



690 Chesterfield Pkwy W • Chesterfield MO 63017-0760
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Planning Commission Staff Report

Project Type: Amended Lighting Plan

Meeting Date: September 26, 2011

From: Mara M. Perry, AICP
Senior Planner

Location: N. Outer 40 east of the intersection with Chesterfield Parkway East
(14901 N. Outer 40 Road)

Applicant: Delmar Gardens Enterprises, Inc.

Description: Delmar Gardens: An Amended Lighting Plan for an 11.17 acre parcel of land zoned “NU” Non-Urban District with a Conditional Use Permit (CUP) located east of the intersection of Interstate 64/U.S. Highway 40-61 and Chesterfield Parkway East.

PROPOSAL SUMMARY

Delmar Gardens Enterprises, Inc. has submitted a request for an Amended Lighting Plan for Delmar Gardens. The request is to change all the existing light fixtures on the site to a set of decorative fixtures which would be used for the entire development.

LAND USE AND ZONING HISTORY OF SUBJECT SITE

The Delmar Gardens development located north of N. Outer 40 Road east of the intersection of Interstate 64/U.S. Highway 40-61 and Chesterfield Parkway East is zoned “NU” Non-Urban. The development is governed by the terms and conditions of Conditional Use Permit Number 391 which was approved by St. Louis County in 1980. The buildings known as Chesterfield Villas and Delmar Gardens of Chesterfield were subsequently developed in 1982 prior to the incorporation of the City of Chesterfield.

In 2008, the Planning Commission approved an Amended Site Development Plan and Amended Architectural Elevations for the site. Additional amendments to the Site Development Plan and Architectural Elevations were administratively approved in 2010.

Land Use and Zoning of Surrounding Properties:

Direction	Land Use	Zoning
North	Conway Cove	"R4" and "R3" Residence District
South	Interstate 64/U.S. Highway 40-61	
East	Belle Monte Road and Delmar Gardens	"R3" Residence District and "PC" Planned Commercial District
West	No Subdivision	"PC" Planned Commercial District



STAFF ANALYSIS

Zoning

The subject site is currently zoned "NU" Non-Urban with a Conditional Use Permit and was reviewed against its requirements and all applicable Zoning Ordinance requirements. The site adheres to the applicable Zoning Ordinance requirements.

Lighting

City of Chesterfield Ordinance 2228, under the exemptions section, allows for an exemption for Fixture Design.

13. EXEMPTIONS

- 2) Fixture design exemptions. The Planning Commission may approve decorative light fixtures as an alternative to shielded fixtures when it can be proven that there will be no off-site glare light trespass in excess of 0.5 foot candle and the proposed fixtures will improve the appearance of the site.

The existing lights on the site are a mixture of an older globe style fixture and a parking lot “shoe box” style fixture. The intent is to provide an overall consistency in the look and style of the fixtures and improve the appearance of the development. Sixteen of the seventeen light fixtures will be replaced in the same location. One fixture is being removed entirely from the site and one fixture is being added near a parking lot on the western edge of the site. Additionally, five existing bollard fixtures are being replaced by six new bollards which match the proposed decorative light fixture design.

Two light fixtures towards the front of the site have an off-site light level of above the 0.5 foot candle maximum. The location of these lights however was approved prior to the conveyance of right-of-way which changed the front property line of the development. Due to the extremely low level of the light trespass and the location approved prior to right-of-way conveyance, staff has no issues with approval of these fixtures.

DEPARTMENTAL INPUT

The Amended Lighting Plan is before Planning Commission for review and approval due to the use of decorative light fixtures under fixture design exemptions of the Lighting Ordinance. Staff has reviewed the Amended Lighting Plan and has found the proposal to be in conformance with Conditional Use Permit #391 and all other applicable Zoning Ordinance requirements. Staff recommends approval of the Amended Lighting Plan for Delmar Gardens.

MOTION

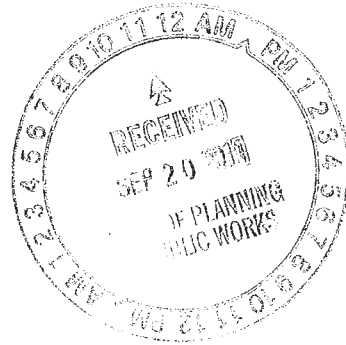
The following options are provided to the Planning Commission for consideration relative to this application:

- 1) “I move to approve (or deny) the Amended Lighting Plan for Delmar Gardens.”
- 2) “I move to approve the Amended Lighting Plan for Delmar Gardens with the following conditions...” (Conditions may be added, eliminated, altered or modified)

Cc: City Administrator
City Attorney
Department of Planning and Public Works

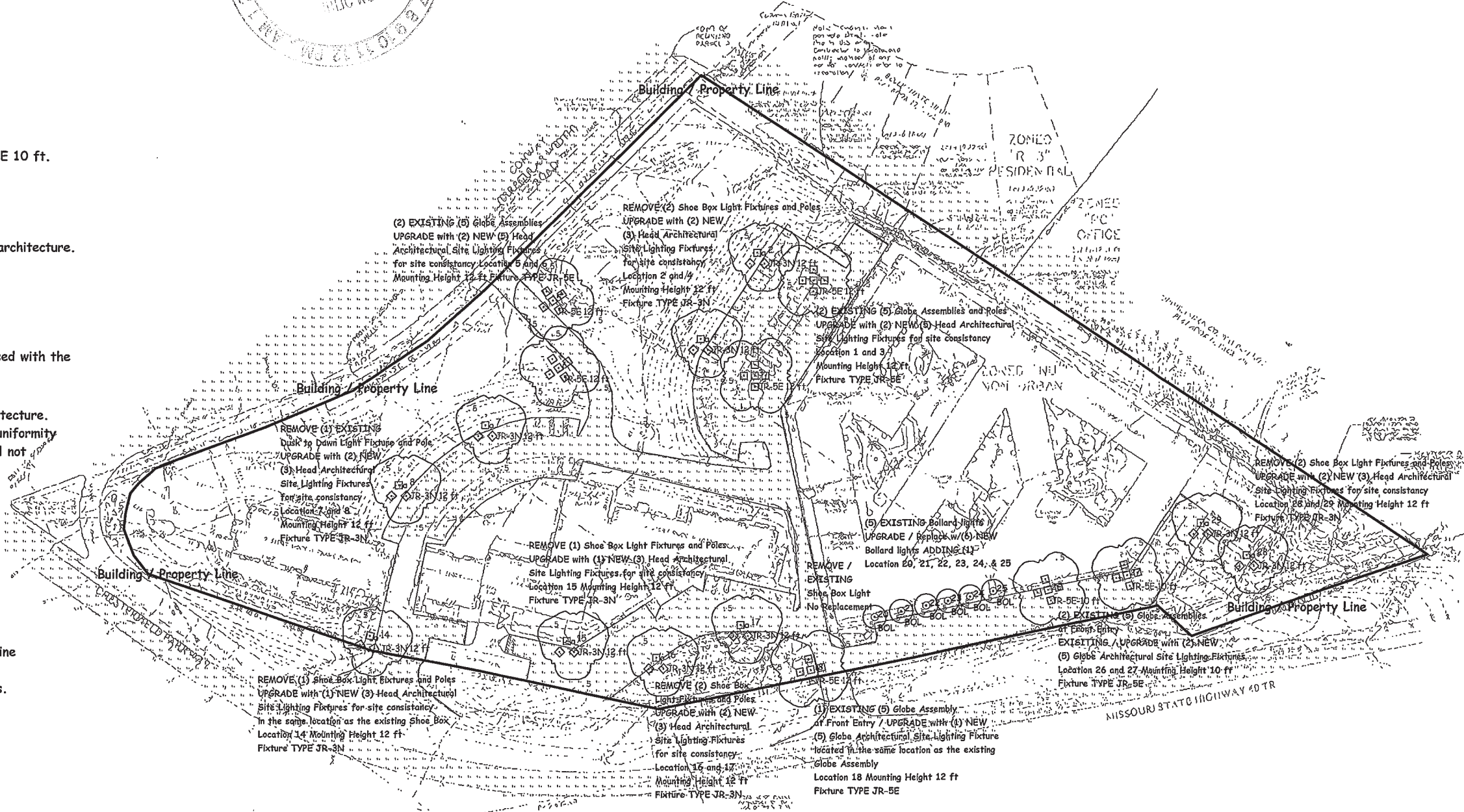
Attachments: Amended Lighting Plan
Lighting Cut Sheets

Delmar Gardens Chesterfield & Chesterfield Villas
Design Concept for approval
August 24, 2011



NOTES:

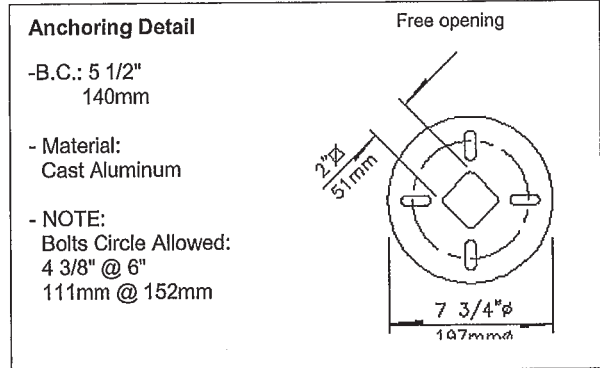
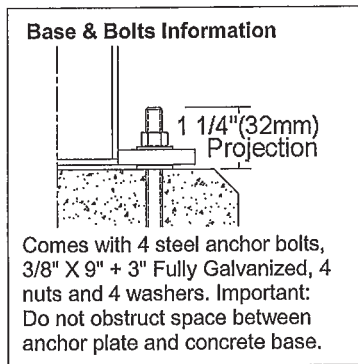
1. Each location is NUMBERED and marked by TYPE for easy recognition and discussion if necessary. Notes on the plan near each location detail the work to be completed.
2. Remove all old, broken Globe Assemblies and Poles. Replace with NEW Globes Assemblies and multi shaft poles. TYPES JR-5E 12 ft. and TYPE JR-5E 10 ft.
3. Remove all old, broken Shoe Box Light fixtures and poles. Replace with NEW Globe Assemblies and multi shaft poles. TYPE JR-3N 12 ft.
4. Existing Light Fixtures are old, in disrepair and do not enhance the site or the architecture. New Globe Assemblies and Multi Shaft poles will improve the site appearance.
5. The mounting heights of the existing shoe box lighting is approximately 20 ft. NEW pole assemblies will ONLY be a 12 foot over all height
6. There is no light trespass on or near the property line per the guidelines discussed with the City of Chesterfield. With the exception of location 14 and 18 (see note 10 below)
7. NEW Globe Assemblies utilize new technology and will enhance the site and architecture. The new equipment will be more efficient, offer better lighting levels, will achieve uniformity by using the same fixture and pole assembly throughout the site, being very careful not to increase, with a goal of maintaining or decreasing the power consumption.
8. Visibility should not be a problem on the Conway Road side of the property. All globes are well within the property and hidden below grade due to the slope of the site
9. The replacement of (6) single shoe box light fixtures with (3) globe assemblies on the Outer Road side of the property, Locations 14, 15, 16, 17, 28 & 29; will provide a uniform appearance and enhance the site and architecture.
10. With the expansion and relocation of the North outer Road and the property line (2) EXISTING fixture LOCATIONS 14 & 18 currently exceed the light level limit at the property line. NEW fixtures have been placed in the same existing locations.



Label	CalcType	Units	Avg	Max	Min
Conway Road	Illuminance	Fc	0.00	0.0	0.0
Outer Road and Hiway 64	Illuminance	Fc	0.00	0.0	0.0
Parking & Drive	Illuminance	Fc	0.84	8.4	0.0
Residential Property Line	Illuminance	Fc	0.00	0.0	0.0

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
⊙	6	BOL	SINGLE	6300	1.000	LUMECBD8T-70HPS
⊙	2	JR-5E-10 ft	GROUP	N.A.	1.000	LUMEC-150-HPS-NW-ACDR-CPD-DF/ (5)Globe with multi shaft pole 10ft Existing / Upgrade
⊙	5	JR-5E 12 ft	GROUP	N.A.	1.000	LUMEC-150-HPS-NW-ACDR-CPD-DF/ (5)Globe with multi shaft pole 12 ft Existing / Upgrade
⊙	10	JR-3N 12 ft	GROUP	N.A.	1.000	LUMEC-150-HPS-NW-ACDR-CPD-DF/ (3)Globe with multi shaft pole 12 ft replaces Existing Shoe Box

Delmar Gardens Chesterfield (38331)



Qty	6	Type	BO
		Bollard	BD8T-70HPS-GL-C-QTA/277-GNTX

Description of Components:

Hood: Shall be made from cast aluminum 356, mechanically assembled.

Globe: One-piece Seamless injected-molded clear tempered glass. The globe is mechanically assembled on the locking system.

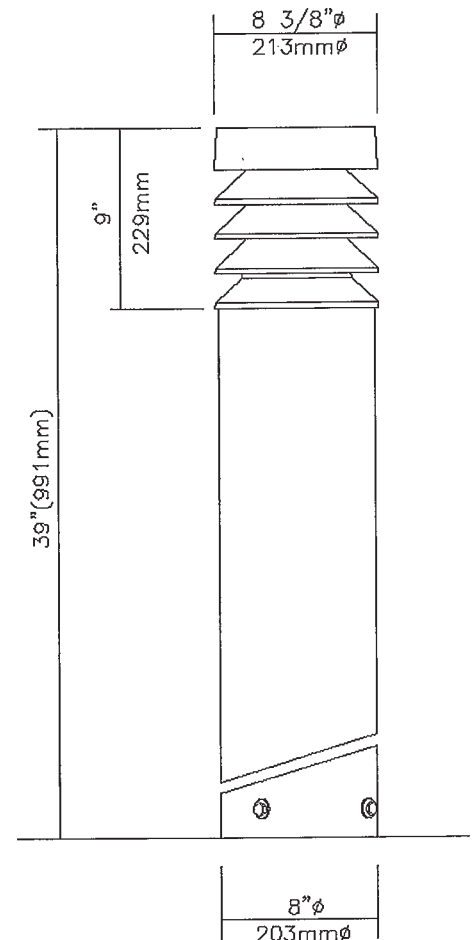
Lamp: (not included) 70 Watt High Pressure Sodium (ANSI Code S62), ED 17 bulb, medium base.

Ballast: High power factor of 90%. Primary voltage 120/208/240/277 volts, connected to 277 volts. Lamp starting capacity -40F(-40C) degrees. Assembled on a unitized removable tray with quick disconnect plug.

Access-Mechanism: Three screws integrated on a louver offers access to the inside of the luminaire and to the lamp.

Louvers: Made of cast aluminum 356, mechanically assembled.

Base: Made of aluminum, 8" (203mm) outside diameter, 1/8" (3mm) wall thickness, mechanically assembled to the anchor plate.



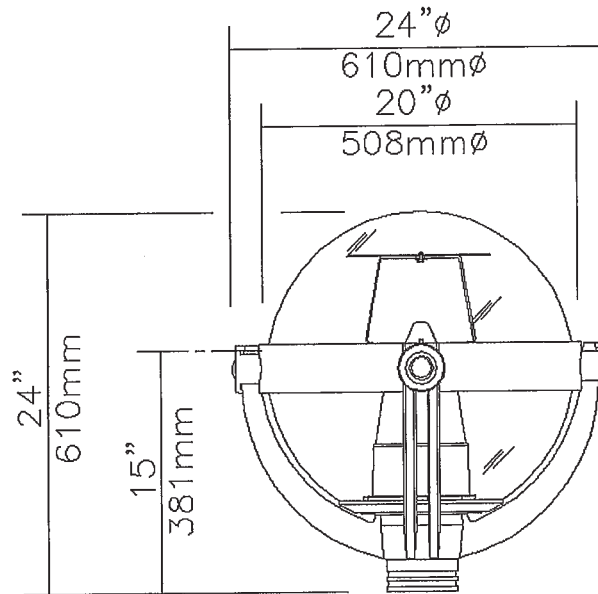
Miscellaneous

Description of Components:

Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat to reduce seizing of the parts. All seals and sealing devices are made and/or lined with EPDM and/or silicone.

Finish: Color to be **green textured (GNTX)**. Application of a polyester powder coat paint. (4 mils/100 microns). The chemical composition provides a highly durable UV and salt spray resistant finish in accordance to the ASTM-B117-73 standard and humidity proof in accordance to the ASTM-D2247-68 standard.

Delmar Gardens (38331) - (Chesterfield)



Qty 10 Luminaire NW-150HPS-ACDR-CPD-DF5-120-GNTX

Description of Components:

Guard: In a round shape with 4 arms, this guard is a one-piece cast aluminum 356 with a decorative band, 3" (76mm) large x 1/8"(3mm) thick, and four medallions welded to the cage.

Access-Mechanism: Rotomatic, die-cast A360 aluminum quarter-turn mechanism with constant-pressure spring-loaded points. The mechanism shall offer toolfree access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing. A red key on the unit shall indicate point of engagement.

Globe: (ACDR-CPD) Made of one piece roto molded clear P.O.N.D. (Partially Obscure Non Diffusing) impact-resistant (DR) acrylic. The globe is mechanically assembled on the access mechanism.

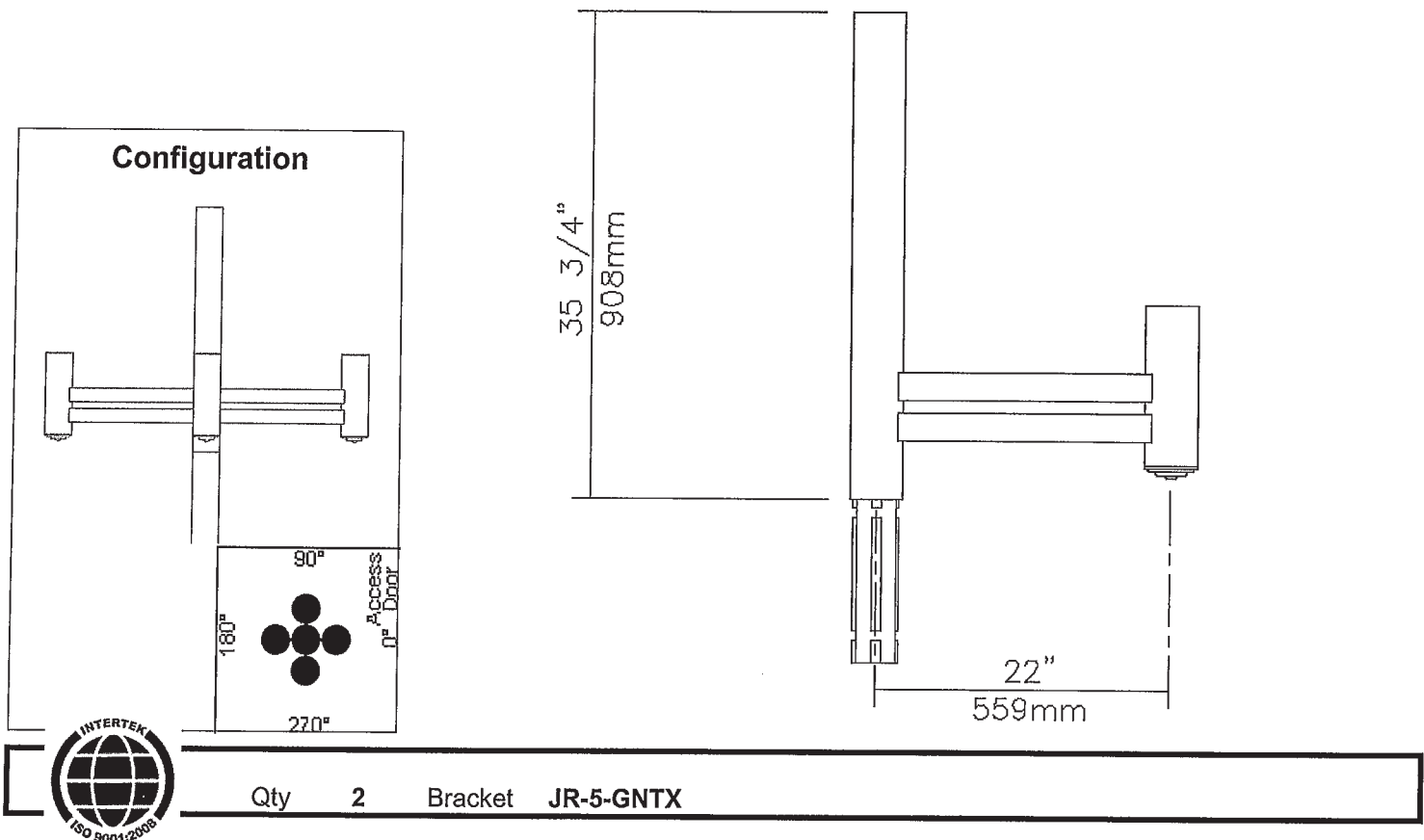
Lamp: (Not included), 150 Watt High Pressure Sodium (ANSI Code S54), ED 17 bulb, medium base.

Optical System: (DF5), I.E.S. type V (symmetrical). System composed of a round spun-aluminum two piece reflector brightened and anodized, mechanically assembled on the luminaire.

Ballast: High power factor of 90%. Primary voltage 120/208/240/277 volts, connected to 277 volts. Lamp starting capacity -40F(-40C) degrees. Assembled on a unitized removable tray with quick disconnect plug.

Fitter: Cast aluminum 356 c/w 4 set screws 1/4-20 UNC. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Delmar Gardens (38331) - (Chesterfield)

**Description of Components:**

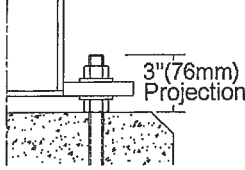
Holder: Shall be made from aluminum tubing 6061-T6, 4" (102mm) outside diameter, 1/8" (3mm) wall thickness, welded to the arm.

Arm: Shall be made from two aluminum tubes 6061-T6, 2" x 3" (51mm x 76mm), welded.

Central Adaptor: Made of aluminum 6061-T6, 4" (102mm) outside diameter, complete with a tenon penetrating 12" (305mm) inside the pole. The tenon shall be mechanically fastened to the pole by two sets of three set-screws at 120 degrees around the pole.

Delmar Gardens (38331) - (Chesterfield)

Base & Bolts Information



3" (76mm) Projection

Comes with 4 steel anchor bolts, 3/4" X 17" + 3", 8 nuts and 8 washers. Important: Do not obstruct space between anchor plate and concrete base.

Anchor Plate

Free opening (A)

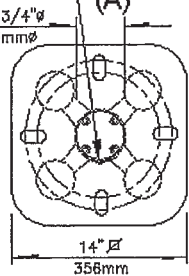
-B.C.: 10 1/2" (267mm)

3 3/4" 95mm

- Material: Cast Aluminum

- (A)= Access door

- NOTE: Bolt Circle Allowed: 9 1/4" to 11 3/4" 235mm to 298mm



14" 356mm



Qty 2 Pole APQ2-7-GNTX

Description of Components:

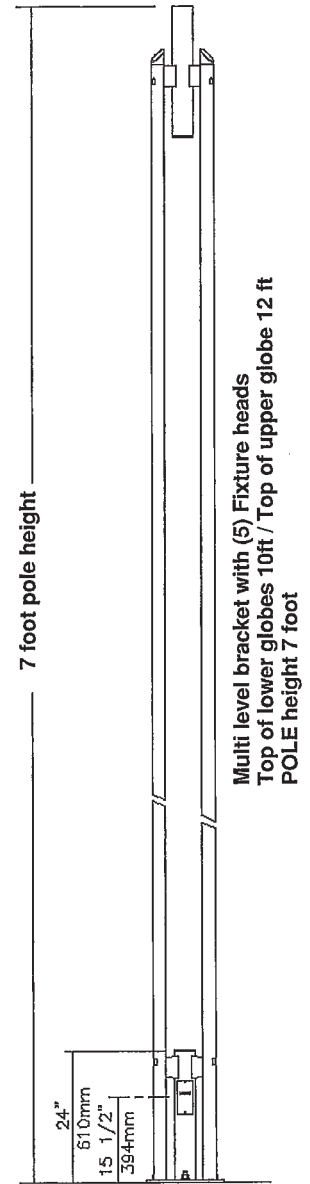
Pole Shaft: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum top tubing mechanically secured to four 2 3/8" (60mm) round extruded 6061-T6 aluminum tubings, having a 0.154" (3.9mm) wall thickness, c/w four decorative caps having a 45 degree angle, welded to both the bottom and top of the anchor plate.

Pole Base: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum tubing base having a 0.125" (3.2mm) wall thickness, welded to both the bottom and top of the anchor plate.

Maintenance Opening: The pole shall have a 2" x 4 1/2" (51mm x 114mm) maintenance opening centered 15 1/2" (394mm) from the bottom of the anchor plate, complete with a weatherproof cover and a copper ground lug.

Nut cover: Made from cast 356 aluminum, mechanically fastened with stainless steel screws.

IMPORTANT: Philips Lumec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.



Delmar Gardens (38331) - (Chesterfield)

Miscellaneous

Description of Components:

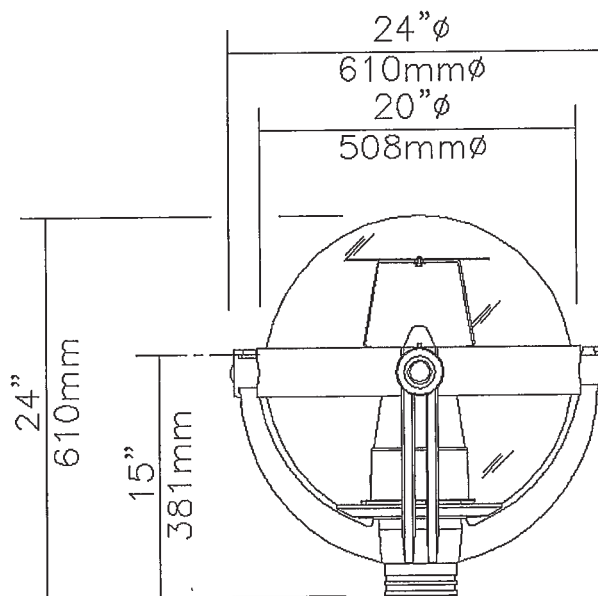
Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, 6" (152mm) minimum exceeding the pole maintenance opening.

Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat to reduce seizing of the parts. All seals and sealing devices are made and/or lined with EPDM and/or silicone.

Finish: Color to be **green textured (GNTX)**. Application of a polyester powder coat paint. (4 mils/100 microns). The chemical composition provides a highly durable UV and salt spray resistant finish in accordance to the ASTM-B117-73 standard and humidity proof in accordance to the ASTM-D2247-68 standard.

Mechanical resistance: In order to ensure the mechanical resistance of the poles, the reflected area should be calculated according to AASHTO 2001.

Delmar Gardens (38331) - (Chesterfiled)



Qty 25

Luminaire NW-150HPS-ACDR-CPD-DF5-120-GNTX

Description of Components:

Guard: In a round shape with 4 arms, this guard is a one-piece cast aluminum 356 with a decorative band, 3" (76mm) large x 1/8"(3mm) thick, and four medallions welded to the cage.

Access-Mechanism: Rotomatic, die-cast A360 aluminum quarter-turn mechanism with constant-pressure spring-loaded points. The mechanism shall offer toolfree access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing. A red key on the unit shall indicate point of engagement.

Globe: (ACDR-CPD) Made of one piece roto molded clear P.O.N.D. (Partially Obscure Non Diffusing) impact-resistant (DR) acrylic. The globe is mechanically assembled on the access mechanism.

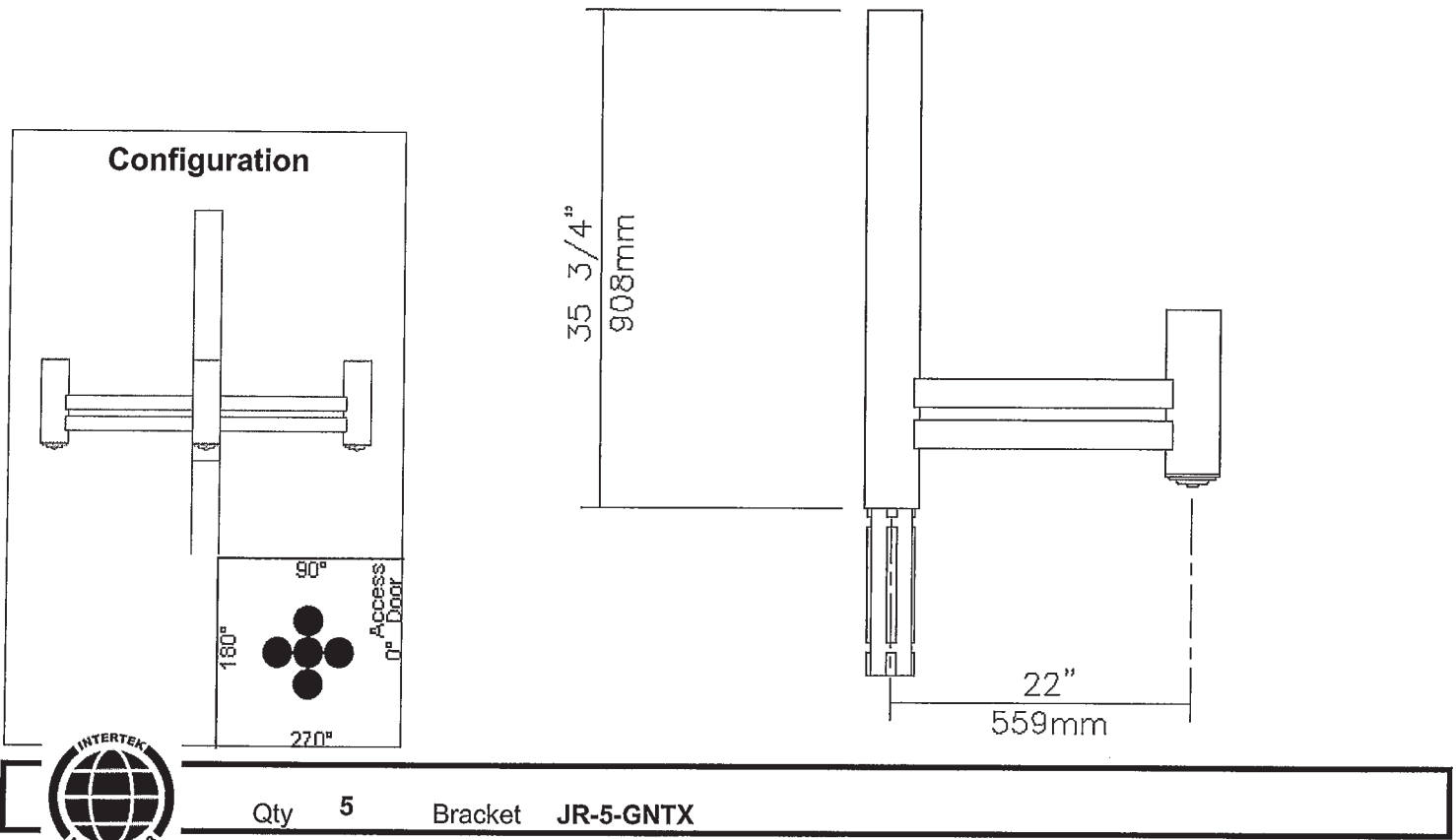
Lamp: (Not included). 150 Watt High Pressure Sodium (ANSI Code S54), ED 17 bulb, medium base.

Optical System: (DF5), I.E.S. type V (symmetrical). System composed of a round spun-aluminum two piece reflector brightened and anodized, mechanically assembled on the luminaire.

Ballast: High power factor of 90%. Primary voltage 120/208/240/277 volts, connected to 277 volts. Lamp starting capacity -40F(-40C) degrees. Assembled on a unitized removable tray with quick disconnect plug.

Fitter: Cast aluminum 356 c/w 4 set screws 1/4-20 UNC. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Delmar Gardens (38331) - (Chesterfiled)



Description of Components:

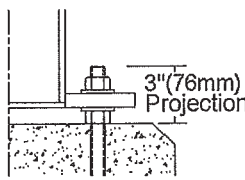
Holder: Shall be made from aluminum tubing 6061-T6, 4" (102mm) outside diameter, 1/8" (3mm) wall thickness, welded to the arm.

Arm: Shall be made from two aluminum tubes 6061-T6, 2" x 3" (51mm x 76mm), welded.

Central Adaptor: Made of aluminum 6061-T6, 4" (102mm) outside diameter, complete with a tenon penetrating 12" (305mm) inside the pole. The tenon shall be mechanically fastened to the pole by two sets of three set-screws at 120 degrees around the pole.

Delmar Gardens (38331) - (Chesterfiled)

Base & Bolts Information



3" (76mm) Projection

Comes with 4 steel anchor bolts, 3/4" X 17" + 3", 8 nuts and 8 washers. Important: Do not obstruct space between anchor plate and concrete base.

Anchor Plate

Free opening (A)

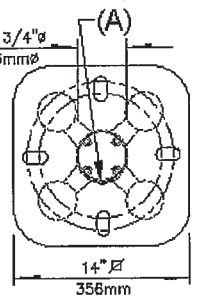
-B.C.: 10 1/2" (267mm)

3 3/4" 95mmØ

- Material: Cast Aluminum

- (A)= Access door

- NOTE: Bolt Circle Allowed: 9 1/4" to 11 3/4" 235mm to 298mm



14" 356mm



Qty	5	Pole	APQ2-9-GNTX
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Description of Components:

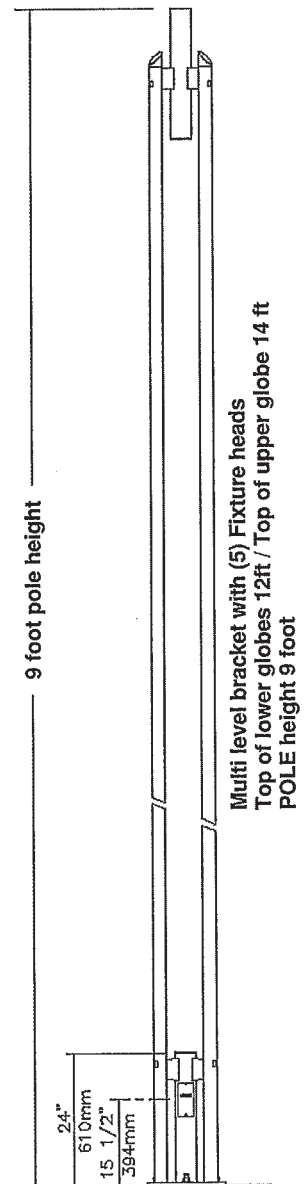
Pole Shaft: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum top tubing mechanically secured to four 2 3/8" (60mm) round extruded 6061-T6 aluminum tubings, having a 0.154" (3.9mm) wall thickness, c/w four decorative caps having a 45 degree angle, welded to both the bottom and top of the anchor plate.

Pole Base: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum tubing base having a 0.125" (3.2mm) wall thickness, welded to both the bottom and top of the anchor plate.

Maintenance Opening: The pole shall have a 2" x 4 1/2" (51mm x 114mm) maintenance opening centered 15 1/2" (394mm) from the bottom of the anchor plate, complete with a weatherproof cover and a copper ground lug.

Nut cover: Made from cast 356 aluminum, mechanically fastened with stainless steel screws.

IMPORTANT: Philips Lumec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.



Delmar Gardens (38331) - (Chesterfiled)

Miscellaneous

Description of Components:

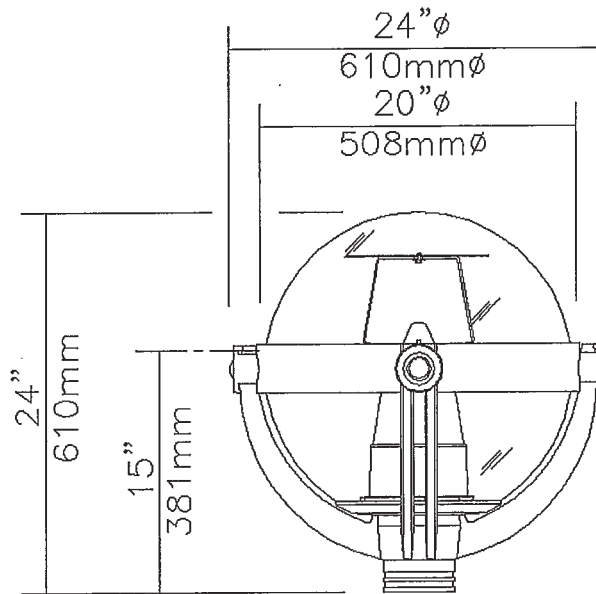
Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, 6" (152mm) minimum exceeding the pole maintenance opening.

Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat to reduce seizing of the parts. All seals and sealing devices are made and/or lined with EPDM and/or silicone.

Finish: Color to be **green textured (GNTX)**. Application of a polyester powder coat paint. (4 mils/100 microns). The chemical composition provides a highly durable UV and salt spray resistant finish in accordance to the ASTM-B117-73 standard and humidity proof in accordance to the ASTM-D2247-68 standard.

Mechanical resistance: In order to ensure the mechanical resistance of the poles, the reflected area should be calculated according to AASHTO 2001.

Delmar Gardens (38331) - (Chesterfield)



Qty

30

Luminaire

NW-150HPS-ACDR-CPD-DF5-120-GNTX

Description of Components:

Guard: In a round shape with 4 arms, this guard is a one-piece cast aluminum 356 with a decorative band, 3" (76mm) large x 1/8"(3mm) thick, and four medallions welded to the cage.

Access-Mechanism: Rotomatic, die-cast A360 aluminum quarter-turn mechanism with constant-pressure spring-loaded points. The mechanism shall offer toolfree access to the inside of the luminaire. An embedded memory-retentive gasket shall ensure weatherproofing. A red key on the unit shall indicate point of engagement.

Globe: (ACDR-CPD) Made of one piece roto molded clear P.O.N.D. (Partially Obscure Non Diffusing) impact-resistant (DR) acrylic. The globe is mechanically assembled on the access mechanism.

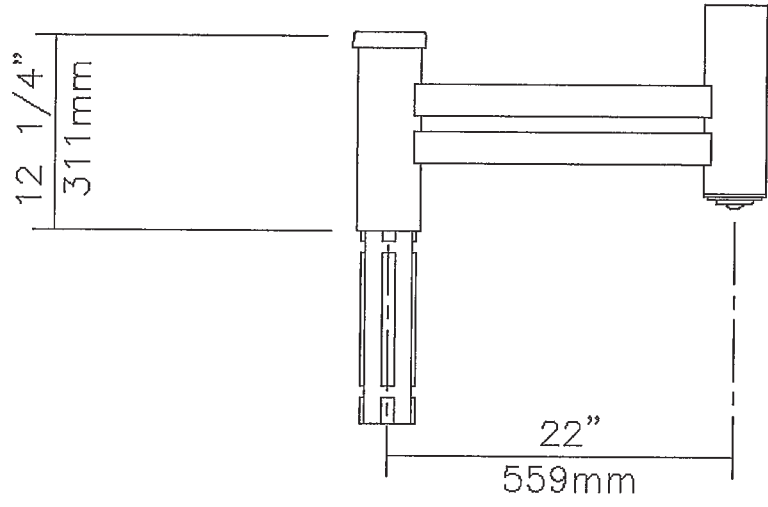
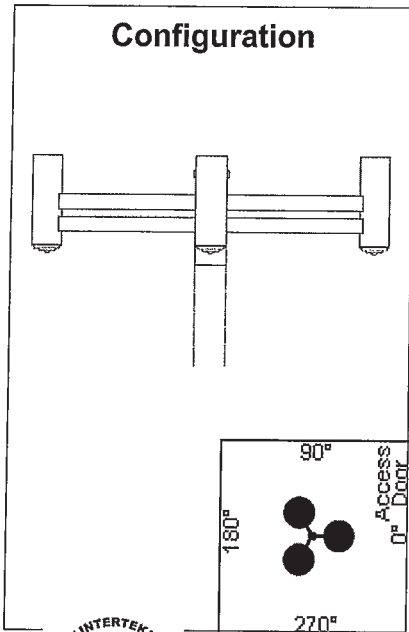
Lamp: (Not included), 150 Watt High Pressure Sodium (ANSI Code S54), ED 17 bulb, medium base.

Optical System: (DF5), I.E.S. type V (symmetrical). System composed of a round spun-aluminum two piece reflector brightened and anodized, mechanically assembled on the luminaire.

Ballast: High power factor of 90%. Primary voltage 120/208/240/277 volts, connected to 277 volts. Lamp starting capacity -40F(-40C) degrees. Assembled on a unitized removable tray with quick disconnect plug.

Fitter: Cast aluminum 356 c/w 4 set screws 1/4-20 UNC. Slip-fits on a 4"(102mm) outside diameter x 4" (102mm) long tenon.

Delmar Gardens (38331) - (Chesterfield)



Qty 10 Bracket JR-3-GNTX

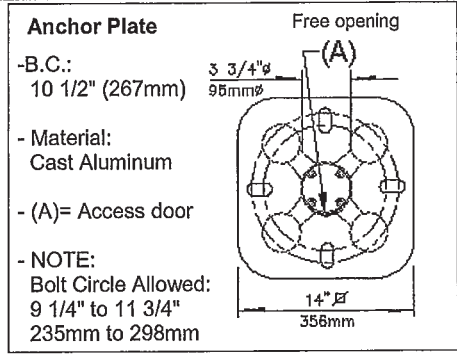
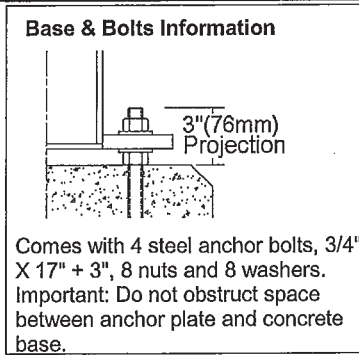
Description of Components:

Holder: Shall be made from aluminum tubing 6061-T6, 4" (102mm) outside diameter, 1/8" (3mm) wall thickness, welded to the arm.

Arm: Shall be made from two aluminum tubes 6061-T6, 2" x 3" (51mm x 76mm), welded.

Central Adaptor: Made of aluminum 6061-T6, 4" (102mm) outside diameter, complete with a tenon penetrating 12" (305mm) inside the pole. The tenon shall be mechanically fastened to the pole by two sets of three set-screws at 120 degrees around the pole.

Delmar Gardens (38331) - (Chesterfield)



Qty	10	Pole	APQ2-9-GNTX
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Description of Components:

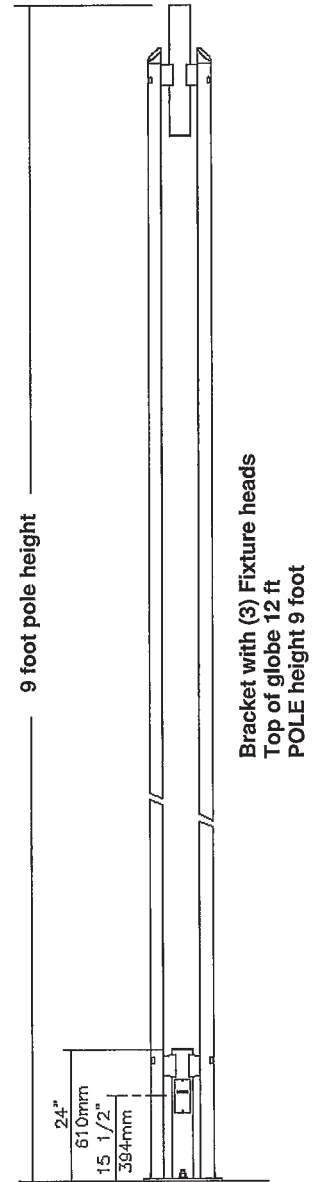
Pole Shaft: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum top tubing mechanically secured to four 2 3/8" (60mm) round extruded 6061-T6 aluminum tubings, having a 0.154" (3.9mm) wall thickness, c/w four decorative caps having a 45 degree angle, welded to both the bottom and top of the anchor plate.

Pole Base: Shall be made from a 4" (102mm) round extruded 6061-T6 aluminum tubing base having a 0.125" (3.2mm) wall thickness, welded to both the bottom and top of the anchor plate.

Maintenance Opening: The pole shall have a 2" x 4 1/2" (51mm x 114mm) maintenance opening centered 15 1/2" (394mm) from the bottom of the anchor plate, complete with a weatherproof cover and a copper ground lug.

Nut cover: Made from cast 356 aluminum, mechanically fastened with stainless steel screws.

IMPORTANT: Philips Lumec strongly recommends the installation of the complete lighting assembly with all of its accessories upon the anchoring of the pole. This will ensure that the structural integrity of the product is maintained throughout its lifetime.



Miscellaneous

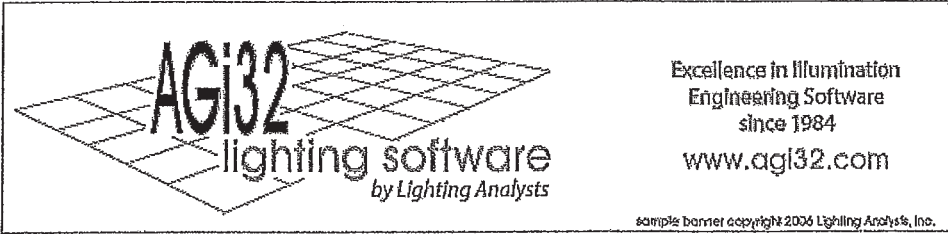
Description of Components:

Wiring: Gauge (#14) TEW/AWM 1015 or 1230 wires, 6" (152mm) minimum exceeding top of the bracket.

Hardware: All exposed screws shall be stainless steel with Ceramic primer-seal basecoat to reduce seizing of the parts. All seals and sealing devices are made and/or lined with EPDM and/or silicone.

Finish: Color to be **green textured (GNTX)**. Application of a polyester powder coat paint. (4 mils/100 microns). The chemical composition provides a highly durable UV and salt spray resistant finish in accordance to the ASTM-B117-73 standard and humidity proof in accordance to the ASTM-D2247-68 standard.

Mechanical resistance: In order to ensure the mechanical resistance of the poles, the reflected area should be calculated according to AASHTO 2001.



Photometric Report (Type C)

Filename: LU000114.IES
[TEST] LU96032501
[MANUFAC] LUMEC
[LUMCAT] 100-HPS-NW-PCC-RR3MD
[LUMINAIRE] NEW WESTMINSTER LUMINAIRE, CLEAR
POLYCARBONATE GLOBE, RR3 OPTIC
[LAMP] SC100.002

Maximum Candela = 318.7 at 60 H 67.5 V

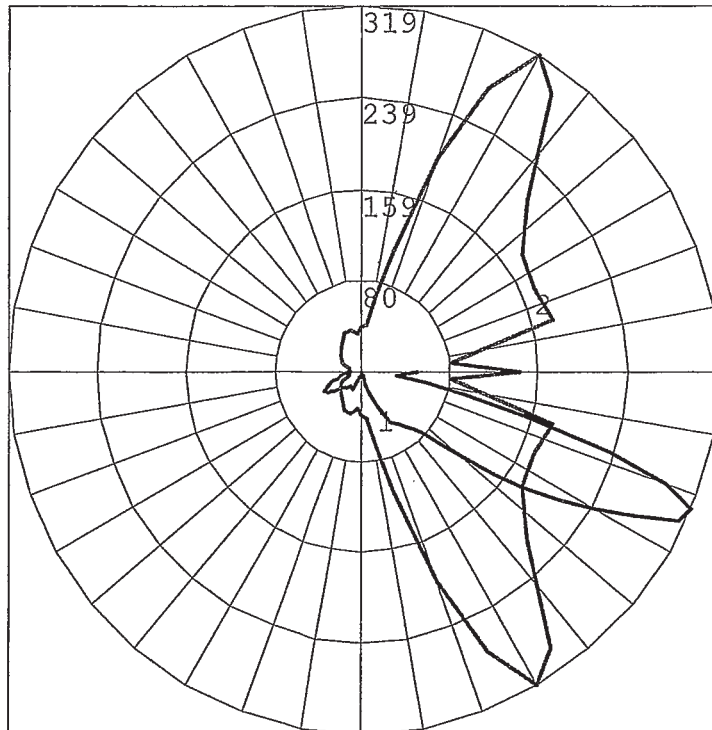
Classification:

Road Classification: Type III, Short, Cutoff
Luminaire Efficacy Rating (LER): 47
Indoor Classification: Direct
BUG Rating :

Polar Candela Curves:

Vertical Plane Through:
1) 60 - 240 Horizontal

Horizontal Cone Through:
2) 67.5 Vertical



Delmar Gardens Chesterfield

Front Entry North Outer 40



EXISTING Light Pole Assembly

Location 18



JR-5

NEW Light Pole Assembly

**(Similar to the NEW installation at
Delmar Gardens Town & Country site)**

**Delmar Garden Chesterfield
Front Entry**



**EXISTING Lighting Pole Assembly
Location 26 & 27**



**JR-5
NEW LIGHT POLE ASSEMBLY
(Similar to the NEW installation at Delmar Gardens Town & Country site)**

Delmar Gardens Chesterfield - Back Parking



EXISTING Light Pole Assemblies

Location 1 & 3

Location 2 & 4



JR-3



JR-5

NEW Light Pole Assembly

(Similar to the NEW installation at Delmar Gardens Town & Country site)

Delmar Gardens Chesterfield, Entry of Conway Road



EXISTING Light Pole Assemblies Location 5 & 6



**NEW Light Pole Assembly
Location 5 & 6**