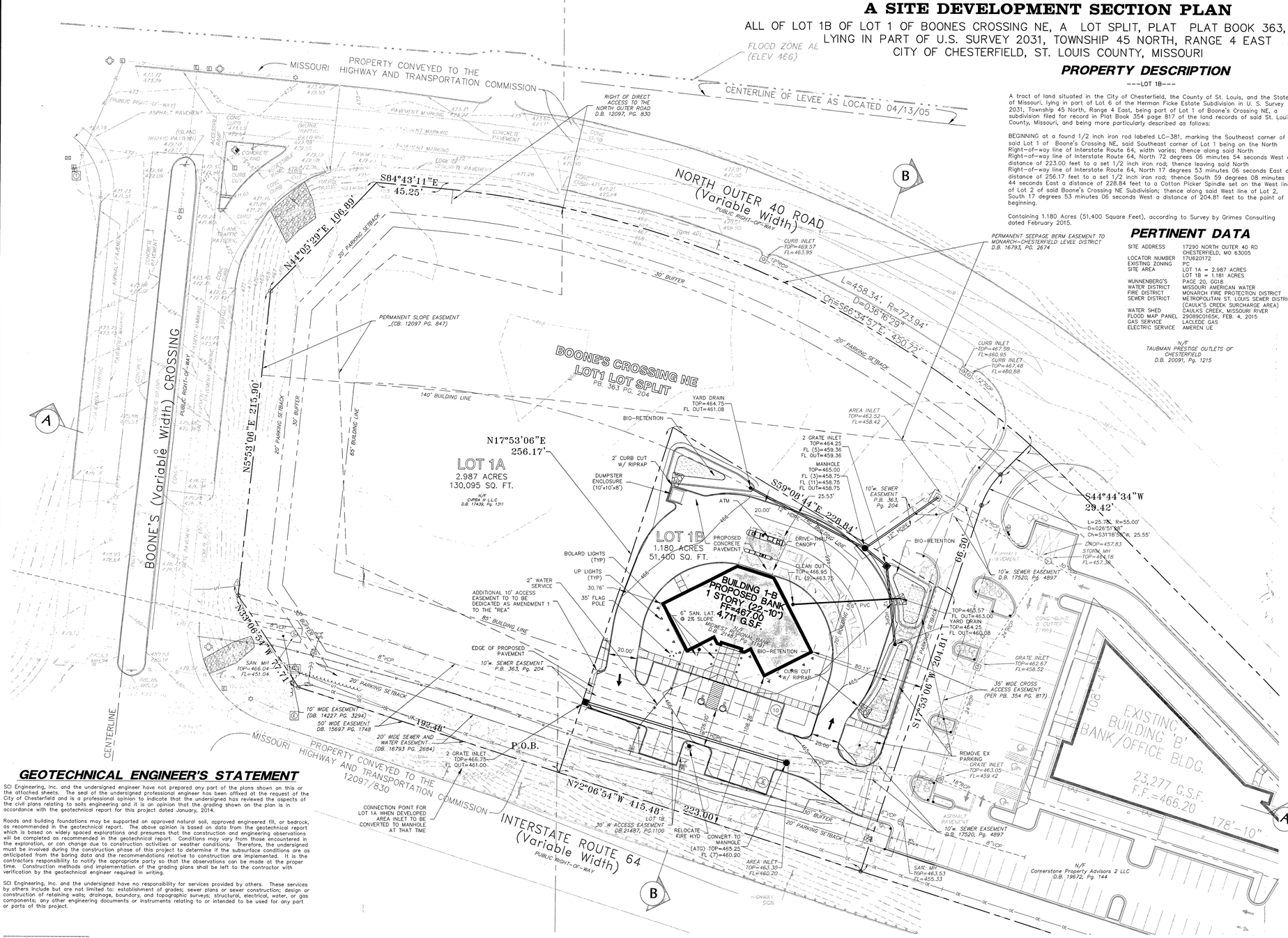
Midwest Regional Bank
Chesterfield, Missouri

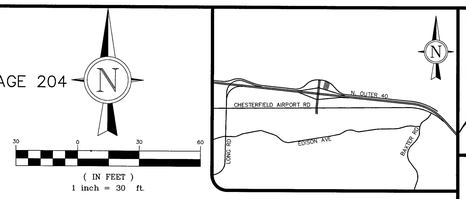
Dawdy & ASSOCIATES, INC.

Phone: 314-434-0700
06-14-16
JOB # 21373

LOT 1B OF BOONE'S CROSSING NE,
A SITE DEVELOPMENT SECTION PLAN

ALL OF LOT 1B OF LOT 1 OF BOONES CROSSING NE, A LOT SPLIT, PLAT PLAT BOOK 363, PAGE 204
LYING IN PART OF U.S. SURVEY 2031, TOWNSHIP 45 NORTH, RANGE 4 EAST
CITY OF CHESTERFIELD, ST. LOUIS COUNTY, MISSOURI





PROPERTY DESCRIPTION

---LOT 1B---

A tract of land situated in the City of Chesterfield, the County of St. Louis, and the State of Missouri, lying in part of Lot 6 of the Herman Ficke Estate Subdivision in U. S. Survey 2031, Township 45 North, Range 4 East, being part of Lot 1 of Boone's Crossing NE, a subdivision filed for record in Plat Book 354 page 817 of the land records of said St. Louis County, Missouri, and being more particularly described as follows:

BEGINNING at a found 1/2 inch iron rod labeled LC-381, marking the Southeast corner of said Lot 1 of Boone's Crossing NE, said Southeast corner of Lot 1 being on the North Right-of-way line of Interstate Route 64, width varies; thence along said North Right-of-way line of Interstate Route 64, North 72 degrees 06 minutes 54 seconds West a distance of 223.00 feet to a set 1/2 inch iron rod; thence leaving said North Right-of-way line of Interstate Route 64, North 17 degrees 53 minutes 06 seconds East a distance of 256.17 feet to a set 1/2 inch iron rod; thence South 59 degrees 08 minutes 44 seconds East a distance of 228.84 feet to a Cotton Picker Spindle set on the West line of Lot 2 of said Boone's Crossing NE Subdivision; thence along said West line of Lot 2, South 17 degrees 53 minutes 06 seconds West a distance of 204.81 feet to the point of beginning.

Containing 1.180 Acres (51,400 Square Feet), according to Survey by Grimes Consulting dated February 2015.

PERTINENT DATA

SITE ADDRESS	17290 NORTH OUTER 40 RD CHESTERFIELD, MO 63005
LOCATOR NUMBER	17U620172
EXISTING ZONING	PC
SITE AREA	LOT 1A = 2.987 ACRES LOT 1B = 1.181 ACRES
WUNNENBERG'S WATER DISTRICT	PAGE 20, GG18 MISSOURI AMERICAN WATER
FIRE DISTRICT	MONARCH FIRE PROTECTION DISTRICT
SEWER DISTRICT	METROPOLITAN ST. LOUIS SEWER DISTRICT (CAULK'S CREEK SURCHARGE AREA)
WATER SHED	CAULKS CREEK, MISSOURI RIVER
FLOOD MAP PANEL	29089C0165K; FEB. 4, 2015
GAS SERVICE	LACLEDE GAS
ELECTRIC SERVICE	AMEREN UE

MIDWEST REGIONAL BANK, THE OWNER(S) OF THE PROPERTY SHOWN ON THIS PLAN FOR AND IN CONSIDERATION OF BEING GRANTED APPROVAL OF SAID PLAN TO DEVELOP PROPERTY UNDER THE PROVISIONS OF SECTION 03_____ OF CITY OF CHESTERFIELD UNIFIED DEVELOPMENT (APPLICABLE SUBSECTION) (PRESENT ZONING)
CODE, DO HEREBY AGREE AND DECLARE THAT SAID PROPERTY FROM THE DATE OF RECORDING THIS PLAN SHALL BE DEVELOPED ONLY AS SHOWN THEREON, UNLESS SAID PLAN IS AMENDED BY THE CITY OF CHESTERFIELD, OR VOIDED OR VACATED BY ORDER OF ORDINANCE OF THE CITY OF CHESTERFIELD COUNCIL.

(SIGNATURE): _____

(NAME TYPED): _____

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

ON THIS _____ DAY OF _____ A.D., 2016, BEFORE ME PERSONALLY APPEARED _____ TO ME KNOWN, WHO, BEING BY ME SWORN IN, DID SAY (OFFICER OF CORPORATION)
THAT HE/SHE IS THE _____ OF _____ A (TITLE) (NAME OF CORPORATION)
CORPORATION IN THE STATE OF MISSOURI, AND THAT THE SEAL AFFIXED TO THE FOREGOING INSTRUMENTS IS THE CORPORATE SEAL OF SAID CORPORATION, AND THAT SAID INSTRUMENT WAS SIGNED ON BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS, AND THE SAID_____ (OFFICER OF CORPORATION)
ACKNOWLEDGED SAID INSTRUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL AT MY OFFICE IN _____ THE DAY AND YEAR LAST ABOVE WRITTEN.
(COUNTY AND STATE)

MY TERM EXPIRES _____

_____
(NOTARY PUBLIC)

THIS SITE DEVELOPMENT PLAN WAS APPROVED BY THE CITY OF CHESTERFIELD PLANNING COMMISSION AND DULY VERIFIED ON THE _____ DAY OF _____, 20____, BY THE CHAIRPERSON OF SAID COMMISSION, AUTHORIZING THE RECORDING OF THIS SITE DEVELOPMENT PLAN PURSUANT TO CHESTERFIELD ORDINANCE NUMBER 200, AS ATTESTED TO BY THE PLANNING AND DEVELOPMENT SERVICES DIRECTOR AND THE CITY CLERK.

_____
AIMEE NASSIF, AICP
PLANNING AND DEVELOPMENT SERVICES DIRECTOR
CITY OF CHESTERFIELD, MISSOURI

_____
VICKIE HASS, CITY CLERK
CITY OF CHESTERFIELD, MISSOURI

LOT 1B SITE COVERAGE CALCULATIONS

OVERALL LOT AREA	(51,465 S.F.)	**1.18 AC.**
BUILDING	(4,711 S.F.)	**9.2%**
PAVEMENT	(24,568 S.F.)	**47.7%**
SIDEWALK	(1,329 S.F.)	**2.6%**
GREEN SPACE	(20,839 S.F.)	**40.5%**
OPEN SPACE(SIDEWALK&GREEN SPACE)	(22,168 S.F.)	**43.1%**

OPEN SPACE CALCULATIONS

LOT 1A	(61,439 S.F.)	**1.410 AC.**
LOT 1B	(22,186 S.F.)	**0.509 AC.**
LOT 2	(33,370 S.F.)	**0.766 AC.**
LEVEE DISTRICT EASEMENT	(18,917 S.F.)	**0.434 AC.**
OPEN SPACE	(135,912 S.F.)	**3.120 AC.**
OVERALL SITE AREA	(287,770 S.F.)	**6.606 AC.**
PERCENT OPEN SPACE		**47.2%**

F.A.R. CALCULATIONS

LOT 1A	(30,000 G.S.F.)	**0.23**
LOT 1B	(4,711 G.S.F.)	**0.09**
LOT 2	(23,277 G.S.F.)	**0.28**
TOTAL FLOOR AREA	(57,988 G.S.F.)	**0.20**

GENERAL NOTES:

1. THE UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NON-EXISTENCE, SIZE, TYPE, OR LOCATION OF THESE OR OTHER UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFYING THE ACTUAL LOCATION OF ALL UTILITIES SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.
2. ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
3. BOUNDARY AND TOPOGRAPHIC SURVEY BY GRIMES CONSULTING.
4. ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF CHESTERFIELD, MO.
5. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING.
6. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED.
7. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
8. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
9. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
10. ALL STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
11. NO SLOPES SHALL EXCEED A 1V:3H SLOPE (UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY CHESTERFIELD).
12. DEVELOPMENT SHALL COMPLY WITH ALL APPROPRIATE ZONING AND SUBDIVISION ORDINANCES.
13. ALL SIDEWALKS TO BE CONSTRUCTED TO ADA STANDARDS.
14. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO CITY OF CHESTERFIELD STANDARDS.
15. A LAND DISTURBANCE PERMIT WILL BE REQUIRED. SITE PLAN/PLAT APPROVAL IS NOT TO BE CONSTRUED AS APPROVAL OF A LAND DISTURBANCE PERMIT.
16. ALL ROOFTOP MECHANICAL EQUIPMENT SHALL BE SCREENED, OR ITS VISUAL IMPACT OTHERWISE REDUCED, AS APPROVED BY THE PLANNING COMMISSION ON THE SITE DEVELOPMENT PLAN.
17. ALL UTILITY SERVICE SHALL BE INSTALLED UNDERGROUND.
18. SIGNAGE APPROVAL IS A SEPARATE PROCESS.
19. MAXIMUM HEIGHT OF ALL LIGHT STANDARDS SHALL BE 20 FEET MEASURED FROM FINISHED GRADE.
20. TRASH ENCLOSURE SHALL CONSIST OF A BRICK VENEER ON BLOCK BACK-UP TO MATCH THE VENEER OF THE BUILDING.

RECEIVED
JUL 29 2016
City of Chesterfield
Department of Public Services

M.S.D. BASE MAP 17U
LOC. NO. 17U620172
ZIP CODE 63005

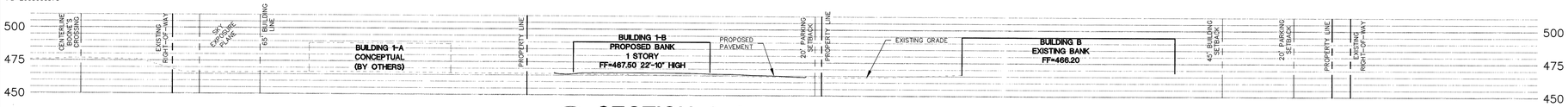
GEOTECHNICAL ENGINEER'S STATEMENT

SCI Engineering, Inc. and the undersigned engineer have not prepared any part of the plans shown on this or the attached sheets. The seal of the undersigned professional engineer has been affixed at the request of the City of Chesterfield and is a professional opinion to indicate that the undersigned has reviewed the aspects of the civil plans relating to soils engineering and it is an opinion that the grading shown on the plan is in accordance with the geotechnical report for this project dated January, 2014.

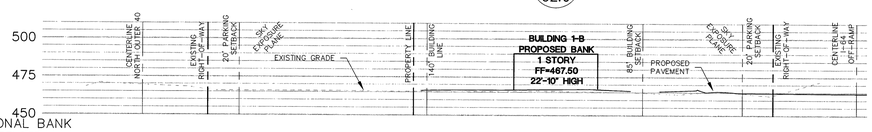
Roads and building foundations may be supported on approved natural soil, approved engineered fill, or bedrock, as recommended in the geotechnical report. The above opinion is based on data from the geotechnical report which is based on widely spaced explorations and presumes that the construction and engineering observations will be completed as recommended in the geotechnical report. Conditions may vary from those encountered in the exploration, or can change due to construction activities or weather conditions. Therefore, the undersigned must be involved during the construction phase of this project to determine if the subsurface conditions are as anticipated from the boring data and the recommendations relative to construction are implemented. It is the contractors responsibility to notify the appropriate party so that the observations can be made at the proper time. Construction and implementation of the grading plans shall be left to the contractor with verification by the geotechnical engineer required in writing.

SCI Engineering, Inc. and the undersigned have no responsibility for services provided by others. These services by others include but are not limited to: establishment of grades; sewer plans or sewer construction; design or construction of retaining walls; drainage, boundary, and topographic surveys; structural, electrical, water, or gas components; any other engineering documents or instruments relating to or intended to be used for any part or parts of this project.

Shawna Erter, P.E.
PE-2005000979



1 C2.0 SECTION A-A
SCALE : 1=40'



2 C2.0 SECTION B-B
SCALE : 1=40'

PARKING CALCULATIONS

LOT 1B

TOTAL PROP. PARKING STALLS = 18 SPACES
STALL SIZE = 9'X19'
BANK/FINANCIAL INSTITUTION: 3.3 SPACES PER 1000 SQ. FT.

PROPOSED BUILDING:
4,711 S.F. OF FLOOR AREA x 3.3 SPACES/1000 S.F. = 15 SPACES (MINIMUM)
15 SPACES x 120% = 18 SPACES (MAXIMUM)
2 DRIVE-UP POSITIONS + 5 ADDITIONAL SPACES/LANE = 12 SPACES
1 DRIVE-UP ATM + 2 ADDITIONAL SPACES/LANE = 3 SPACES
HANDICAPPED PARKING
REQ. ACCESSIBLE STALLS (1-25) 1 SPACE
PROVIDED ACCESSIBLE STALLS 2 SPACES
STALL SIZE = 8'X19' WITH 8' VAN LOADING ISLE

LOADING STALLS
REQ. LOADING STALLS TABLE B: NONE REQUIRED
PROVIDED LOADING STALLS NONE PROVIDED

SETBACK REQUIREMENTS

LOT 1-B BUILDING SETBACKS		PARKING SETBACKS	
NORTH OUTER FORTY ROAD	140'	NORTH OUTER FORTY ROAD	20'
SOUTHERN BOUNDARY OF "PC" DISTRICT	85'	SOUTHERN BOUNDARY OF "PC" DISTRICT	20'
WESTERN BOUNDARY OF LOT 1-B	0'	EASTERN BOUNDARY OF "PC" DISTRICT	5'
EASTERN BOUNDARY OF LOT 1-B	70'	WESTERN BOUNDARY OF "PC" DISTRICT	20'

30' LANDSCAPE BUFFER ALONG SOUTHERN BOUNDARY

--- Flood Notes ---

The surveyed tracts as shown hereon lies within Flood Zone "Shaded X": (Areas protected from the 1% chance of the 100-YR flood by levee, dike or failure or over topping during larger floods) according to flood insurance rate map 29189C0165K.
Effective date: FEBRUARY 4, 2015
100 YR. H.W. ELEV – MO RIVER: 465.71 (466.00) – HEC RAS MODEL 10/97
500 YR. H.W. ELEV – MO RIVER: 468 (MILE 40) – FROM UPPER MISSISSIPPI (FLOW FREQUENCY STUDY-BY THE US ARMY CORP OF ENGINEERS, DATED MARCH 2004)

PREPARED FOR:
MIDWEST REGIONAL BANK
CONTACT: MIKE BENDER
363 FESTUS CENTRE DRIVE
FESTUS, MO 63028
PH: (636) 232-2525
FAX: (636) 232-2526

J:\2768\SDP\Site SDP-Comm\SBuffer.dwg 7/28/2016 5:54 PM Thomas Bank

STATE OF MISSOURI
LEONARD J. MEERS
NUMBER E-28286
PROFESSIONAL ENGINEER
7/28/16
LEONARD J. MEERS
PROFESSIONAL ENGINEER
E-28286

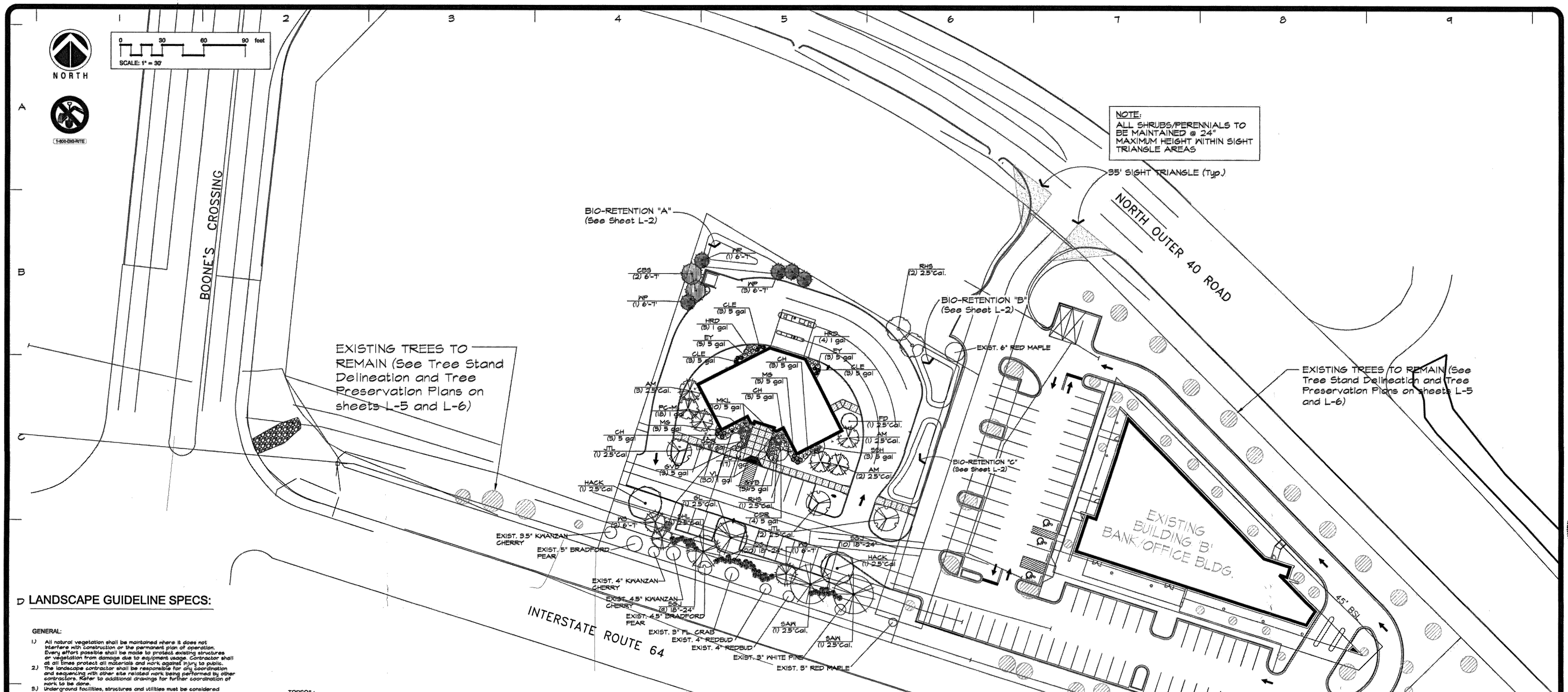
GRIMES CONSULTING, INC.
Civil Engineering & Surveying Services
GRIMES CONSULTING, INC.
PROFESSIONAL ENGINEER CORPORATION, E-1470-D
PROFESSIONAL LAND SURVEYING CORPORATION, LS-341-D
12300 OLD TESSON ROAD
SUITE 3000
ST. LOUIS, MO. 63128
PH. (314) 849-6100
FAX (314) 849-6110
www.grimesconsulting.com

REV.	REMARKS	DATE
1	PER CITY COMMENTS	6/8/16
2	PER CITY COMMENTS	7/15/16
3	PER CITY COMMENTS	7/20/16

SITE DEVELOPMENT SECTION PLAN FOR
MIDWEST REGIONAL BANK
17290 OUTER FORTY ROAD, CHESTERFIELD, MISSOURI 63005

SITE DEVELOPMENT SECTION PLAN

JOB NUMBER: 2768
DRAWN BY: TEB
DATE: 04/04/16
CHECKED BY: LJM
DATE: 04/04/16
SHEET: C1.0



INDICATES EXISTING TREES TO REMAIN (See Tree Stand Delineation and Tree Preservation Plans on sheets L-5 and L-6)

LANDSCAPE GUIDELINE SPECS:

GENERAL:

1.) All natural vegetation shall be maintained where it does not interfere with construction or the permanent plan of operation. Every effort possible shall be made to protect existing structures or vegetation from damage due to equipment usage. Contractor shall at all times protect all materials and work against injury to public.
2.) The landscape contractor shall be responsible for any coordination and sequencing with other site related work being performed by other contractors. Refer to additional drawings for further coordination of work to be done.
3.) Underground facilities, structures and utilities must be considered approximate only. There may be others not presently known or shown. It shall be the landscape contractor's responsibility to determine or verify the existence of and exact location of the above (Call 1-800-DIG-RITE in Missouri).
4.) Plant material are to be planted in the same relationship to grade as was grown in nursery conditions. All planting beds shall be cultivated to 6" depth minimum and graded smooth immediately before planting of plants. Plant groundcover to within 12" of trunk of trees or shrubs planted within the area.
5.) It shall be the landscape contractor's responsibility to:
   A.) Verify all existing and proposed features shown on the drawings prior to commencement of work.
   B.) Report all discrepancies found with regard to existing conditions or proposed design to the landscape architect immediately for a decision.
   C.) Stake the locations of all proposed plant material and obtain the approval of the owner's representative or landscape architect ten (10) days prior to installation.
6.) Items shown on this drawing take precedence over the material list. It shall be the landscape contractor's responsibility to verify all quantities and conditions prior to implementation of this plan. No substitutions of types or size of plant materials will be accepted without written approval from the landscape architect.
7.) Provide single-stem trees unless otherwise noted in plant schedule.
8.) All plant material shall comply with the recommendations and requirements of ANSI Z60.1 "American Standards for Nursery Stock".
9.) It shall be the contractor's responsibility to provide for inspection of the plant material by the Landscape Architect (or Owners' Representative) prior to acceptance. Inspections may take place before, during or after installation. Plants not conforming exactly to the plant list will not be accepted and shall be replaced at the landscape contractor's expense.
10.) All bids are to have unit prices listed. The Owner has the option to delete any portion of the contract prior to signing the contract or beginning work. This will be a unit price contract; quotes shall be valid for 12 months.
11.) Should auger equipment be utilized in excavating any plant pits, vertical sides of plant pits shall be thoroughly scarified to avoid creation of "polished side walls" prior to plant material installation.
12.) All excess topsoil, rocks, debris and/or tainted soils shall be removed by the general contractor prior to point project is turned over to the landscape contractor to commence landscape installation.
13.) Keep all plant material (except turf) a minimum of 36" clear of fire hydrants.
14.) Landscape contractor shall kill & remove all existing weeds within the project site.
15.) All tags, nursery stakes, labels, etc. shall be removed by the landscape contractor at completion of all landscape installation.
16.) Landscape contractor shall be in compliance with all federal, state and local laws / regulations relating to insect infestation and/or plant diseases.
17.) Transplanted material will not be guaranteed by the landscape contractor.

PRUNING:

1.) Lightly prune trees at time of planting. Prune only the crossover limbs, intermingled leaders and/or any broken branches. Some interior twigs and lateral branches may be pruned. However, do not remove the terminal buds of branches that extend to the edge of the crown.
2.) All pruning shall comply with ANSI A300 standards.

INSURANCE:

1.) The landscape contractor shall submit certificates of insurance for workman's compensation and general liability.

MULCH:

1.) All mulch to be shredded oak bark mulch at 3" depth (after compaction) unless otherwise noted. Mulch shall be clean and free of all foreign materials, including weeds, mold, deleterious materials, etc.
2.) No plastic sheeting or filter fabric shall be placed beneath shredded bark mulch beds. Mirafi fabric shall be used beneath all gravel mulch beds.
3.) Edge all beds with spade-cut edge unless otherwise noted.

MAINTENANCE:

1.) Landscape Contractor shall provide a separate proposal to maintain all plants, shrubs, groundcover, perennials and annuals for a period of 12 months after acceptance.
2.) Contractor shall ensure that only competent and trained personnel shall provide such services and that such services be provided in a timely manner.

SIGHT TRIANGLES:

1.) No landscape material or other obstructions shall be placed or be maintained within the sight distance area so as not to impede the vision between a height of thirty inches (30") and ten feet (10') above the adjacent street or paving surfaces.
2.) Sight triangles at the intersection of a public street and a private access way (except for single family residences) shall also be formed by measuring from the point of intersection of the street frontage curbs and the entrance curb lines a distance of 35' and connecting the points so established to form the sight triangle area.

TOPSOIL:

1.) Topsoil mix for all proposed landscape plantings shall be five (5) parts well-drained screened organic topsoil to one (1) part Canadian sphagnum peat moss as per planting details. Roto-till topsoil mix to a depth of 6" minimum and grade smooth.
2.) Provide a soil analysis, as requested, made by an independent soil-testing agency outlining the % of organic matter, inorganic matter, deleterious material, pH and mineral content.
3.) Any foreign topsoil used shall be free of roots, stumps, weeds, brush, stones (larger than 1"), litter or any other extraneous or toxic material. Landscape contractor shall be fully responsible for correcting all negative soil issues prior to plant installation. Killing and removal of all weeds shall be the responsibility of the landscape contractor as part of this task.
4.) Landscape contractor to apply pre-emergent herbicide to all planting beds upon completion of planting operations and before application of shredded bark mulch.
5.) Install siltation controls prior to commencement of any grading operations. Inspect and maintain all siltation fences on a weekly basis until vegetation is established.

MISC. MATERIAL:

1.) Provide stakes and deadmen of sound, new hardwood, free of knotholes and defects.
2.) Tree wrap tape shall be 4" minimum, designed to prevent borer damage and winter freezing. Additionally, only 3-ply tying material shall be used.

TURF:

1.) All disturbed lawn areas to be seeded with a mixture of Turf-Type fescue (300# per acre) and bluegrass (18# per acre). Lawn areas shall be unconditionally warranted for a period of 90 days from date of final acceptance. Bare areas more than one square foot per any 50 square feet shall be replaced.
2.) The turf contractor shall be responsible for protection of finished grade; restore and repair any erosion or water damage and obtain owners' approval prior to seeding or sod installation.
3.) Landscape contractor shall offer an alternate price for sod in lieu of seed. Sod shall be cut at a uniform thickness of 3/4". No broken pieces, irregular pieces or torn pieces will be accepted.
4.) Any points carrying concentrated water loads and all slopes of 15% or greater shall be sodded.
5.) All sod shall be placed a maximum of 24 hours after harvesting.
6.) Recondition existing lawn areas damaged by Contractor's operations including equipment/material storage and movement of vehicles.
7.) Sod Contractor to ensure sod is placed below sidewalk and all paved area elevations to allow for proper drainage.

EROSION CONTROL BLANKET (Where applicable):

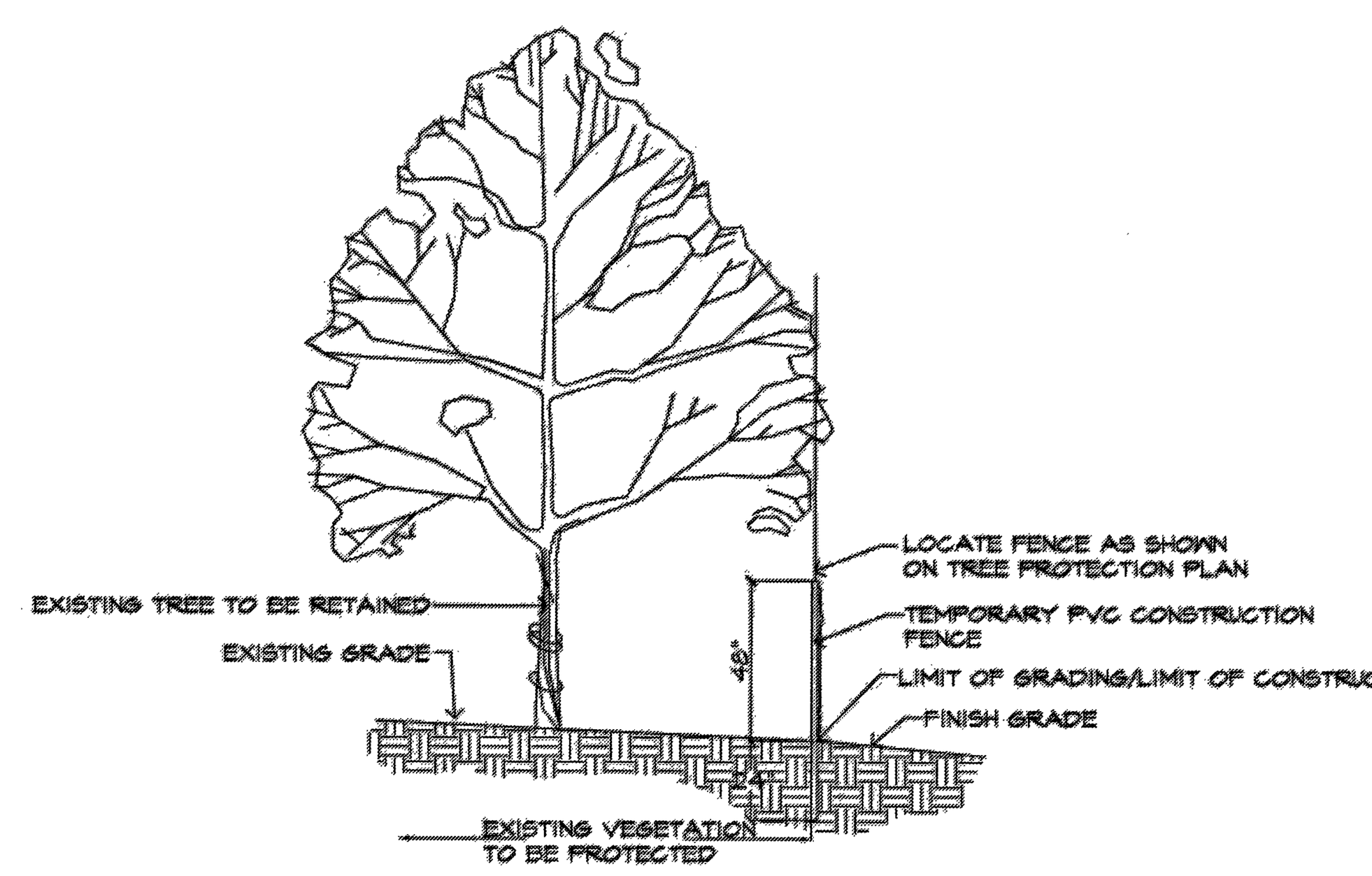
1.) All seeded areas shall receive an erosion control blanket which shall consist of loose straw mat and anchor pins as manufactured by: North American Green, DS 75 or approved equal. Install per manufacturer's recommendations.

PLUG PLANTING NOTES:

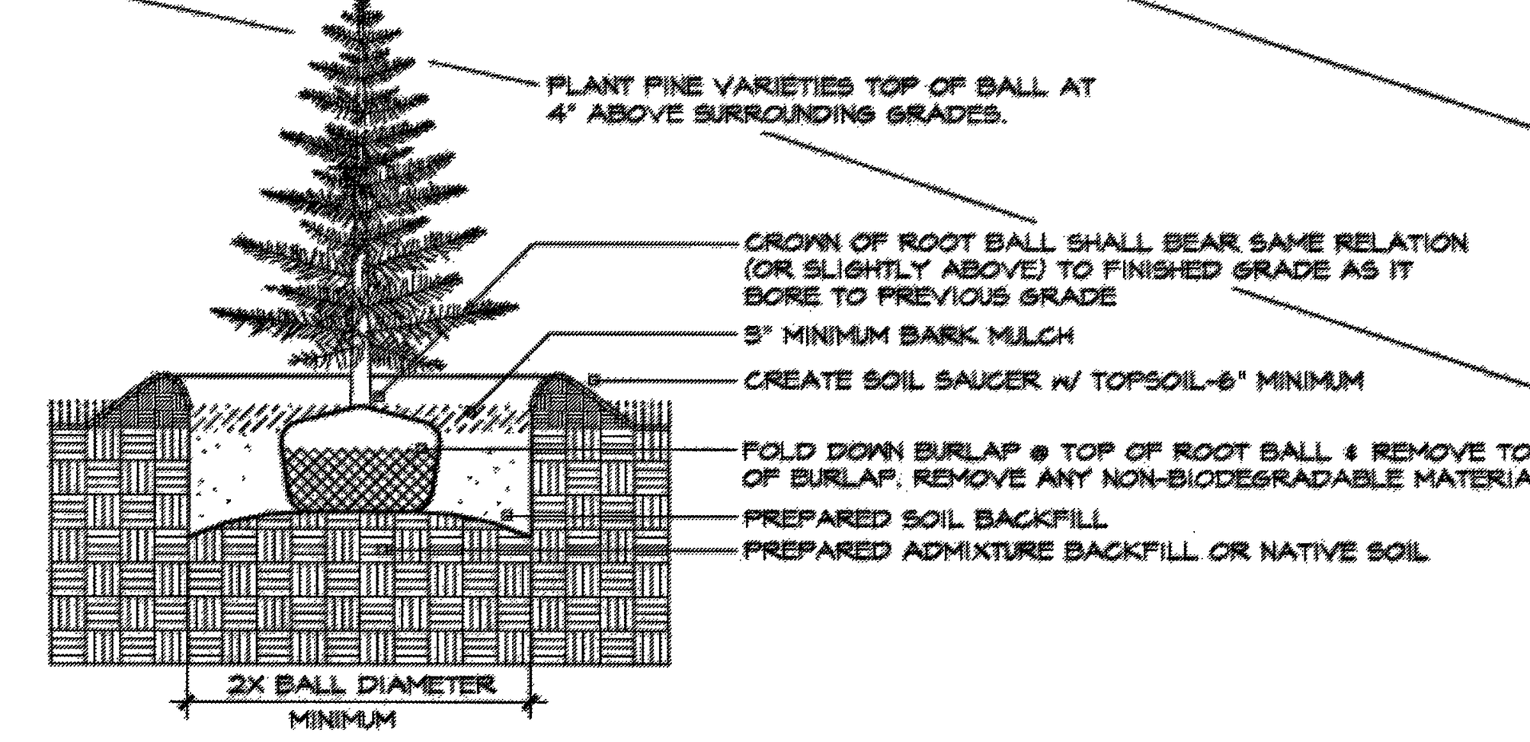
1.) All plugs to be 4-1/2" deep X 2" diameter minimum.
2.) Plugs are to be planted in a hole dug with a trowel, spade or planting bar such that the hole is of a minimum diameter and depth to accommodate the plug and its roots, without damage.
3.) Plugs shall be spaced in a triangulated layout approximately 24" on center. Plugs shall be planted through erosion control blanket where appropriate.
4.) Obtain plugs from a reputable nursery.
5.) Water plugs upon completion of planting so that soil is moist but not saturated.
6.) If planting is delayed more than six hours after delivery, store plugs in the shade, protect from weather and mechanical damage and keep them moist and cool. All plugs shall be planted within 24 hours after delivery.

WARRANTY:

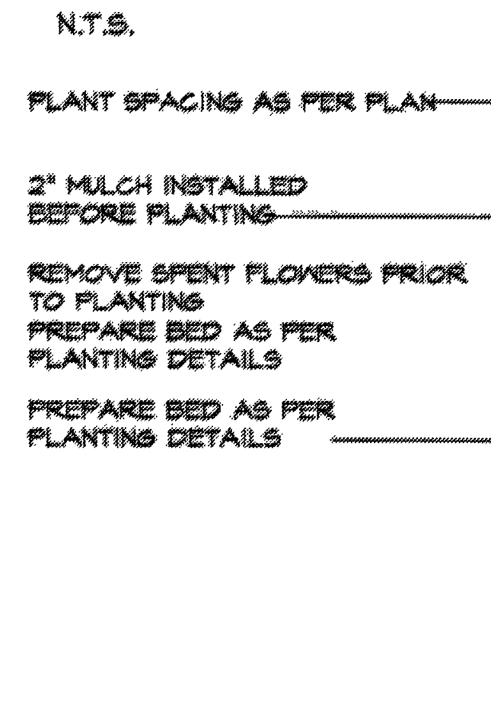
1.) All plant material (excluding ground cover, perennials and annuals) are to be warranted for a period of 12 months after complete installation of all landscape material at 100% of the installed price.
2.) Any plant material found to be defective shall be removed and replaced within 30 days of notification or in growth season determined to be best for that plant.
3.) Only one replacement per tree or shrub shall be required at the end of the warranty period, unless loss is due to failure to comply with warranty.
4.) Lawn establishment period will be in effect once the lawn has been mowed three times. Plant establishment period shall commence on the date of acceptance and 100% completion.
5.) A written guarantee shall be provided to the owner per conditions outlined in #1 above.



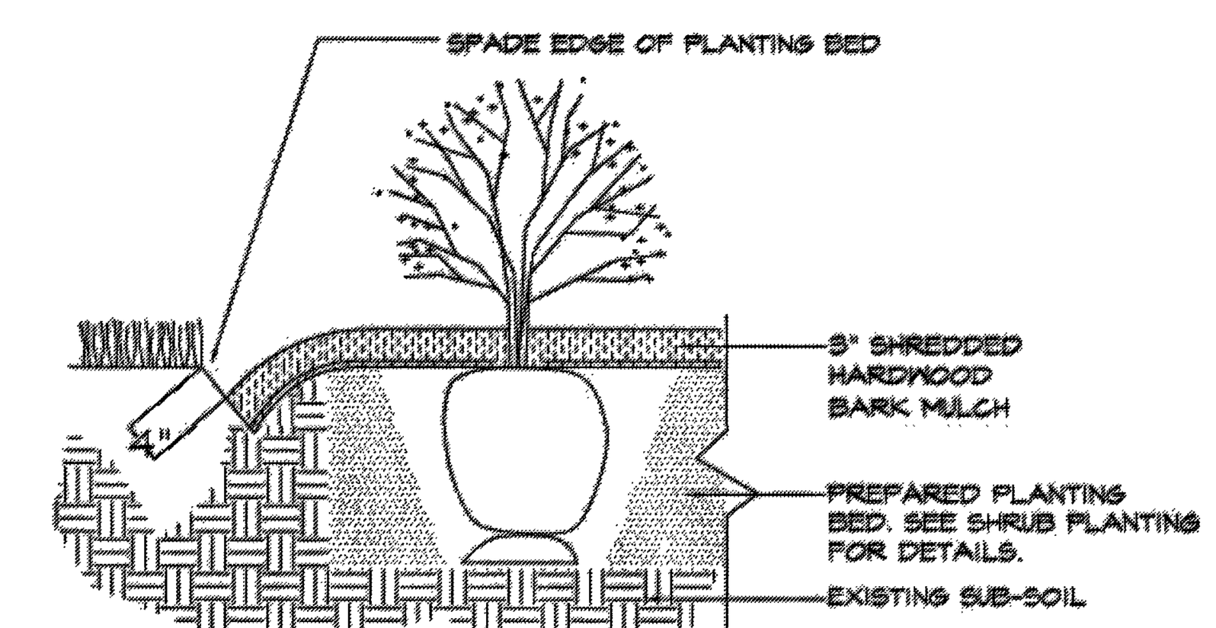
TREE PROTECTION DETAIL
N.T.S.



EVERGREEN TREE PLANTING
N.T.S.



PERENNIAL / ANNUAL PLANTING
N.T.S.



SPADE-CUT EDGE DETAIL
N.T.S.

PLEASE NOTE:
- ALL LANDSCAPE AREAS & ISLANDS SHALL BE PROVIDED WITH A MECHANICAL IN-GROUND IRRIGATION SYSTEM (BY OTHERS). COORDINATE LANDSCAPING WITH IRRIGATION CONTRACTOR.
- ALL PLANTING BEDS TO BE EDGED w/ SPADE-CUT EDGE.
- ADJUST TREE LOCATIONS FOR LIGHT STANDARDS AND UNDERGROUND UTILITIES
- NO TREES OR OTHER OBSTRUCTIONS CAN BE LOCATED WITHIN 6 FEET OF FIRE HYDRANTS
- ALL PLANT MATERIAL WITHIN SIGHT TRIANGLE ZONES TO BE MAINTAINED AT A MAXIMUM HEIGHT OF TWENTY FOUR INCHES (2 FEET).
- LANDSCAPE AREA CALCULATIONS:
  - Net Acerage: 1.18 acres (51,465 s.f.)
  - Total Building Coverage Area = 4,711 s.f. (9.2%)
  - Paved Surface Area = 24,568 s.f. (47.7%)
  - Total Sidewalk Area = 1,329 s.f. (2.6%)
  - Landscaped Greenspace = 20,854 s.f. (40.5%)
  - Open Space (Lot 1B) = 22,186 s.f. (43.1%)

STREET TREES: 1 per 50 LF FRONTAGE

- NO FRONTAGE @ NORTH OUTER FORTY ROAD
- NO FRONTAGE @ BOONE'S CROSSING
- 223.00 LF FRONTAGE @ I-64 EXIT RAMP, REQUIRING FIVE (5) TREES @ 2.5" CALIPER -- 9 ARE EXISTING AND ALL EXCEED 2.5" CALIPER

TREE GROUPINGS:

TYPE	QTY.	PERCENTAGE
DECIDUOUS:	9	35%
ORNAMENTAL:	7	27%
EVERGREEN:	10	38%

8 FAST GROWTH (28%) AND 21 SLOW/MEDIUM GROWTH (72%)

NOTE:
- MSD BASE MAP 17U
- LOC. NO. 17U620172
- ZIP CODE: 63005

REVISIONS	BY
7/14/16	RWM

landscape TECHNOLOGIES
67 Jacobs Creek Drive
St. Charles, Missouri 63304
(636) 928-1250
Fax: (636) 928-4563
MO Landscape Architectural Corporation #2008008782

RANDALL W. MARDIS
MISSOURI LANDSCAPE ARCHITECT #000019
DATE: 7/14/16

PLANTING PLAN FOR THE PROPOSED
Midwest Regional Bank
17290 OUTER FORTY RD. CHESTERFIELD, MISSOURI

DRAWN	R. MARDIS
CHECKED	RWM
DATE	4/21/16
SCALE	1"=30'-0"
JOB No.	2016-133
SHEET	L-1

OF TWO SHEETS

PLANTING, WATER and MULCH REQUIREMENTS

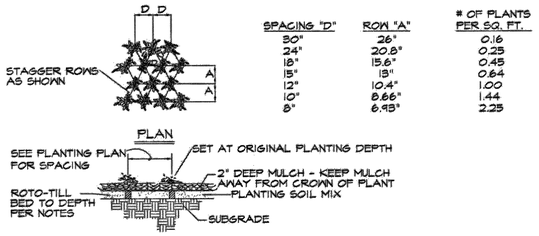
WATER AVAILABILITY	REQUIRED PLANTING PERIOD	MINIMUM CONTAINER SIZE	WATER REQUIREMENT FIRST 3 WEEKS	WATER REQUIREMENT AFTER 3 WEEKS	MAXIMUM MULCH DEPTH
NO AVAILABILITY TO WATER AFTER	LATE FEB. - APRIL ONLY	2.25"x3.75" OR LARGER	WATER EACH PLUG IMMEDIATELY		1.5" FOR PLUGS
MANUAL WATERING WITH STANDARD SPRINKLER	LATE FEB. - EARLY JUNE or SEPT. - OCTOBER	4.5"x5 OR" LARGER IN SUMMER & FALL	1" (60 MIN.) EVERY 4 DAYS	1" (60 MIN.) EVERY 7 DAYS UNTIL PLANTS ESTABLISHED	1.5" FOR PLUGS 2.5" FOR QUARTS
AUTOMATIC IRRIGATION (WATER MORE FREQUENTLY THAN NORMAL DURING FIRST TWO MONTHS AFTER PLANTING)	LATE FEB. - EARLY OCTOBER	2.25"x3.75" OR LARGER IN SPRING	1" (60 MIN.) EVERY 4 DAYS IN SPRING AND FALL	1" (60 MIN.) EVERY 7 DAYS UNTIL PLANTS ESTABLISHED	1.5" FOR PLUGS 2.5" FOR QUARTS
		4.5"x5 OR" LARGER IN SUMMER & FALL	1" (60 MIN.) EVERY 5 DAYS IN SUMMER		

NOTE:
* ALL NATIVE GRASS PLUGS ARE TO BE 2" DIAMETER

CONTRACTOR TO PROVIDE SIGNED AND SEALED SHOP DRAWINGS TO BE APPROVED BY THE PROJECT ENGINEER AND MSD. CONTACT MSD AT 314-768-2072.

MAINTENANCE PROCEDURES:

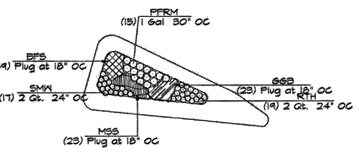
1. ADD 2-4 INCHES OF ORGANIC MULCH TO THE ENTIRE NEWLY PLANTED RAIN GARDEN/BIO-RETENTION AREA. DO NOT COVER THE CROWNS OF THE PERENNIALS. REPLENISH THE MULCH AS NEEDED.
2. AVOID FINE CUT OR LIGHTER WEIGHT MULCHES AS THEY FLOAT IN WET CONDITIONS.
3. PRUNE ANY DEAD, DISEASED OR DAMAGED PLANTS AS SOON AS THE PROBLEM IS NOTICED. DEADHEAD PLANTS AS NEEDED AND DIVIDE PERENNIALS EVERY 3-4 YEARS AS NEEDED. LEAVE STEMS AND SEED HEADS STANDING IN FALL/WINTER TO ADD VISUAL INTEREST AND TO PROVIDE FOOD AND COVER FOR BIRDS.
4. PRUNE THE FOLIAGE OF PERENNIALS WHEN THEY DIE BACK FOR THE WINTER AND ORNAMENTAL GRASSES BEFORE NEW GROWTH BEGINS IN THE SPRING.
5. HAND WEED REGULARLY UNTIL PLANTS ARE ESTABLISHED, THEREAFTER, REMOVE OR SPOT WEEDS AS NECESSARY.
6. WATER THE GARDEN DURING ITS ESTABLISHMENT AND EXTENDED DRY PERIODS. ONE INCH OF WATER PER WEEK IS RECOMMENDED.
7. DO NOT USE LAWN FERTILIZERS NEAR GARDEN AREA AS THIS WILL STIMULATE WEED GROWTH.
8. EACH SPRING, MOW AND REMOVE DEAD VEGETATION. USE BURNING ONLY UNDER SUPERVISION OF LOCAL FIRE DEPARTMENT (NATIVE PLANTS THRIVE UNDER FIRE MANAGEMENT).



SPACING "D"	ROW "A"	# OF PLANTS PER SQ. FT.
30"	26"	0.16
24"	20.8"	0.25
18"	15.6"	0.45
15"	13"	0.64
12"	10.4"	1.00
10"	8.66"	1.44
8"	6.93"	2.25

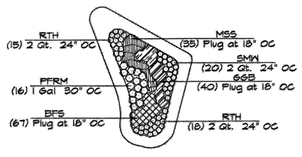
FORB/GRASS PLANTING DETAIL

N.T.S.



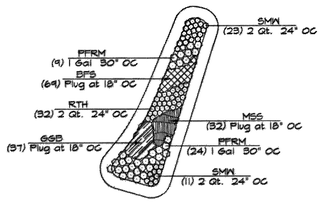
BIO-RETENTION "A"

SCALE: 1"=20'-0"



BIO-RETENTION "B"

SCALE: 1"=20'-0"



BIO-RETENTION "C"

SCALE: 1"=20'-0"

PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
HACK	2	Common Hackberry / Celtis occidentalis	2.5"Cal
GL	1	Greenspire Littleleaf Linden / Tilia cordata 'Greenspire'	2.5"Cal.
SAW	2	Santooth Oak / Quercus acutissima	2.5"Cal.
AM	6	'Flame' Amur Maple / Acer ginnala 'Flame'	2.5"Cal.
SHL	1	'Skyline' Locust / Gleditsia triacanthos 'Skyline'	2.5"Cal.

EVERGREEN TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
CBS	2	Colorado Blue Spruce / Picea pungens 'Glauca'	6'-7'
WP	5	White Pine / Pinus strobus	6'-7'
WS	3	White Spruce / Picea glauca	6'-7'

FLOWERING TREES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
JTL	3	Ivory Silk Japanese Tree Lilac / Syringa reticulata 'Ivory Silk'	2.5"Cal.
FD	1	Pink Flowering Dogwood / Cornus florida rubra	2.5"Cal.
RHS	3	Robin Hill Serviceberry / Amelanchier X grandiflora 'Robin Hill"	2.5"Cal.

SHRUBS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
CH	13	China Boy/Girl Holly / Ilex meserveae 'China Boy/Girl' TM	5 gal
EY	8	Everlow Yew / Taxus x media 'Everlow'	5 gal
GVB	6	Green Velvet Boxwood / Buxus 'Green Velvet'	5 gal
MKL	10	Miss Kim Lilac / Syringa patula 'Miss Kim'	5 gal
SGJ	39	Sea Green Juniper / Juniperus chinensis 'Sea Green'	18"-24"
SSH	3	Strawberry Sundae Hydrangea / Hydrangea paniculata 'Strawberry Sundae'	5 gal
CLE	9	'Hummingbird' Summersweet / Clethra alnifolia 'Hummingbird'	5 gal

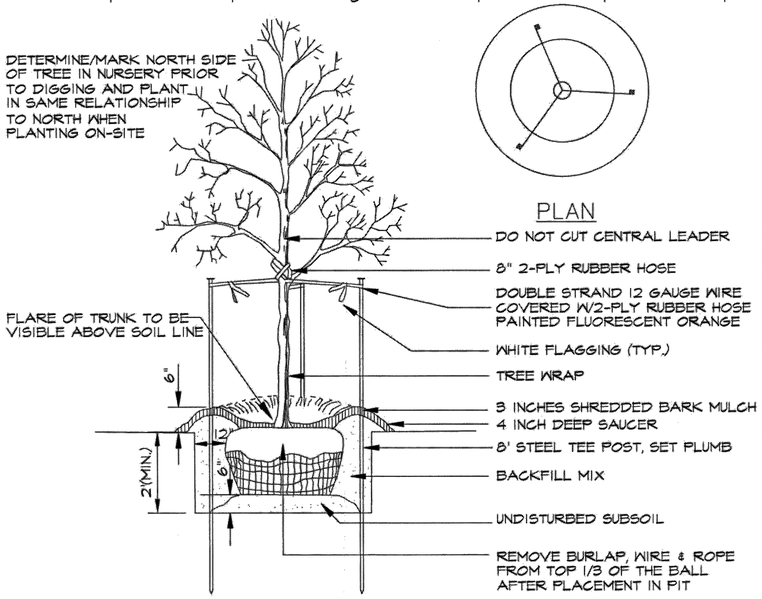
ANNUALS/PERENNIALS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
HRD	9	Happy Returns Daylily / Hemerocallis hybrid 'Happy Returns'	1 gal
PC-M	35	Purple Coneflower / Echinacea purpurea 'Magnus'	1 gal
VL	30	Variegated Liriope / Liriope muscari 'Variegata'	1 gal

FORBS	QTY	COMMON NAME / BOTANICAL NAME	SIZE
PFRM	64	Party Favor Rose Mallow / Hibiscus lasiocarpos	1 Gal @ 30" OC
RTH	84	Rose Turtle-Head / Chelone obliqua	2 Qt. @ 24" OC
SMW	71	Swamp Milkweed / Asclepias incarnata	2 Qt. @ 24" OC

GRASSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
MG	10	Maiden Grass / Miscanthus sinensis 'Gracillimus'	5 gal

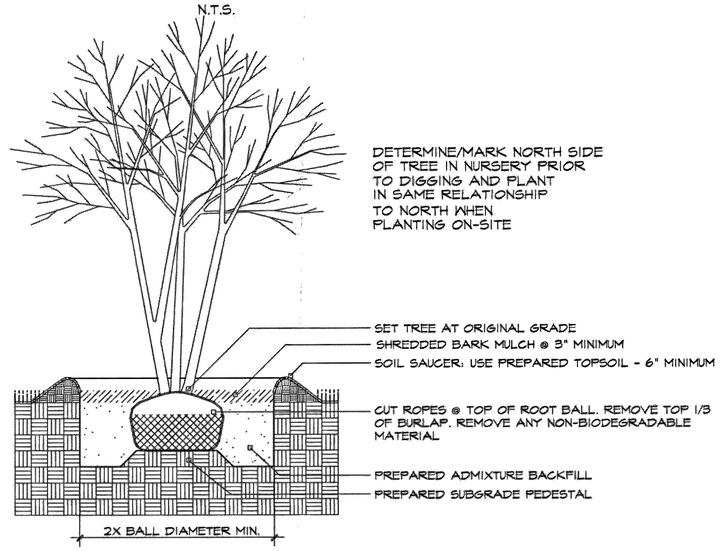
ROSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
CDR	7	Coral Drift Rose / Rosa x 'Meidrifora'	5 gal

NATIVE GRASSES	QTY	COMMON NAME / BOTANICAL NAME	SIZE
	185	Brown Fox Sedge / Carex vulpinoidea	Plug at 18" OC
	100	Great Green Bulrush / Scirpus atrovirens	Plug at 18" OC
	90	Morning Star Sedge / Carex grayi	Plug at 18" OC



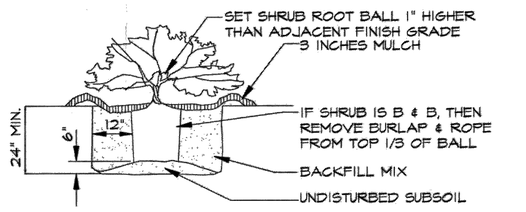
DECIDUOUS TREE PLANTING

N.T.S.



MULTI-STEM TREE PLANTING

N.T.S.



PRUNE ANY BROKEN BRANCHES AFTER PLANTING. DAMAGED SHRUBS OR BROKEN / CRUMBLING ROOT BALLS WILL BE REJECTED.

SHRUB PLANTING

N.T.S.

NOTE:
* MSD BASE MAP 173
* LOC. NO. 17362072
* ZIP CODE: 63005

REVISIONS	BY
7/14/16	RWM

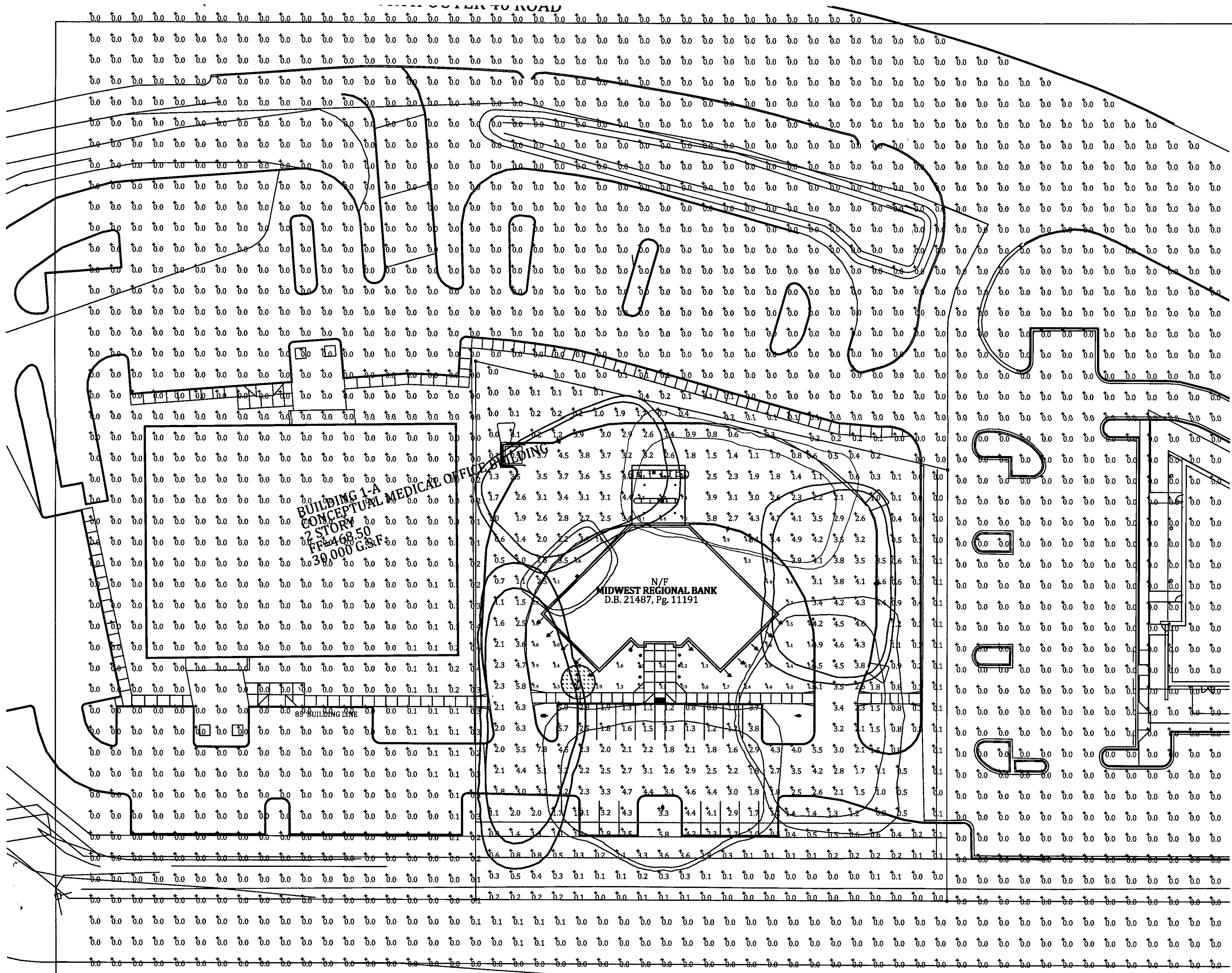
landscape TECHNOLOGIES
61 Jacoby Creek Drive
St. Louis, Missouri 63304
(636) 928-1250
Fax: (636) 928-4583
MO Landscape Architectural Corporation #2006009782

RANDAL W. MARDIS NUMBER 015 REGISTERED LANDSCAPE ARCHITECT
RANDAL L. MARDIS
MISSOURI LANDSCAPE ARCHITECT #2006014
DATE: 7/14/16

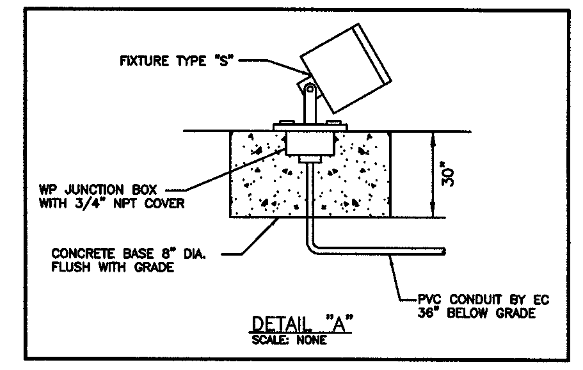
PLANTING PLAN FOR THE PROPOSED
Midwest Regional Bank
17290 OUTER FORTY RD. CHESTERFIELD, MISSOURI

DRAWN	R. MARDIS
CHECKED	RWM
DATE	4/21/16
SCALE	1"=20'-0"
JOB No.	2016-138
SHEET	L-2

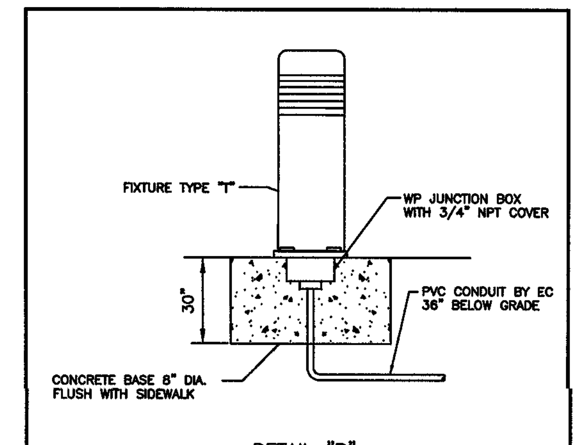
OF TWO SHEETS



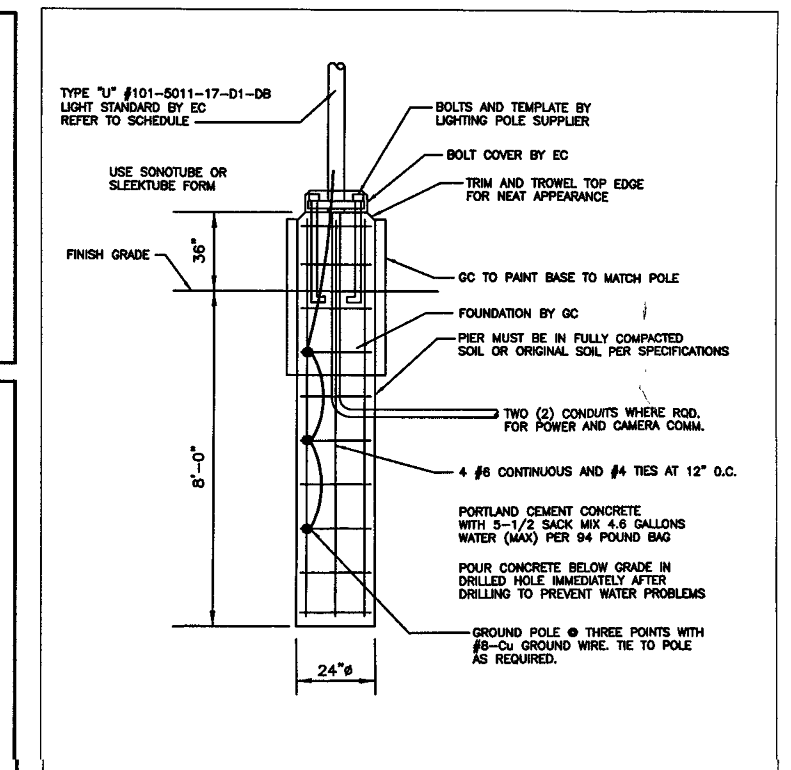
INTERSTATE ROUTE 64



DETAIL "A"
SCALE: NONE



DETAIL "B"
SCALE: NONE



LIGHT STANDARD FOUNDATION
SCALE: NONE

NOTE:

ALL POST TOP SITE LIGHTING MUST BE AIMED AND SHIELDED SO THAT THE AMBIENT LIGHT LEVELS WILL BE MINIMIZED AS MUCH AS POSSIBLE AT THE PROPERTY LINE AND THE ILLUMINATION CUT-OFF LINE IS ON THE BANK'S SITE. GRADE LIGHTING IS TO HAVE THE SAME REQUIREMENT TO AVOID SPILLAGE ABOVE THE ROOF LINE. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE REAR AND SIDE SHIELDS AFTER INSTALLATION TO ACHIEVE THIS CITY RESTRICTIONS.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	Manufacturer	Description	Lum. Watts	Total Watts	LLF	BUG Rating
	4	M	SINGLE	PHILIPS	S6S840K10	15	60	1.090	N.A.
	1	Q	SINGLE	PHILIPS STONCO	LPW16-78BZ	37	74	1.000	B1-U0-G1
	12	S	SINGLE	PHILIPS STONCO	LPF3-C-4K-FL-S-8-BZ	87	1044	1.000	B3-U0-G0
	6	T	SINGLE	SELUX CORPORATION	NT-2.5-LG3700-40-BZ-120	14	84	1.000	B0-U1-G1
	1	U1	SINGLE	PHILIPS GARDCO	ECF-3-160LA-481A-NW-UNV-BRP-IS/LYTE POLES 101-4011-17'6"-D1-DB	159	159	1.000	B2-U0-G2
	2	U2	SINGLE	PHILIPS GARDCO	ECF-4-160LA-481A-NW-UNV-BRP-IS/LYTE POLES 101-4011-17'6"-D1-DB	159	318	1.000	B1-U0-G2
	1	U3	SINGLE	PHILIPS GARDCO	ECF-2-160LA-481A-NW-UNV-BRP/LYTE POLES 101-4011-17'6"-D1-DB	159	159	1.000	B3-U0-G3
	2	U4	SINGLE	PHILIPS GARDCO	ECF-3-160LA-481A-NW-UNV-BRP/LYTE POLES 101-4011-17'6"-D1-DB	159	318	1.000	B3-U0-G2
	2	V	SINGLE	PHILIPS STONCO	LPF3-C-4K-SP-S-8-BZ	87	174	1.000	B4-U0-G0

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Close to Building-Undercanopy	Illuminance	Fc	4.34	7.9	0.6	7.23	13.17
Flag_Bottom	Illuminance	Fc	38.99	76.2	19.1	2.04	3.99
Inside Property Line Beyond Lot	Illuminance	Fc	0.56	5.8	0.0	N.A.	N.A.
Parking Lot	Illuminance	Fc	2.86	7.8	0.5	5.72	15.60
Spill Light	Illuminance	Fc	0.01	0.4	0.0	N.A.	N.A.

Designed By: SA
Job Name: MIDWEST REGIONAL BANK - CHESTERFIELD, MO
Drawing #: 163142
Date: 7/8/2016

Notes:
POLE FIXTURES:
Mounting Height 20'/Pole 17'0"/ Concrete Base 3'-0"

UNDER CANOPY:
Ceiling Height 15'/Mounting Height 15'

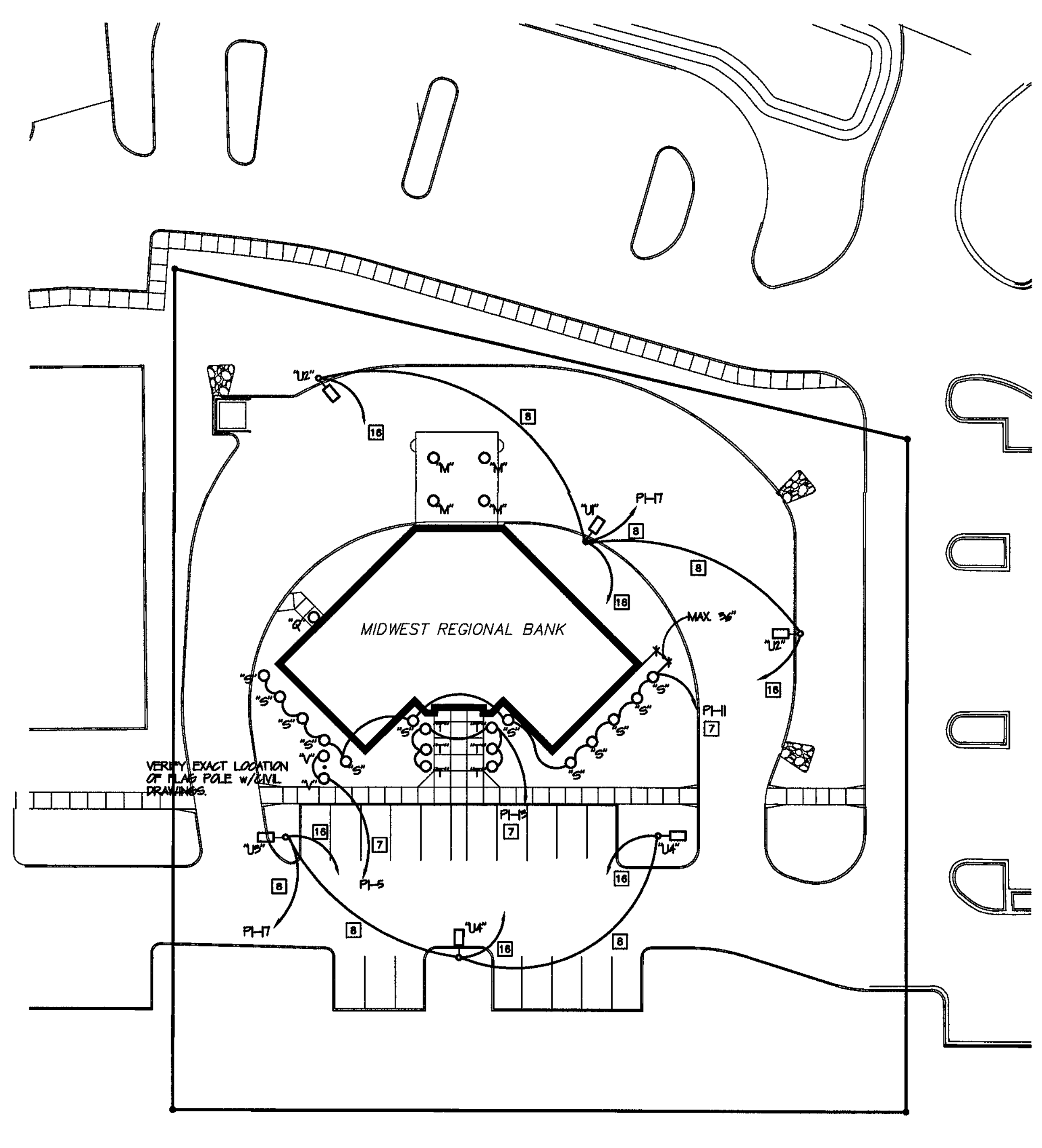
FLOOD LIGHTS:
At Grade

BOLLARDS:
Mounting Height 2' 6"

WALL SCONCES:
Mounting Height 8'

Calculation Points: 10' x 10' Spacing

ISOCURVES REPRESENT 1.0 AND 0.5 FOOTCANDLES
INITIAL LIGHT LEVELS. REDUCES LEVELS BY 15%
FOR MAINTAINED LIGHT LEVELS.



ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

NORTH

Conrad LUTZ & Associates, Inc.
1850 Craigshire Road / Suite 105B
St. Louis, Missouri 63146
314-576-7967 f-576-5352
plutz@conrad-lutz.com

Dawdy & ASSOCIATES, INC.
Architects - Planners
1850 Craigshire Road, Suite 105
St. Louis, Missouri 63146
Phone: (314) 434-0700 Fax: (314) 434-0701
E-Mail: tdawdy@dawdyassociates.com

Brinkmann CONSTRUCTORS
16650 CHESTERFIELD GROVE ROAD
CHESTERFIELD MO 63005

LINEA DESIGN, INC.
INTERIOR DESIGN
8000 Maryland Ave
Suite Number 1320
Clayton, MO 63105
PH 314-721-0044
FAX 314-480-7229

MIDWEST REGIONAL BANK
17290 OUTER FORTY ROAD
CHESTERFIELD, MISSOURI

Lloyd E. Moss
Professional Engineer
Missouri #E-15907

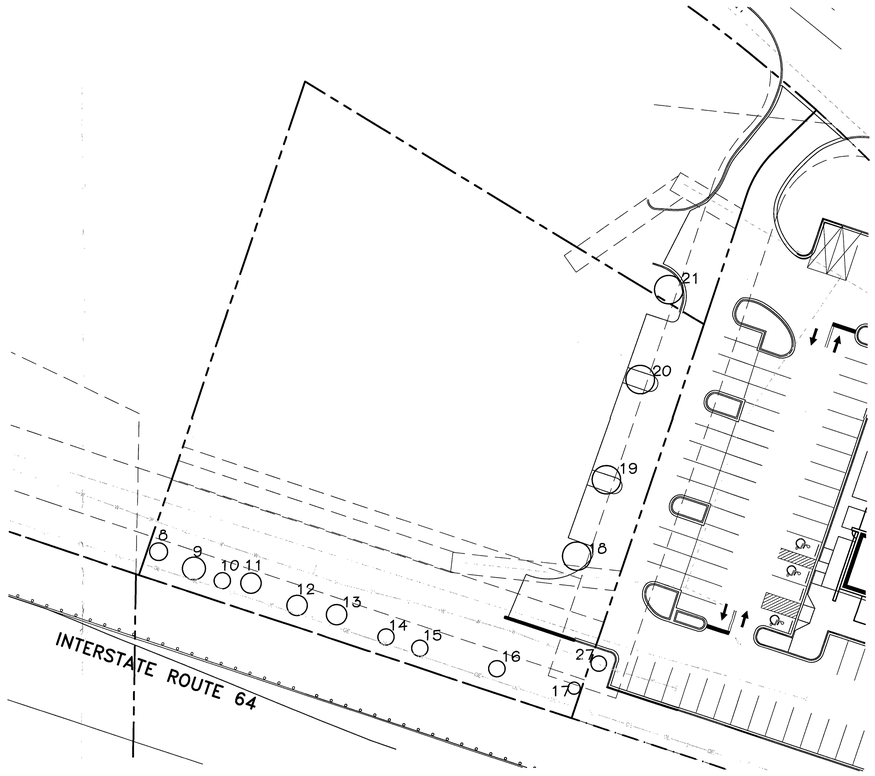
MISSOURI STATE
CERTIFICATE of AUTHORITY
Number 2001029034

The Professional Engineer's seal/signature affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this shall not be considered prepared by this Engineer and this Engineer expressly disclaims any and all responsibilities for such plans, drawings, documents, etc. which do not exhibit this seal/signature.

SEAL:
STATE OF MISSOURI
LLOYD E. MOSS, JR.
NUMBER E-15907
PROFESSIONAL ENGINEER
07/21/2016

REVISION No.	
ISSUE DATE: 07/21/2016	PROJECT No. CLA #1617

E2.0



Tree Stand Delineation

SCALE 1" = 30'-0"

INDIVIDUAL TREE LIST

Boones Crossing Lot 1B				
Number	Common Name	DBH Of Trunk	Canopy Area	Condition Rating
8	Kwanzan Cherry	3.5	35	1
9	Bradford Pear	5	65	3
10	Kwanzan Cherry	4	35	2
11	Kwanzan Cherry	4.5	65	3
12	Bradford Pear	4.5	65	3
13	Flowering Crab	3	30	3
14	Redbud	4	65	3
15	Redbud	4	65	3
16	White Pine	3	28	3
17	Red Maple	3	40	2
18	Red Maple	6	115	4
19	Red Maple	6	115	4
20	Red Maple	6	115	2
21	Red Maple	6	115	3
	TOTAL		953	

LEGEND

Location

10 — Referance Number

CONDITION RATING:
1=Poor Quality
3=Average Quality
5=Excellent Quality

Tree Stand Delineation Narrative
April 21, 2016

The Lot 1B comprises a total of 953 SF of canopy comprised entirely of individual landscape trees. There are no woodlands on the propety. The attached detailed Tree Stand Delineation map was completed by field inspection.

See attached list.

No state champion or rare trees were found on the site.

Tree Stand Delineation Prepared by Douglas A. DeLong
Certified Arborist MW-4826A

Douglas A. DeLong

Base Map Provided by: Grimes Consulting, Inc

Douglas A. DeLong, Landscape Architect LA-81

Consultants:

Midwest Regional Bank
17290 Outer Forty Rd.

Chesterfield, MO

Revisions:

Date	Description	No.
5/27/16	City Comments	1

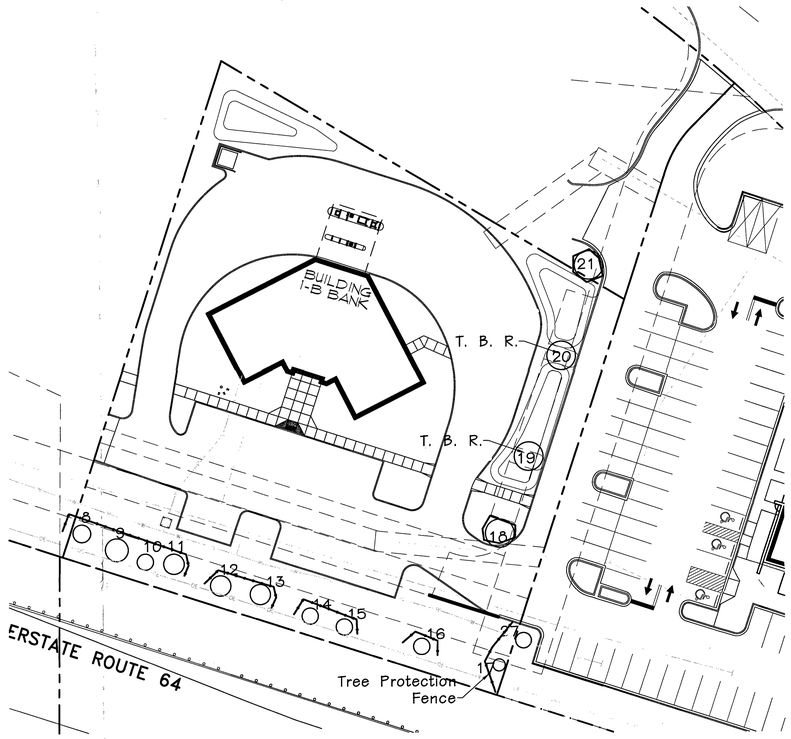
Drawn: DAD
Checked: BAD

DeLong Landscape Architecture, LLC
7620 West Bruno Ave
St. Louis, MO. 63117
(314) 346-4856
delong.la@gmail.com
Missouri State Certificate of Authority #2013000145

Sheet Title: Tree Stand Delineation

Sheet No: TSD-2

Date: 04/22/2016
Job #: 135.005

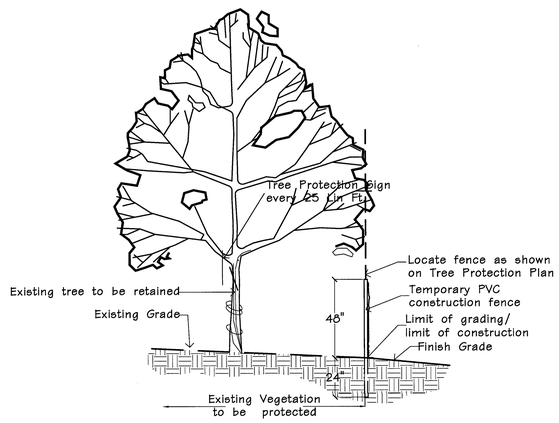


Tree Protection Plan - Lot 1B

SCALE 1" = 30'-0"

APPLICATION SPECIFIC NOTES:

1) A "Pre meeting" shall be held on site by the general contractor will include operators, construction supervisors, owner representative and architect. Meeting shall be held to to discuss tree protection methods and limits.
2) Clearing limits shall be staked by general contractor prior to on site meeting, see Civil plan for limit of grading
3) No clearing or grading shall begin where root pruning and tree preservation measures have not been completed.
4) The sequence of tree treatment and preservation measures shall be:
   a) Stake limit of grading
   b) Root prune with approve mechanical method
   c) Install tree protection fence
5) General contractor shall be responsible to insure that no equipment and materials are stored with areas of protected trees. General contractor shall be responsible to repair and/ or replace trees damaged due to his/ her negligence. Owner and his/ her representatives shall judge the assessment of tree replacement or repair.



TREE PROTECTION DETAIL

n.t.s.

INDIVIDUAL TREE LIST

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Number	Common Name	DBH Of Trunk	Canopy Area	Condition Rating	
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9	Bradford Pear	5	65	3	
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13	Flowering Crab	3	30	3	
14	Redbud	4	65	3	
15	Redbud	4	65	3	
16	White Pine	3	28	3	
17	Red Maple	3	40	2	
18	Red Maple	6	115	4	
~~19~~	~~Red Maple~~	~~6~~	~~115~~	~~4~~	TBR
~~20~~	~~Red Maple~~	~~6~~	~~115~~	~~2~~	TBR
21	Red Maple	6	115	3	
	TOTAL		953		

Overall Existing Tree Canopy = 953 sf
Existing Tree Canopy Removed = 230 sf or 24%
Tree Canopy Remaining = 723 sf or 76%

LEGEND

10 — Location / Referance Number

CONDITION RATING:
1=Poor Quality
3=Average Quality
5=Excellent Quality

Tree Protection Plan Prepared by Douglas A. DeLong
Certified Arborist MW-4826A

Douglas A. DeLong

Base Map Provided by: Grimes Consulting, Inc

STATE OF MISSOURI
DOUGLAS A DELONG
NUMBER LA-81
LANDSCAPE ARCHITECT
06/09/2016
Douglas A. DeLong, Landscape Architect LA-81

Consultants:

Midwest Regional Bank
17290 Outer Forty Rd.
Chesterfield, MO

Revisions:

Date	Description	No.
5/27/16	City Comments	1
5/27/16	City Comments	2

Drawn: DAD
Checked: DAD

DeLong Landscape Architecture, LLC
7620 West Bruno Ave
St. Louis, MO. 63117
(314) 546-4856
delong.la@gmail.com
Missouri State Certificate of Authority: #2013000145

Sheet Title: Tree Protection Plan

Sheet No: TPP-2

Date: 04/21/2016
Job #: 135.005