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LANDSCAPE ARCHITECTURE  
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29 March 2018

## **ALTAMIRA FAMILY HOUSING LANDSCAPE IRRIGATION OVERVIEW:**

The Altamira Family Housing proposed planting palette was designed to use low water use plant per WUCOLS 1V classification with the exception of red maples in the parking lot and fruit trees in the community garden, a small patch of turf in the community center and medium water use no mow turf in the bioswales. The proposed irrigation design will be in compliance with current WELO guidelines.

The Maximum Applied Water Allowance (MAWA) for 27,480 SF of planted area is estimated at 433,675 gallons per year per the City of Sonoma WELO Appendix B – Water Efficient Landscape Worksheet.

The Estimated Total Water Use (ETWU) for 24,930 SF of planted area is estimated at 323,688 gallons per year per the City of Sonoma WELO Appendix B – Water Efficient Landscape Worksheet.

A Netafim .4 GPH TECHLINE inline emitter system will be provided for all planting areas with lines spaced at 2'-0" OC. A Netafim Low, flow Low Volume Remote Control Valve with filter and pressure regulator will be used to irrigate these hydrozones. These lines will sit at grade and be stapled at 4' OC, then covered with a 3" layer of mulch.

Bioswales will be irrigated with Hunter PROS-06- MP-800 or strip pop-up MP Rotators. The community lawn will be irrigated with Hunter PROS -04-MP 2000 MP rotators. A Hunter ICV 1" remote control valve will be used to irrigate these hydrozones. Lateral Lines will be 12" below grade.

Trees will be irrigated with Netafim .9 GPH Techline looped around the perimeter of the rootball, 2 or 3 times, depending on the type and size of tree. A Netafim Low, flow Low Volume Remote Control Valve with filter and pressure regulator will be used to irrigate these hydrozones.

The raised vegetable garden planters will implement the Netafim .4 GPH techline @ 12" row spacing. A ball valve will be provided for each raised bed to operated manually.

A separate irrigation meter with BPU device will be provided for the irrigation system. A normally closed Master Valve and flow sensor will be provided at this point of connection.

A loop main will be provided with Point of Connection at the southwest corner of the project. A Hunter 3/4" quick coupling valve will be provided at each cluster of remote control valves, at least 100' OC. The mainline will be 18" below grade.

SCH 40 PVC Sleeves will be provided under all paving and 2 sizes larger than the line(s) held.

A Hunter ICORE Smart controller with wired solar sync will be provided for all Remote Control Valve systems and housed in the equipment room at the south east corner of the Community Building.

Irrigation hydrozones will be designed for plant material having the same irrigation needs with a balanced pressure loss.

ALTAMIRA APARTMENTS PLANTING LEGEND

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	REMARKS	WUCOLS
<b>TREES</b>						
AM	Arbutus 'Marina' or Pistacia chinensis	Madrone/Cross 'STD' or Chinese Pistache	8	15 gallon 15 gallon	Ca Native Fall color	L L
ARA	Acer rubrum 'Armstrong'	Armstrong Maple	22	15 gallon	Seasonal Color	M
AAG	Acer rubrum 'Armstrong Gold'	Armstrong Maple	15	15 gallon	Seasonal Color	M
CIT	Citrus 'Meyer Dwarf'	Dwarf Meyer Lemon	2	15 gallon	Fruit	M
CO	Cercis occidentalis 'Multi'	Western Redbud	11	15 gallon	Flowers, Fall Color	L
LAG	Lagerstroemia 'Natchez White' or Lagerstroemia 'Dynamite'	White Crape Myrtle or Red Crape Myrtle	12	15 gallon 15 gallon	Summer Flowers Summer Flowers	L L
MPF	Malus 'Prairie Fire' or Cercis canadensis 'Merlot' 'Std'	Prairie Fire Crabapple or Merlot Redbud	11	15 gallon	Spring Flowers	M
MS	Magnolia stellata 'Pink Stardust'	Star Magnolia	10	15 gallon	Flowers, Foliage	M
PUN	Punica granatum 'Wonderful'	Pomegranite	1	15 gallon	Winter Flowers	M
QUE	Quercus chrysolepis or agrifolia	Canyon or Coast Live Oak	2	36" box	Fruit	L
RA	Rhamnus alaternus 'John Edwards' or Laurus nobilis	Italian Buckthorn or Sweet Bay	17	24" box	Native Standard, Staked Standard	VL L L
<b>SHRUBS</b>						
AHM	Arctostaphylos 'H. McMinn'	McMinn Manzanita	35	5 gallon	Calif. Native	L
ASU	Arctostaphylos 'Sunset'	Sunset Manzanita	29	5 gallon	Calif. Native	L
AUC	Arbutus unedo 'Compacta'	Dwarf Strawberry Tree	49	5 gallon	Calif. Native	L
CIW	Cistus corbariensis or ladanifer	White of Crimson Spot Rockrose	22	5 gallon	Mediterranean	L
CAR	Carpenteria californica 'Elizabeth'	Bush Anemone	22	5 gallon	Calif. Native	M
CEA	Ceanothus 'Skylark', 'Concha'	California Wild Lilac	18	5 gallon	Calif. Native	L
CIB	Correa 'Ivory Bells'	White Australian Fuschia	48	5 gallon	Drought tolerant	L
OLO	Olea 'Little Ollie'	Little Ollie Olive	24	5 gallon	Mediterranean	L
PCC	Prunus caroliniana 'Compacta'	Dwarf Carolina Cherry	52	5 gallon	Calif. Native	L
REC	Rhamnus 'Eve Case'	California Coffeeberry	46	5 gallon	Calif. Native	L
RTB	Rosmarinus 'Tuscan Blue'	Tuscan Blue Rosemary	11	5 gallon	Herb	L
VOW	Vaccinium ovatum 'Wunderlich'	Huckleberry	1	5 gallon	Calif. Native	M
<b>VINES/ESPALEERS</b>						
ESP	Malus & Pyrus spp.	Espaliered Apple & Pear	8	5 gallon	Edible - Espaliered	M
HA	Hardenbergia 'Happy Wanderer'	Hardenbergia	5	1 gallon	Drought tolerant	M
JAS	Jaeminum polyanthum	Pink Jasmine	4	1 gallon	Fragrant	M
<b>GROUNDCOVERS</b>						
AEC	Arctostaphylos 'Emerald Carpet' & Ceanothus gloriosus 'Yankee Point'	Emerald Carpet Manzanita & Carmel Creeper	176	1 gallon 1 gallon	4'-0" OC-Native 4'-0" OC-Native	L L
C5	Cistus salvifolius & Cerastostigma plumbaginoides	Sageleaf Rockrose & Dwarf Plumbago	60	1 gallon 1 gallon	36" OC-Color 36" OC-Fall Color	L L

GER	Geranium biocovo or 'Rozanne'	Cranesbill	64	4" or 1 gallon	30" OC-Color	L
RV	Ribes viburnifolium	Evergreen Currant	26	1 gallon	Calif. Native	L
SBB	Salvia 'Bees Bliss'	Bees Bliss Creeping Sage	70	1 gallon	36" OC - Calif. Native	L
<b>PERENNIALS</b>						
ACH	Achillea 'Moonshine', 'Paprika'	Assorted Yarrow	15	1 gallon	30" OC-Color	L
FR	Fragaria 'Assorted' or Herbs	Edible Strawberry or Herbs	40	Bare root	24" OC - Edible	M
HEU	Heuchera maxima	Island Alum Root	66	1 gallon	24" OC-Native	M
HPP	Heuchera micrantha 'Palace Purple' or Carex testacea 'Prairie Fire'	Burgundy Alum Root or New Zealand Hair-Sedge	51	1 gallon	24" OC-Native	M
MIM	Mimulus 'Jelly Bean' 'Assorted'	Jelly Bean Monkey Flower	25	1 gallon	30" OC	M
NE	Nepeta faassenii 'Six Hills Giant'	Catmint	64	4" or 1 gallon	Calif. Native	L
PEN	Penstemon 'Margarita BOP'	Foothill Penstemon	22	1 gallon	30" OC-Color	L
PRR	Penstemon Red or Purple Riding Hood	Riding Hood Beard Tongue	27	1 gallon	Calif. Native	L
SG	Salvia greggii 'Assorted'	Autumn Sage	6	1 gallon	Cut-Flowers	L
VER	Verbena lilacina 'De la Mina	De La Mina Verbena	9	1 gallon	Calif. Native	L
ZC	Zauschneria c. 'Everett's Choice'	Everett's Choice Calif. Fuschia	5	1 gallon	Calif. Native	L
<b>GRASSES/CACTUS/FERNS</b>						
AGA	Agave a. medio-picta 'Alba' or Yucca filamentosa	White Century Plant or Adam's Needle	3	5 gallon	Accent - 48" OC	L
CHO	Chondropetalum tectorum	Small Cape Rush	54	5 gallon	Accent - 48" OC	L
CHE	Chondropetalum elephantinum	Giant Cape Rush	26	5 gallon	36" OC	L
CKL	Calamagrostis 'Karl Foerster'	Feather Reed Grass	80	1 gallon	48" OC	L
CTU	Carex tumulicola & Iris douglasiana 'Assorted'	Berkeley Sedge & Douglas Iris	144	4" or 1 gallon	3'-0" OC	L
ID	Iris douglasiana 'Assorted'	Douglas Iris	144	1 gallon	36" OC-Native	L
DRY	Dryopteris erythrosora or Polystichum munitum	Autumn Fern or Western Sword Fern	64	1 gallon	36" OC-Fall Color	M
HEL	Helictotrichon sempervirens	Blue Oat Grass	17	1 gallon	36" OC-Native	M
JUN	Juncas patens 'Eik Blue'	Elk Blue California Gray Rush	35	1 gallon	30" OC-Native	L
LOM	Lomandra longifolia 'Breeze'	Dwarf Matt Rush	432	4" or 1 gallon	36" OC Bioswale	L
MT	Miscanthus transmonisonensis or Phormium 'Black Adder, Yellow Wave'	Evergreen Miscanthus or New Zealand Flax	9	1 gallon	Accent	M
NO-MOW	'Native Mow-Free' Seed Blend	Delta Bluegrass Biofiltration Sod	2300	5 gallon	Accent	L
SOD	Bolero Plus Rescue Blend Sod	Delta Bluegrass	600	SF	Bioswales/Hydroseed	L
				SF	Play Areas	M



City of Sonoma  
 No. 1 The Plaza, Sonoma, CA  
 95476

**WATER EFFICIENT LANDSCAPE WORKSHEET**

Prepared 12/1/15

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

**Reference Evapotranspiration (ETo) 46.1**

Hydrozone # /Planting Description <sup>a</sup>	Plant Factor (PF)	Irrigation Method <sup>b</sup>	Irrigation Efficiency (IE) <sup>c</sup>	ETAF (PF/IE)	Landscape Area (sq, ft.)	ETAF x Area	Estimated Total Water Use (ETWU) <sup>d</sup>	
<b>Regular Landscape Areas</b>								
Trees	.4	Drip	.81	.49	2800	1372	39215	
Shrubs	.3	Drip	.81	.37	22250	8232.5	235301	
Bioswales	.4	Spray	.75	.53	1700	901	25752	
Lurf	.6	Spray	.75	.80	600	480	13719	
				Totals	(A) 27350	(B)	313,987	
<b>Special Landscape Areas</b>								
				1				
				1				
				1				
				Totals	(C)	(D)		
							<b>ETWU Total</b>	313,987
							<b>Maximum Allowed Water Allowance (MAWA)<sup>e</sup></b>	429,945

<sup>a</sup>Hydrozone #/Planting Description  
 E.g  
 1.) front lawn  
 2.) low water use plantings  
 3.) medium water use planting

<sup>b</sup>Irrigation Method  
 overhead spray  
 or drip

<sup>c</sup>Irrigation Efficiency  
 0.75 for spray head  
 0.81 for drip

<sup>d</sup>ETWU (Annual Gallons Required) =  
 $Eto \times 0.62 \times ETAF \times Area$   
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

<sup>e</sup>MAWA (Annual Gallons Allowed) =  $(Eto) (0.62) [(ETAF \times TLA) + ((1-ETAF) \times SLA)]$   
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

**Plant Factor (PF)**  
 0 to 0.1 Very Low Water Use Plants  
 0.1 to 0.3 Low Water Use Plants  
 0.4 to 0.6 Moderate Water Use Plants  
 0.7 to 1.0 High Water Use Plants  
 Plant factors cited are derived from the publication "Water Use classification of Landscape Species".

TLA = regular Landscape Areas + Special Landscape Areas.

**ETAF Calculations**

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	$B \div A$

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	$(B+D) \div (A+C)$

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

MAWA  
 $(46.1)(.62)[(.55)(27350)] + 0$   
 $= 429,945$



Type:  
Job:  
Catalog number:

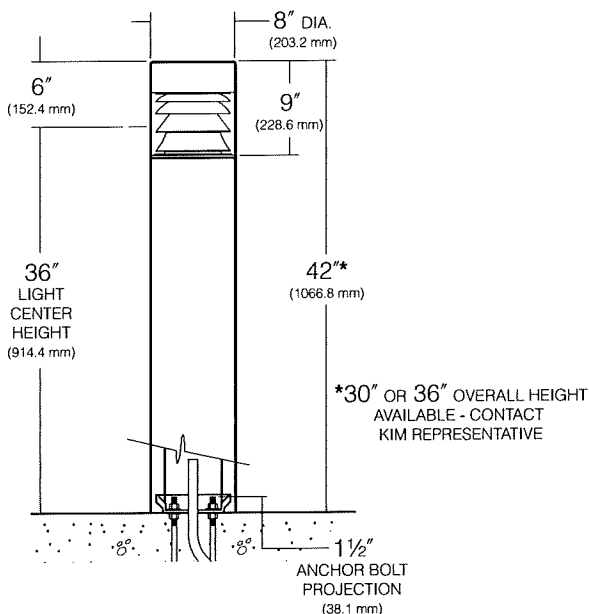
Approvals:

<b>B30</b>	/	/	/
Fixture	Electrical Module	Top Cap and Shaft Finish	Options
See page 2		See page 3	

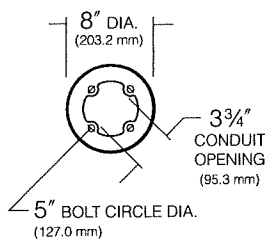
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## Specifications

**B30 LED**  
Maximum weight: 30 lb.



### BASE PLAN B30



**Top Cap:** One-piece heavy gauge spun aluminum retained by two countersunk captive socket head fasteners, braced at outer edges by optical assembly. 3/4" thick insulation provided above lamp.

**Plastic Enclosure:** High grade, high temperature acrylic, optically clear, 1/4" nominal wall, one-piece injection molded retained in an unstressed position by internal support through reflector assembly.

**Optical Assembly:** Precision hydroformed optical louvers with specular Alzak® finish, removable as a one-piece self-contained unit.

**Shaft:** One-piece, extruded, wall thickness, .125" with heavy cast aluminum twist-lock anchor base concealed within post. Post locks to base with (2) 3/8" stainless steel cone point set screws.

**Gasketing:** Fixture is silicone gasketed for weathertight operation.

**Electronic Module:** All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Each LED equipped with a directional optic for maximum beam angle projecting through louver stack spacings. LED boards to be mounted to an anodized inter-locking heat sink extrusion. 20-LED total. Available in 580nm Amber, 3000K, 4200K and 5100K color temperatures.

**Anchor Bolts:** Four 3/8" x 10" + 2" zinc electro-plated L-hook anchor bolts, each with two nuts and washers and a rigid pressboard template.

**Finish:** Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat finish. Standard colors include (BL) Black, (DB) Dark Bronze, (WH) White, (PS) Platinum Silver, (SG) Stealth Gray, (LG) Light Gray, and (CC) Custom Color (Include RAL#).

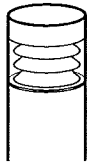
**Listed to:** UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American provisions within ARRA.

**Warranty:** Kim Lighting warrants Bollard LED products sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of five (5) years for exterior housing paint finish(s), (iii) a period of five (5) years for LED Light Engines and, (iv) a period of five (5) years for LED power components (driver, surge protector and LifeShield® device), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

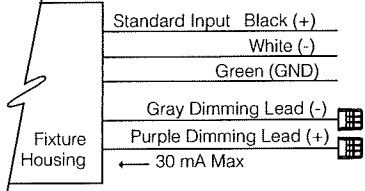
**CAUTION:** Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.



Type:  
 Job:



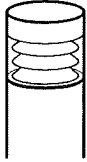
## Standard Features

<b>Fixture</b>	Cat. No. <b>B30</b> High Performance Bollard, 8" Round			
<b>Electrical Module</b> <b>LED</b> = Light Emitting Diode	Cat. Nos. for LED Electrical Modules available: <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border: none;"> <b>xL</b>  <b>Source:</b>  <input type="checkbox"/> <b>10L</b>= 10 LED                              (IES Type I)  <input type="checkbox"/> <b>15L</b>= 15 LED                              (IES Type III)  <input type="checkbox"/> <b>20L</b>= 20 LED                              (IES Type V)         </td> <td style="text-align: center; border: none;"> <b>xK</b>  <b>Color Temperature:</b>  <input type="checkbox"/> 2K = 580nm - Amber  <input type="checkbox"/> 3K = 3000K  <input type="checkbox"/> 4K = 4200K  <input type="checkbox"/> 5K = 5100K         </td> <td style="text-align: center; border: none;"> <b>UV</b>  <b>Voltage:</b>  <input type="checkbox"/> <b>UV</b> Universal Voltage                              shall range from                              120V-277V         </td> </tr> </table>	<b>xL</b> <b>Source:</b> <input type="checkbox"/> <b>10L</b> = 10 LED (IES Type I) <input type="checkbox"/> <b>15L</b> = 15 LED (IES Type III) <input type="checkbox"/> <b>20L</b> = 20 LED (IES Type V)	<b>xK</b> <b>Color Temperature:</b> <input type="checkbox"/> 2K = 580nm - Amber <input type="checkbox"/> 3K = 3000K <input type="checkbox"/> 4K = 4200K <input type="checkbox"/> 5K = 5100K	<b>UV</b> <b>Voltage:</b> <input type="checkbox"/> <b>UV</b> Universal Voltage shall range from 120V-277V
<b>xL</b> <b>Source:</b> <input type="checkbox"/> <b>10L</b> = 10 LED (IES Type I) <input type="checkbox"/> <b>15L</b> = 15 LED (IES Type III) <input type="checkbox"/> <b>20L</b> = 20 LED (IES Type V)	<b>xK</b> <b>Color Temperature:</b> <input type="checkbox"/> 2K = 580nm - Amber <input type="checkbox"/> 3K = 3000K <input type="checkbox"/> 4K = 4200K <input type="checkbox"/> 5K = 5100K	<b>UV</b> <b>Voltage:</b> <input type="checkbox"/> <b>UV</b> Universal Voltage shall range from 120V-277V		
<b>Luminaire Finish</b> TGIC powder coat paint on fixture and shaft.	Color:   Black   Dark Bronze   Light Gray   Stealth Gray   Platinum Silver   White   Custom Color Cat. No.: <input type="checkbox"/> <b>BL</b> <input type="checkbox"/> <b>DB</b> <input type="checkbox"/> <b>LG</b> <input type="checkbox"/> <b>SG</b> <input type="checkbox"/> <b>PS</b> <input type="checkbox"/> <b>WH</b> <input type="checkbox"/> <b>CC</b> *Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____			
<b>0-10V Dimming Interface</b>	Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems including Hubbell Building Automation wiHUBB™. Approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV. Note: Not compatible with current sourcing dimmers. Controls compatible via Gray and Purple dimming lead. <div style="float: right; text-align: right;">  </div>			

Type:

Job:

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## Optional Features

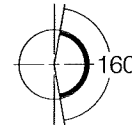
### Houseside Shield

Cat. No.  **HS**  
 **No Option**

Eliminates backlight in unwanted areas such as adjacent property, or wherever an asymmetric light distribution is desired. Constructed of sheet aluminum covering a 160° arc. Finished to match the fixture. Shield is fully adjustable about a 360° rotation. Consult Kim representative.



Houseside Shield

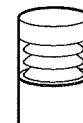


### Polycarbonate Enclosure

Cat. No.  **LC**  
 **No Option**

Clear Polycarbonate

**CAUTION:** Use only when vandalism is anticipated to be high. Useful life is limited due to yellowing caused by UV from sunlight.

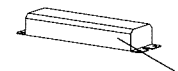


Clear Polycarbonate

### Battery Back-up

Cat. No.  **EM**  
 **No Option**

Internal battery pack provides 90 minutes of supplemental light at 50% of initial lamp lumens.



Battery Back-up

### Optional Duplex Receptacle

Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

Mounted 18" from bottom of shaft, in a cast aluminum box that is internally welded and sealed with a gasketed While-In-Use cover with locking tab. Painted to match bollard.

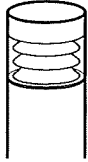
**DR** weather proof duplex receptacle rated 20A, 125V.

**DR-GFI** weather proof duplex receptacle with ground fault circuit interrupter rated 20A, 125V.

Type:

Job:

Page: 4 of 4



## Lumen Data

Spectroradiometric			
	3000K Average	4200K Average	5100K Average
Correlated Color Temp. CCT (K)	2800K - 3175K	3800K - 4600K	4600K - 5600K
Color Rendering Index (CRI)	≥75	≥70	≥65
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	50,000 hrs	100,000 hrs
350mA	N/A	N/A

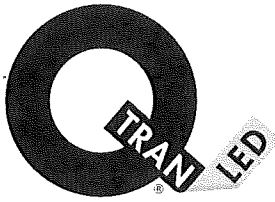
Based on 20LED version.

Electrical Drive Current - @350mA						
Volts - AC	Type 1		Type 3		Type 5	
	Amps - AC	System Watts	Amps - AC	System Watts	Amps - AC	System Watts
120	0.11	13	0.16	19	0.21	25
208	0.06	13	0.09	19	0.12	25
240	0.05	13	0.08	19	0.10	25
277	0.05	13	0.07	19	0.09	25

B.U.G. Rating (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	B0 U2 G1	B0 U2 G1	B1 U2 G1
4200K	B0 U2 G1	B0 U2 G1	B1 U2 G1
5100K	B0 U2 G1	B0 U2 G1	B1 U2 G1

Absolute Lumens			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	344	506	708
4200K	425	625	873
5100K	467	686	959

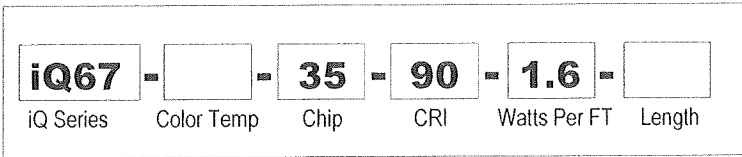
LED performance and lumen output continues to improve at a rapid pace. Log onto [www.kimlighting.com](http://www.kimlighting.com) to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.



**iQLED TAPE LIGHT 3528 CHIP SERIES**  
**iQ67 1.6 W/ft: WET RATED**



Q-Tran's iQ67 flexible LED tape light is wet listed and available in multiple color temperatures ranging from 2500K – 4000K. The 1.6 W/Ft utilizes the 3528 chip, can come in a 60' reel, has cut points of 3.94", can be cut to length in the field or cut to length at the Q-Tran factory. The lumen output of this LED makes it perfect for most exterior or interior application where a coated LED is required.



**FEATURES**

- LED life time - 40,000 hours
- Operating temperature: -4°F ~ +113°F
- Suitable for dry, damp or wet locations
- Non-Ferrous Material
- 3.94" cut points
- Field cuttable
- 3 year warranty

**iQ67-25-35-90-1.6**

Max Run / Reel Length: 60ft\* | Color Temp: 2500K | Voltage: 24VDC  
 CRI: 90+ | LM: 79 | WattsPer Ft: 1.6 | Lumens Per Ft: 127

**iQ67-27-35-90-1.6**

Max Run / Reel Length: 60ft\* | Color Temp: 2700K | Voltage: 24VDC  
 CRI: 90+ | LM: 79 | WattsPer Ft: 1.6 | Lumens Per Ft: 129

**iQ67-30-35-90-1.6**

Max Run / Reel Length: 60ft\* | Color Temp: 3000K | Voltage: 24VDC  
 CRI: 90+ | LM: 79 | WattsPer Ft: 1.6 | Lumens Per Ft: 138

**iQ67-35-35-90-1.6**

Max Run / Reel Length: 60ft\* | Color Temp: 3500K | Voltage: 24VDC  
 CRI: 90+ | LM: 79 | WattsPer Ft: 1.6 | Lumens Per Ft: 143

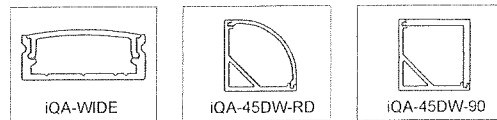
**iQ67-40-35-90-1.6**

Max Run / Reel Length: 60ft\* | Color Temp: 4000K | Voltage: 24VDC  
 CRI: 90+ | LM: 79 | WattsPer Ft: 1.6 | Lumens Per Ft: 156

\*Maximum length for one run of iQ67 LED 1.6. Individual Power supply cut sheets will provide max distance/loads per power supply.

**NOTE:** Q-Tran offers multiple LED Chip offerings based upon size and pitch, each utilizing its own binning. Utilization of multiple outputs within the same chip family will ensure flawless color matching and similar overall diffusion.

**COMPATIBLE EXTRUSIONS**



**NOTE:** Can be used in wet locations.

**COMPATIBLE POWER SUPPLIES**

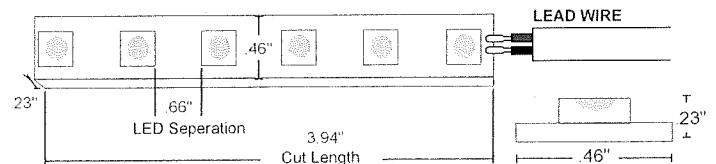
**Interior Applications**

- QJB & QJBL
- Q6M-DC & DC+CAP
- QTM-eLED, QTM-DC & DC+CAP
- iQ-PH

**Exterior Applications**

- QOM-eLED, QOM-DC & DC+CAP
- Q-SET-eLED & Q-SET-mLED
- Q-HEX-Mini-DC
- iQ-PH

**DIMENSIONS**



**NOTE:** Cut marks of LED tape allows for changes in the field.

**1.6 watts per foot= cut every 3.94"**

Lead wire comes standard on all LEDs in 18" (20/2 AWG)



2016.V02

PROJECT NAME	DATE	COMPANY	TYPE	NOTE



# iQ67 1.6 W/Ft

## iQ67-30-35-90-1.6

Light efficiency:

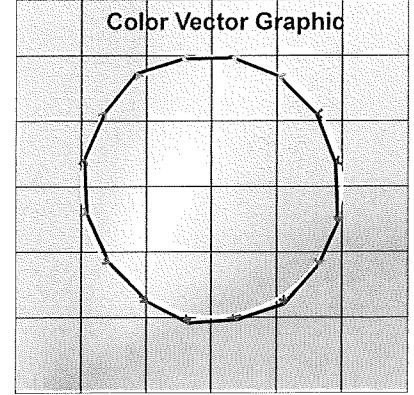
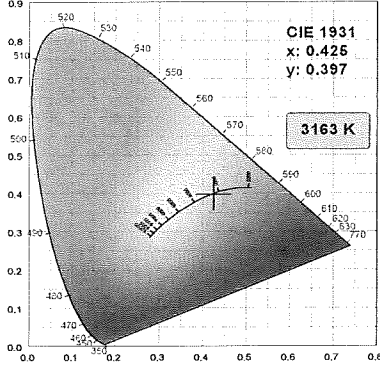
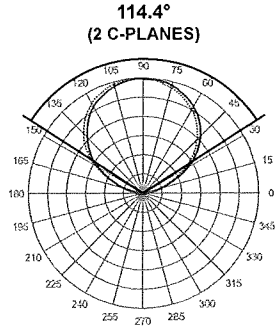
80 Lumen/Watt

CRI:

94.3

Color temperature:

3163K



Electrical Test Condition for 1 foot

Output: 129 lm/ft Peak: 43.2 cd Power: 1.6 W/ft 24V@ 0.07A

### COLOR PARAMETERS

CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3163 K	94.3	75.9	91.1	101.5	91.5	0.425	0.397	0.246	0.345	0.0010

CRI R Values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
95.8	95.9	93.4	95.2	94.4	93.6	95.8	90.5	75.9	88.0	94.8	76.6	95.8	95.3	93.9

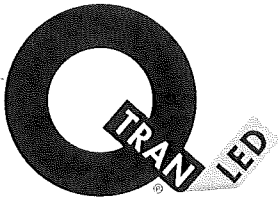
### BEAM DETAILS

Beam angle 50%	Field angle 50%	Cutoff angle 2.5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
114.4°	160.6°	190.9°	77.4%	52.4%

Beam Intensities in Footcandles (from 1-20m)

3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft
4	1	0.4	0.2	0.2	0.1	0.1	0.1	0	0

Hue Bin	Rr	Graphics Shift	
		Chroma	Hue
1	93	-3%	-1%
2	94	-2%	2%
3	89	-1%	5%
4	92	0%	4%
5	92	0%	3%
6	93	4%	0%
7	94	0%	-2%
8	96	0%	-2%
9	94	-2%	2%
10	87	-2%	6%
11	84	1%	10%
12	89	6%	4%
13	93	4%	-1%
14	89	6%	-4%
15	91	2%	-5%
16	86	1%	-10%



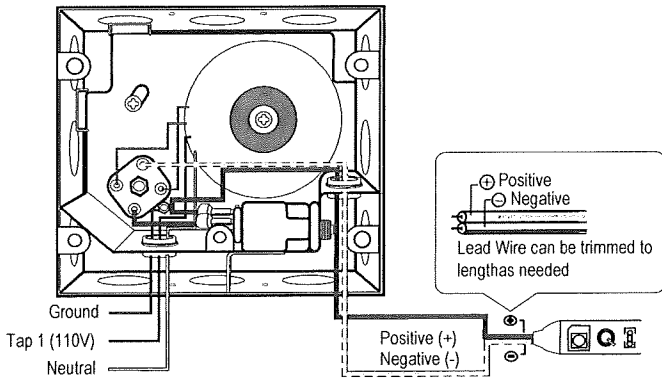
iQ LED TAPE LIGHT

# COMPATIBLE POWER SUPPLIES

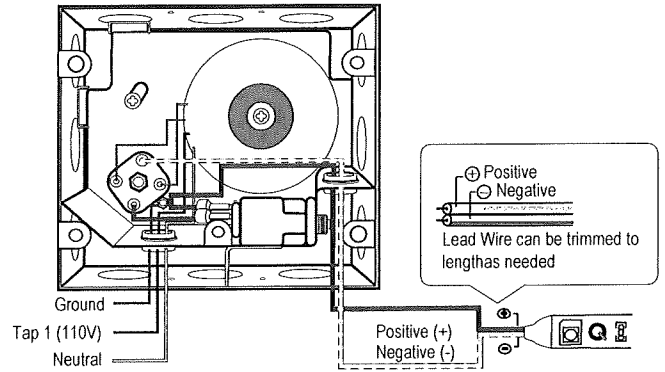
## JUNCTION BOX

### QJB

QJB-20DC-120/12

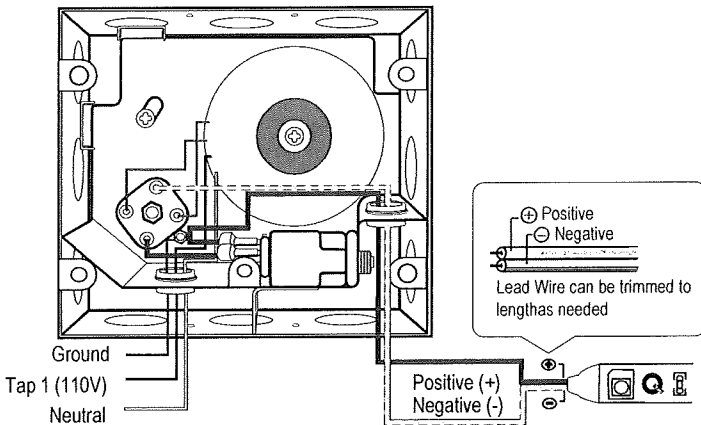


QJB-20DC-120/24

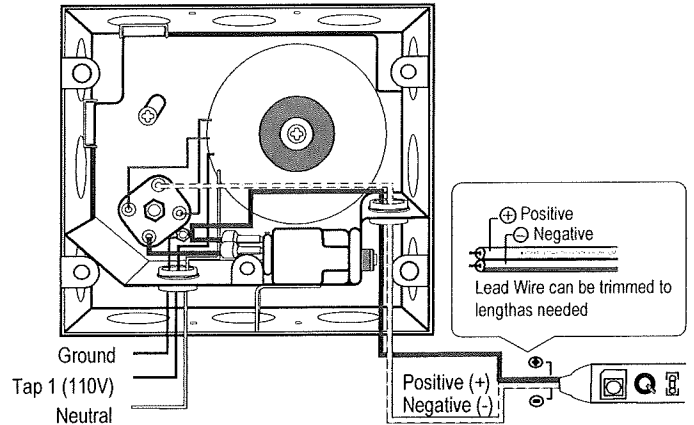


### QJBL

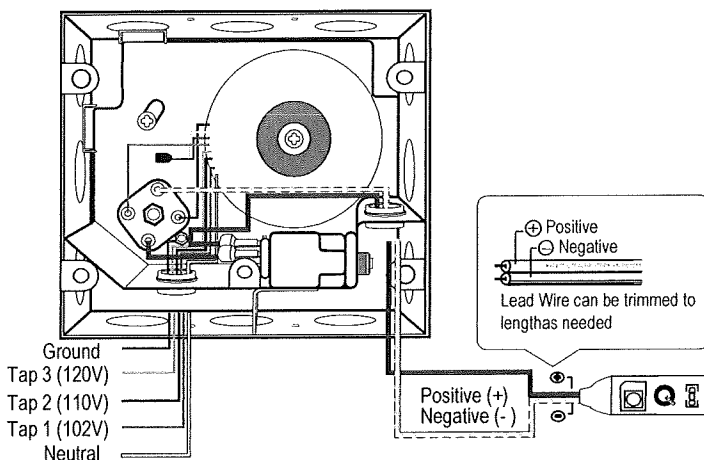
QJBL-20DC-120/12



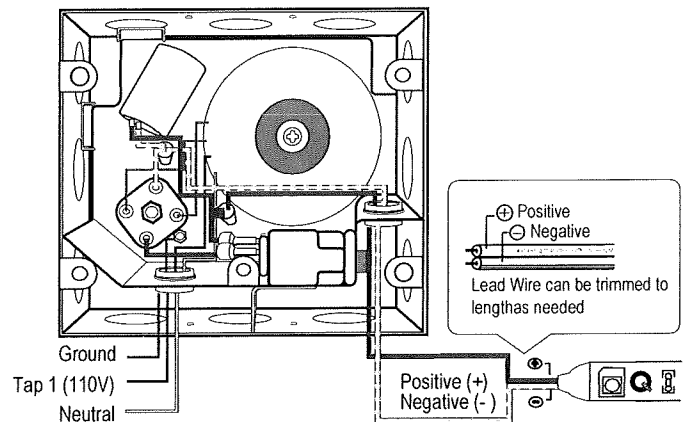
QJBL-20DC-120/24

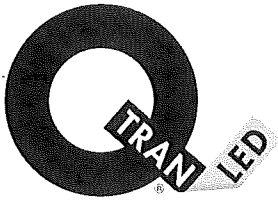


QJBL-40DC-120/24



QJBL-20DC+CAP-120/24





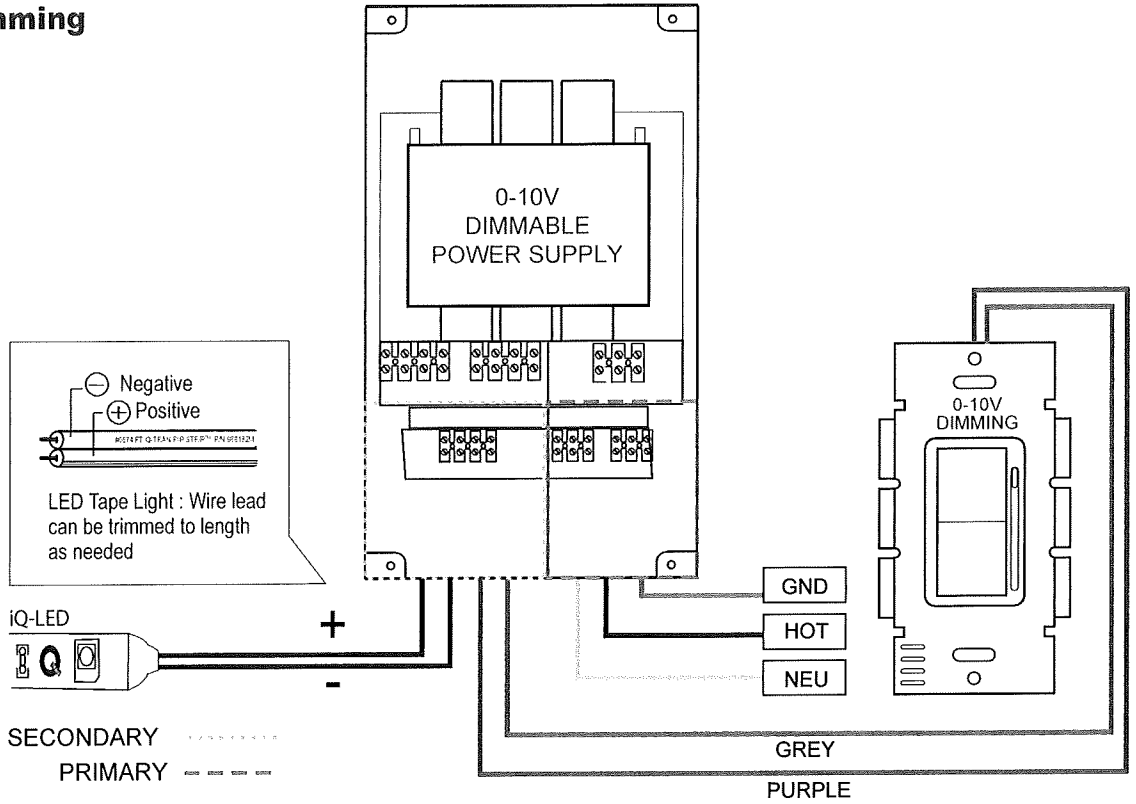
iQ LED TAPE LIGHT

# COMPATIBLE POWER SUPPLIES

## Electronic 0-10V Dimming

**QTM** for interior

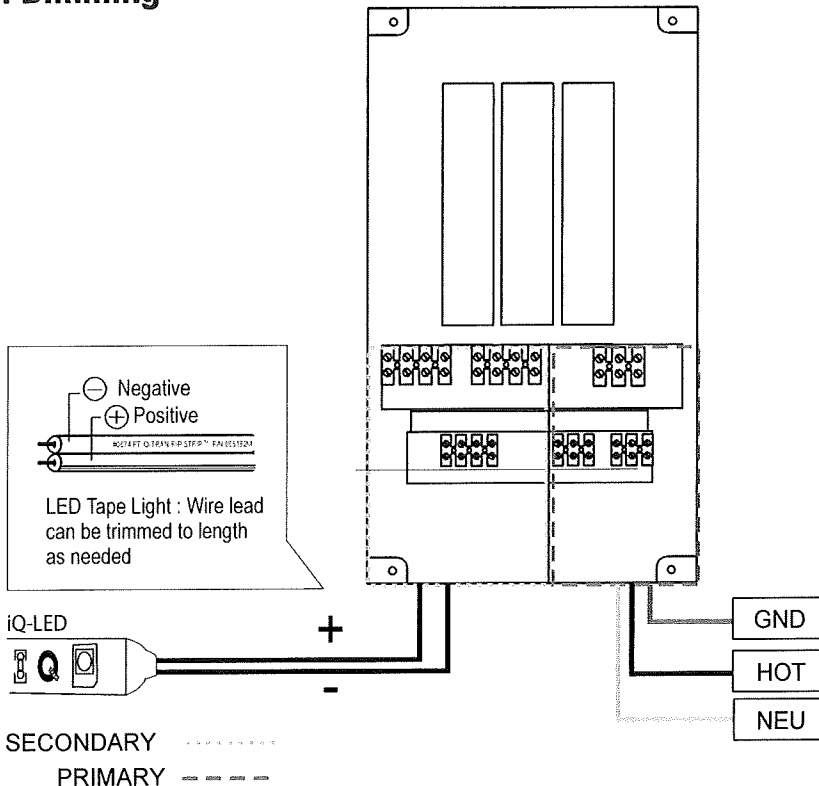
**QOM** for exterior



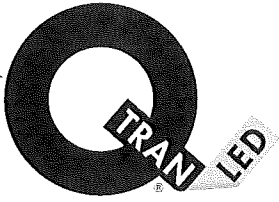
## Electronic Driver Non-Dimming

**QTM** for interior

**QOM** for exterior





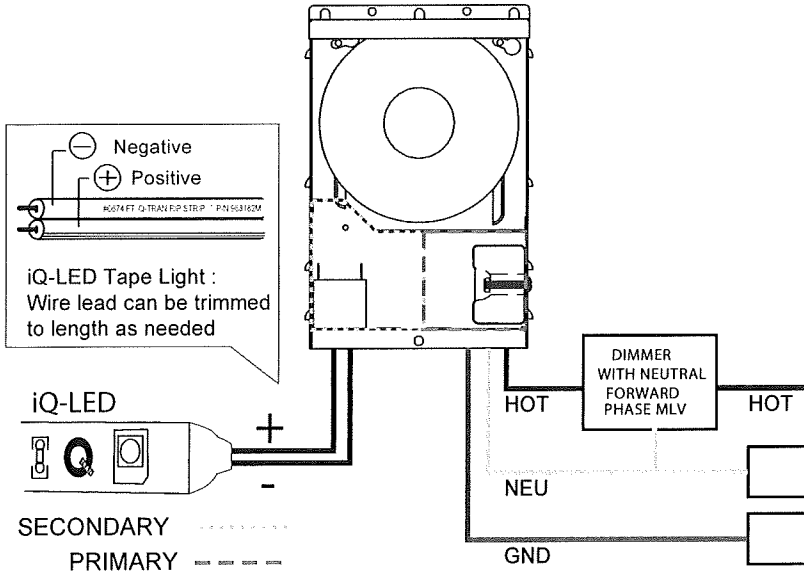


iQ LED TAPE LIGHT

# COMPATIBLE POWER SUPPLIES

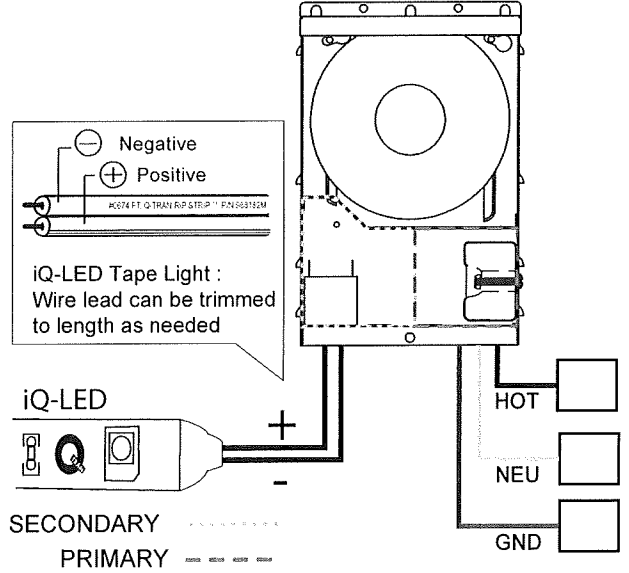
## Magnetic with Dimmer DC or DC+CAP

QT & Q6 for interior  
QOM for exterior

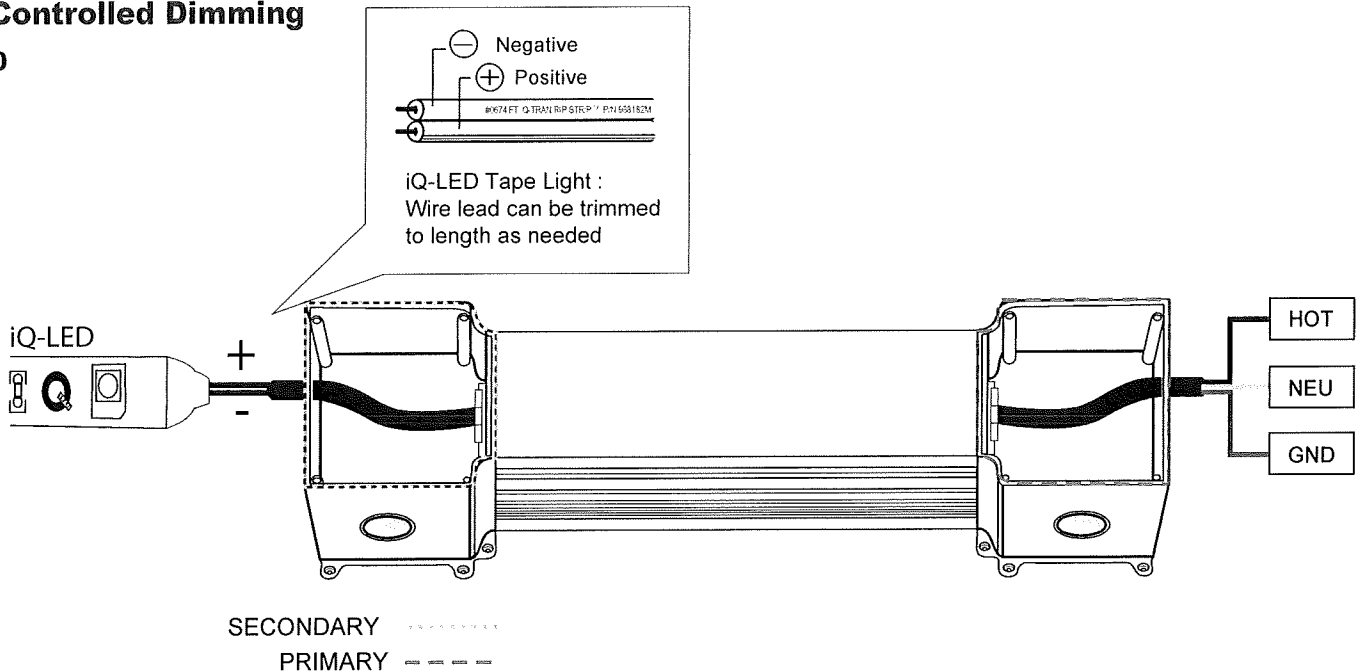


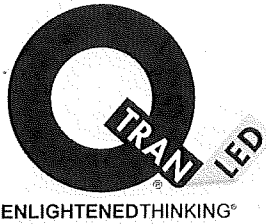
## Magnetic without Dimmer DC or DC+CAP

QT & Q6 for interior  
QOM for exterior

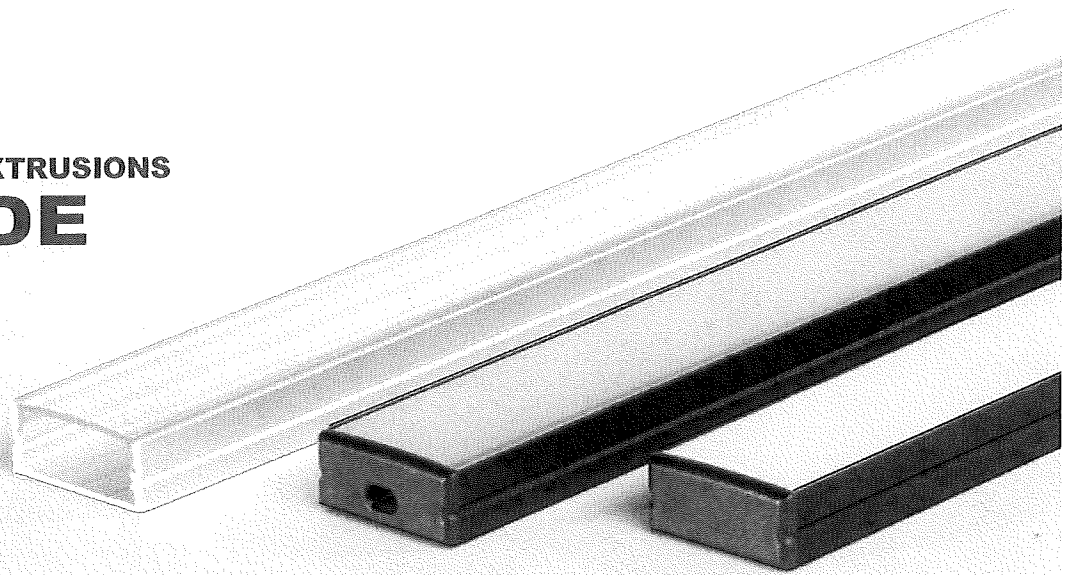


## Phase Controlled Dimming iQ-PH-80

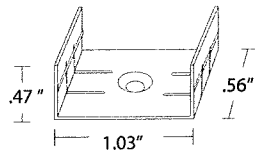
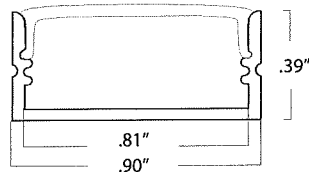
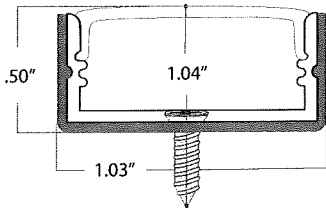




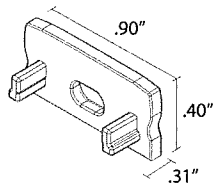
iQ LED EXTRUSIONS  
**WIDE**



**DIMENSIONS**



Mounting Clip



End Cap

**iQA-WIDE** : Wide profile Aluminum Extrusions

Max Length : 98.43 in

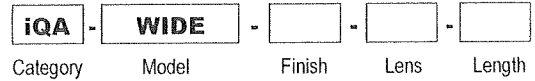
Color : Satin (ST), Bronze (BZ), Black (BK)

Material : Anodized Aluminum

Cover Options : Clear (CL), Diffused (DF), Opal (OP), Textured (TX),  
Silk (SK), Polar (PR)

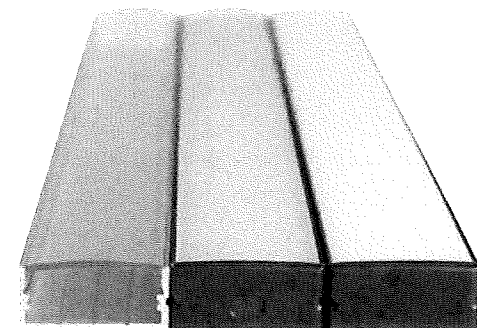
Fits : iQ20, iQ54, iQ65, iQ67, iQ68

**ORDERING GUIDE**

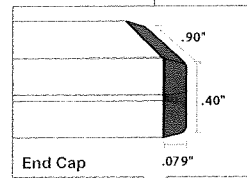


- Finish : ST = Satin BZ = Bronze BK = Black
- Lens : CL, DF, TX, OP, SK, PR
- Length : Max = 98.43"

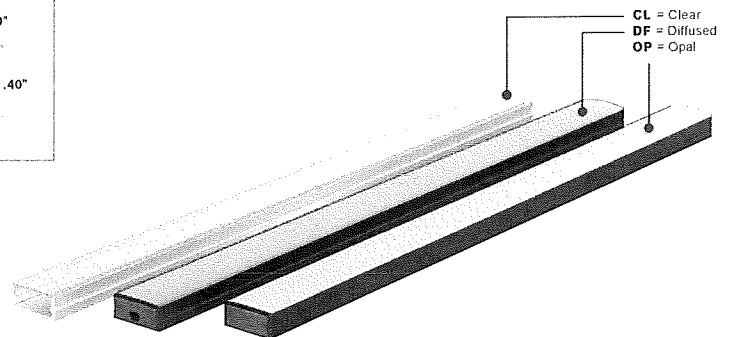
NOTE: Custom colors available upon request.



Bronze



End Cap



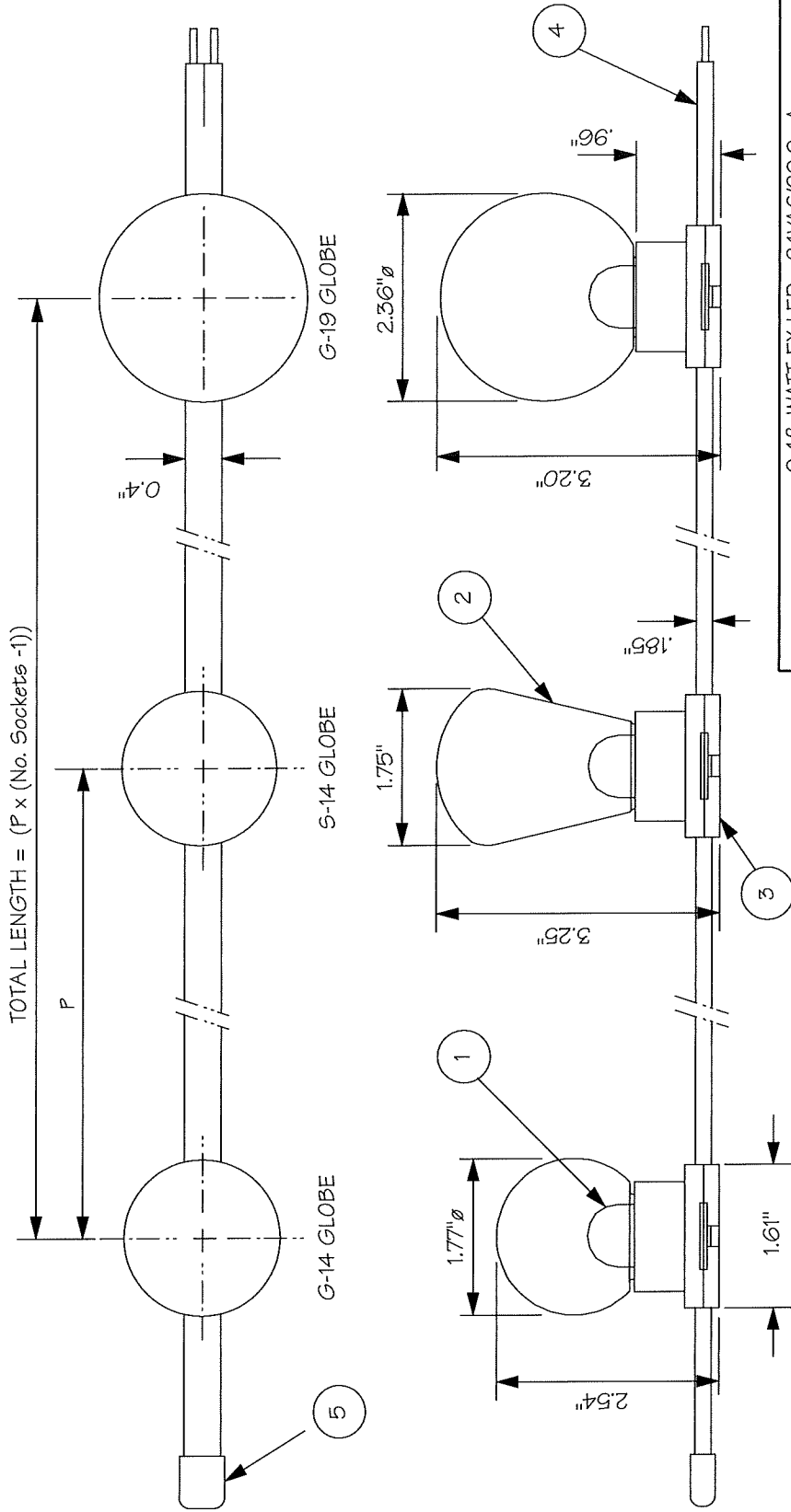
CL = Clear  
DF = Diffused  
OP = Opal

Satin

2017.V01

PROJECT NAME	DATE	COMPANY	TYPE	NOTE

# Exhibitor Series - 0.48 Watt LED

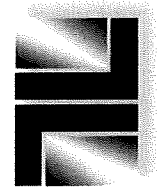


CATALOG#	P(INCH)	MAXIMUM LENGTH
EX(BK,WH)-6-(LED CODE)-(G14, S14, G19)	6" ± .075	250'
EX(BK,WH)-12-(LED CODE)-(G14, S14, G19)	12" ± .075	350'
EX(BK,WH)-18-(LED CODE)-(G14, S14, G19)	18" ± .075	420'
EX(BK,WH)-24-(LED CODE)-(G14, S14, G19)	24" ± .075	500'

CABLE COLOR CODE: BK=BLACK, WH=WHITE

0.48 WATT EX-LED 24VAC/20.0mA				
PART#	LED CODE	COLOR	LUMEN	WAVELENGTH (K)
EX-WW	WW	WARM WHITE	12.5Lm	2500K
EX-WH	WH	WHITE	18.0Lm	5500K
EX-BL	BL	BLUE	1.4Lm	469.5
EX-GR	GR	GREEN	4.6Lm	527.9
EX-OR	OR	ORANGE	2.5Lm	593.3
EX-PL	PL	PURPLE	3.8Lm	430.1
EX-RD	RD	RED	2.6Lm	636.6
EX-YG	YG	YELLOW-GREEN	8.0Lm	542.4

EXHIBITOR SERIES SUBMITTAL	NO.	PART	MATERIAL
CATALOG#: EX(BK,WH)-(SPACING)-(LED CODE)-(G14, S14, G19)	1	LED	SOLID-STATE LED
DATE: JANUARY 16, 2014	2	GLOBE	POLYCARBONATE
DRAWN BY: R.CORDOVA	3	SOCKET	PBT
SCALE: 1:2	4	#12 AWG WIRE	PVC WITH PLATED COPPER CONDUCTOR
WEIGHT: 80g/PER SOCKET	5	END CAP	PVC



**TOKISTAR LIGHTING INC.**  
 1015 E. DISCOVERY LANE  
 ANAHEIM, CA 92801  
 TEL: 714 772 7005 FAX: 714 772 7014  
 email: info@tokistar.com Website: tokistar.com

**Application**

LED recessed wall luminaire with asymmetrical forward throw distribution for superior illumination of ground surfaces from an extremely low mounting height.

**Materials**

Luminaire housing and faceplate constructed of die-cast aluminum marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy  
 Clear safety glass with optical texture  
 Reflector made of pure anodized aluminum  
 Silicone applied robotically to casting, plasma treated for increased adhesion  
 High temperature silicone gasket  
 Mechanically captive stainless steel fasteners  
 Stainless steel screw clamps  
 Composite installation housing

**NRTL** listed to North American Standards, suitable for wet locations  
 Protection class IP65  
 Weight: 1.2 lbs

**Electrical**

Operating voltage	120-277VAC
Minimum start temperature	-40° C
LED module wattage	5.1 W
System wattage	8.0W
Controlability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	301 lumens (3000K)
Lifetime at Ta=15°C	> 500,000 h (L70)
Lifetime at Ta=25°C	470,000 h (L70)

**LED color temperature**

- 2700K - Product number + **K27**
- 3000K - Product number + **K3**
- 3500K - Product number + **K35**
- 4000K - Product number + **K4**

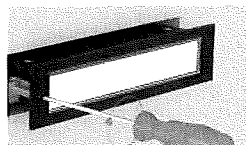
**BEGA** can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

**Finish**

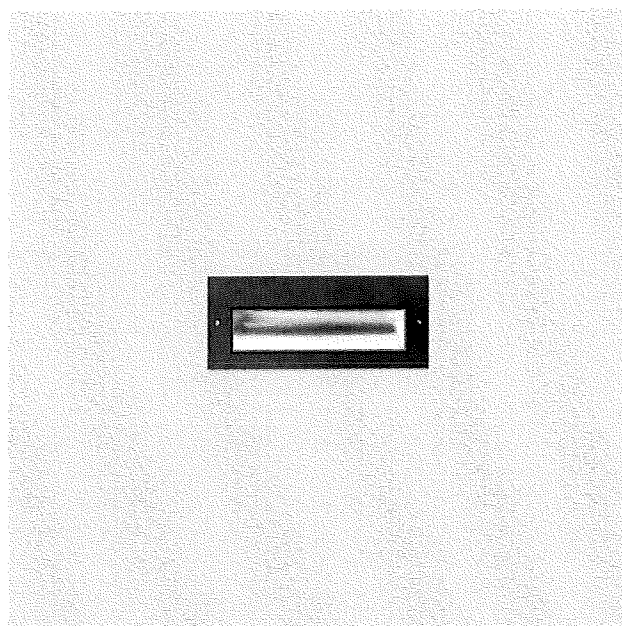
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors	Black (BLK)	White (WHT)	RAL:
	Bronze (BRZ)	Silver (SLV)	CUS:

Type:  
 BEGA Product:  
 Project:  
 Modified:



Fully enclosed luminaire with installation housing ensures seamless integration and weathertight operation.



LED recessed wall luminaires · asym. forward throw				
	LED	A	B	C
<b>24 063</b>	5.1 W	6%	2 1/4"	5"

## Wall luminaires with shielded light

**Housing:** Two piece die-cast aluminum with extruded aluminum arm and die-cast canopy supplied with a universal mounting bracket for direct attachment to a 3½" or 4" octagonal wiring box. A die-cast aluminum round "rotation" plate allows the housing to be precisely leveled (or rotated) after installation. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

**Enclosure:** Handblown, seamless, three-ply opal glass (≥ 75% transmissive) with screw neck. Molded high temperature silicone rubber O-ring gasket for weather tight operation. Spun aluminum shade with rolled reinforced edge, painted white inside.

**Electrical:** 8.9W LED luminaire, 12 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 90 CRI. Available in 4000K (90 CRI); add suffix K4 to order.

**Note:** LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to [www.bega-us.com](http://www.bega-us.com).

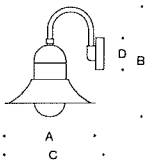
**Finish:** All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP44

**Weight:** 4.0 lbs

**Luminaire Lumens:** 724

Type:  
 BEGA Product:  
 Project:  
 Voltage:  
 Color:  
 Options:  
 Modified:



Lamp	A	B	C	D
66411 8.9W LED	12%	14½	13½	4%

## LED wall luminaires with directed light

**Housing:** One piece die-cast aluminum for attachment to wall over 3 1/2" or 4" octagonal wiring box. Die castings are marine grade, copper free ( $\leq 0.3\%$  copper content) A360.0 aluminum alloy.

**Enclosure:** One piece die-cast aluminum cover frame secured by two (2) captive, stainless steel set screws threaded into stainless steel inserts. Matte safety glass. Fully gasketed for weather tight operation using a molded 'U' channel silicone rubber gasket.

**Electrical:** 4.2W LED luminaire, 5.8 total system watts,  $-30^{\circ}\text{C}$  start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with  $>90$  CRI. Available in 4000K ( $>90$  CRI); add suffix K4 to order. Optionally available with 2700K color temperature, consult factory.

**Note:** LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to [www.bega-us.com](http://www.bega-us.com).

**Finish:** All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

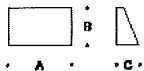
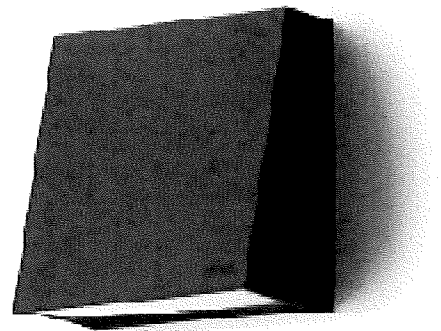
CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP64

**Weight:** 1.5 lbs.

Luminaire Lumens: 362

Tested in accordance with LM-79-08

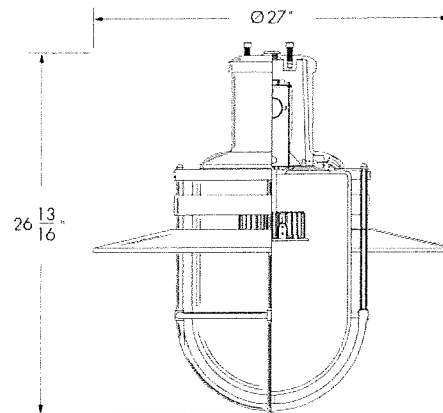
Type:  
 BEGA Product:  
 Project:  
 Voltage:  
 Color:  
 Options:  
 Modified:



	Lamp	A	B	C
22261	ADA 4.2W LED	6 7/8"	3 3/4"	2 3/8"



NAU8202+CS4-S1E



Front view

### Description

The Nautica 8202 is a durable, high-performance LED luminaire for nautical and marine environments, including boardwalks, piers, docks, lakeside promenades and seaside parks. Featuring a nautical design and a cage, the luminaire is endlessly scalable, with a choice of outputs, color temperatures, mounting arms (pole, side or decorative), finishes, and colors.

### Features

Output (module lumens)	2540lm (30W, 1 LED module), 5090lm (53W, 1 LED module)
Color and Color Temperature	3000K, 4000K, 5000K
Distributions	Type I, Type II, Type III, Type VS
Optical Option	Decorative shroud
Options	Photoelectric cell button type, 7-pin receptacle (consult factory), Surge protector
Warranty	5-year limited warranty

### Performance

Color Rendering	70+
Lumen Maintenance	L70 @ 70,000 hrs (25 °C)

**Physical**

<b>Hat material</b>	Moulded 356 aluminum alloy
<b>Cage material</b>	Cast aluminum and extrusion , Heavy gauge aluminum tray
<b>Louver material</b>	Heavy gauge spun aluminum
<b>Lens Material</b>	Rotomoulded polycarbonate, impact resistant and frosted or Moulded clear and impact resistant polycarbonate
<b>Rotative quarter turn opening system material</b>	Cast aluminum, Heavy duty silicone gasket
<b>Hardware Material</b>	Stainless steel
<b>Weight</b>	36.5 lbs
<b>EPA</b>	1.45 sq ft

**Electrical and control**

<b>Voltage</b>	120 volts, 240 volts, 277 volts, 347 volts
<b>Control</b>	On/Off control
<b>Connectors</b>	IP67 rated LED quick connectors for quick and easy maintenance (PVC)
<b>Power consumption</b>	30W or 53W
<b>LED Driver</b>	Electronic LED Driver (700 mA)

**Environmental**

<b>Environment</b>	Dry / damp / wet location
--------------------	---------------------------

**Ratings**

<b>Photoelectric cell and driver</b>	ANSI/UL, CSA
--------------------------------------	--------------

**Accessories (order separately)**

<b>Mounting accessory (order separately)</b>	Decorative arm CS2, Decorative arm CS4, Decorative arm CS6, Decorative arm CS7, Decorative arm CS9, Decorative arm CS10, Decorative arm CS11, Decorative arm CS12, Decorative arm MC5, Decorative arm PU4, Decorative arm PU5
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## How to order

Submitted on _____ for <input type="checkbox"/> Information <input type="checkbox"/> Approval	Project: _____
Other(s) <div style="border: 1px solid black; width: 400px; height: 50px; display: inline-block;"></div>	Distribution: _____
	Your order #: _____
	Representative: _____
	Our order #: <u>for lumenpulse use</u> _____

IMPORTANT NOTICE Lumenpulse assumes no responsibility for problems that may occur when combining third-party products.

1	2	3	4	5	6	7	8
NAU8202							
9	10						

**1 . Housing <sup>(1)</sup>**

NAU8202	Nautica 8202
---------	--------------

**2 . Voltage**

120	120 volts
240	240 volts
277	277 volts
347	347 volts

**3 . Output (module lumens)**

L25	2540lm (30W, 1 LED module)
L50	5090lm (53W, 1 LED module)

**4 . Color and Color Temperature**

30K	3000K
40K	4000K
50K	5000K

**5 . Distributions**

1	Type I
2	Type II
3	Type III
5S	Type VS

**6 . Lens**

CPL	Clear polycarbonate lens
FPL	Frosted polycarbonate lens

**7 . Finish**

BK	Black Sandtex®
BRZ	Bronze Sandtex®
SI	Silver Sandtex®
BKTX	Textured black
BRZTX	Textured bronze non-metallic
GRATX	Textured medium gray
GRNTX	Textured green
WHTX	Textured white
CC	Custom color and finish (please specify RAL color) <sup>(2)</sup>

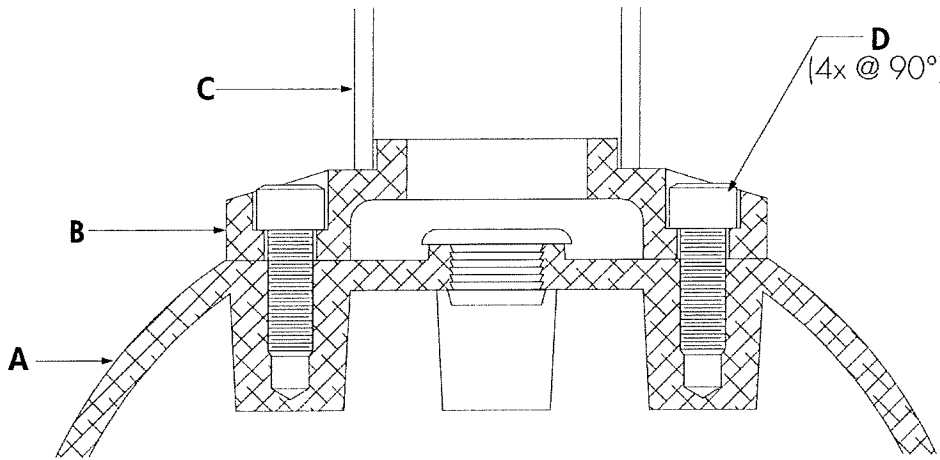
**8 . Control <sup>(3)</sup>**

NO	On/Off control
----	----------------

**9 . Optical Option**

DS	Decorative shroud
----	-------------------

## Assembly details



- A - Luminaire head adapter
- B - Bracket adaptor
- C - Bracket
- D -  $\varnothing 3/8$  by 1" long bolts on a  $\varnothing 3-3/4$ " bolt circle (included with the luminaire)

## 10 . Options

---

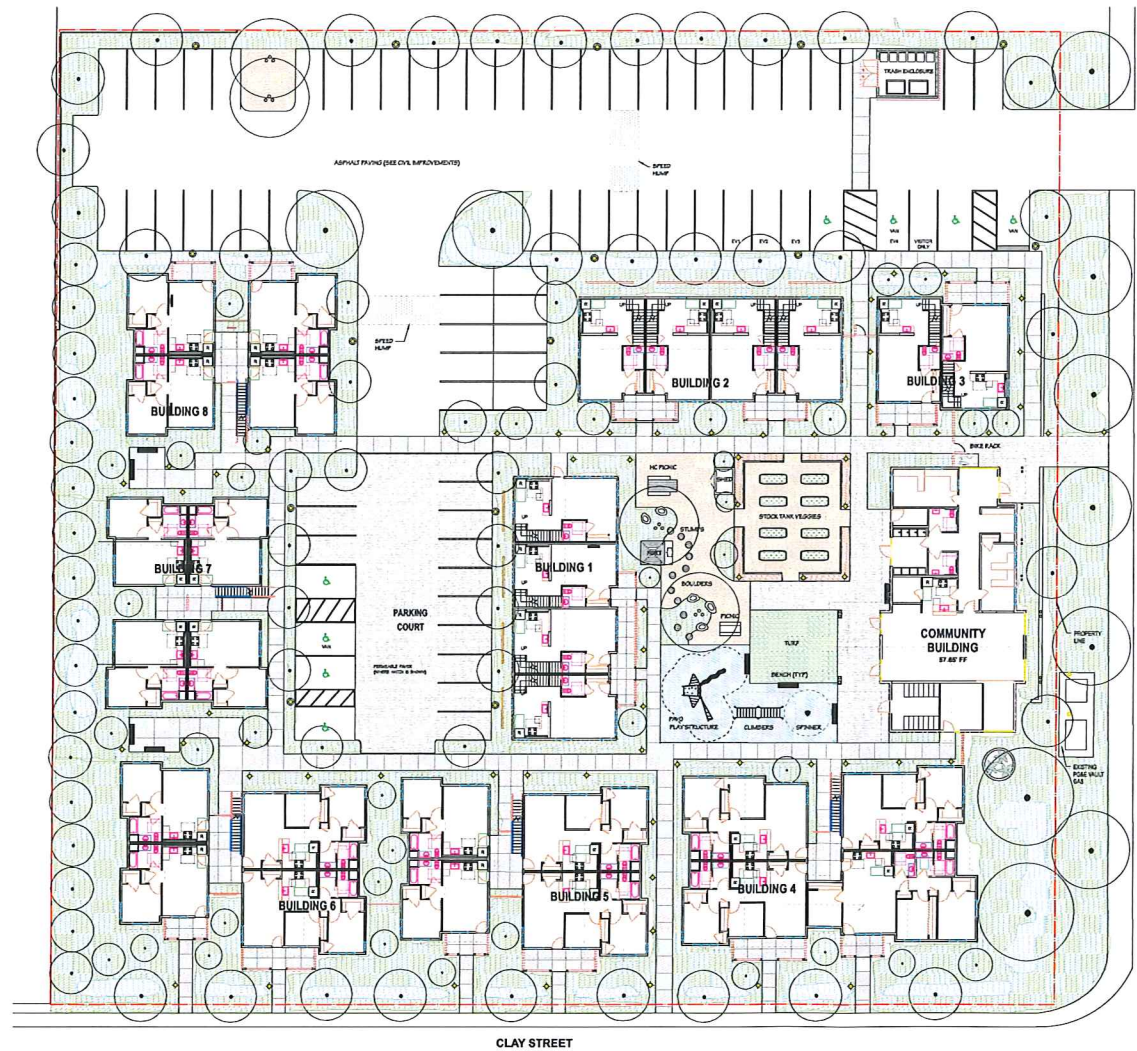
<b>PB</b>	Photoelectric cell button type
<b>SPR</b>	7-pin receptacle (consult factory)
<b>SP</b>	Surge protector

**Notes:**

<sup>(1)</sup> Consult Related Products section on webpage for a selection of compatible decorative arms, decorative poles and decorative base covers (sold separately).

<sup>(2)</sup> For custom RAL colors, specify RAL number followed by "TX" for textured finish (ex: RAL9007TX). A textured finish is recommended for ease of maintenance of all products. Please consult factory for other RAL textures and glosses, or to match alternate color charts. Final color matching results may vary.

<sup>(3)</sup> Consult factory for dimming options.



LANDSCAPE MASTERPLAN LEGEND			
KEY	QUANTITY	UNIT	DESCRIPTION
[Symbol]	19,300	SF	ASPHALT DRIVE & PARKING AREAS (SEE CIVIL DRAWINGS)
[Symbol]	2350	SF	0-3/8" GRANITECRETE "NATURAL" PERMEABLE PAVING ON 4" CL. 11 BASE w/1/4" X 5' STEEL HEADERS
[Symbol]	5600	SF	DELEGARD AQUA-ROC CLASSIC PERMEABLE PAVERS - HERRINGBONE ON 4" CLASS 11 BASE
[Symbol]	9,360	SF	CONCRETE PAVING W/SW/OUT OR TOOLED JOINTS - LIGHT BROOM OR SAND WASH FINISH
[Symbol]	1250	SF	PLAYBOUND SURFACE SYSTEM FOUNDED IN PLACE RESILIENT MATERIAL WHITEEL OR CONCRETE HEADER
[Symbol]	25,000	SF	PLANTING BEDS - DRIP IRRIGATED
[Symbol]	600	SF	"MEDALLION DWARF" OR "BOLEDO PLUS" FESCUE 500 WHITEEL HEADERS
[Symbol]	2300	SF	DISHWALE (CONFIRM W/CIVIL DRAWINGS)
[Symbol]	1	EA	10'-0" HISTORIC REDWOOD WIRE HOLDING TANK FILLED/SURROUNDED BY AGAVE OR MISSION BELLS(OPTION)
[Symbol]	100	LF	3'-0" HOG WIRE FENCE REDWOOD FRAMED
[Symbol]	1	EA	WOOD PLAY FORT WITH OUTDOOR SKITCHEN FOR CHILDREN
[Symbol]	12	EA	2' DIAMETER X 4' WOOD ROUNDS FOR PLAY
[Symbol]	7	EA	FIELDSTONE BOULDERS FOR PLAY OR SEATING
[Symbol]	1	EA	KOMPAN GX19014 "YAY" PLAY STRUCTURE
[Symbol]	1	EA	KOMPAN GX19014 "SPICA 1" SPINNER
[Symbol]	1	EA	KOMPAN FSW21300 DOUBLE OVERHEAD LADDER ALTERNATE: KOMPAN FCM156 DOUBLE TURBO TOWER CHALLENGE
[Symbol]	5	EA	DUNOR #165 2' X 6' RECYCLED PLASTIC BENCH WALNUT OR CEDAR
[Symbol]	1	EA	RECYCLED ADA COMPLIANT PICNIC TABLE (BY OWNERS)
[Symbol]	1	EA	RECYCLED PICNIC TABLE (BY OWNERS)
[Symbol]	100	LF	3'-0" HOG WIRE FENCE REDWOOD FRAMED
[Symbol]	1	EA	6' X 6' TOOL & GARDENING SUPPLY SHED
[Symbol]	5	EA	3' X 6' X 24" MARTIN GALVANIZED STOCK TANK PLANTERS
[Symbol]	1	EA	2 BIKE RACKS - BLACK
[Symbol]	112	LF	16" WIDE 18" TALL GRANITE OR GREY STONE SEATWALLS
[Symbol]	170	LF	3'-0" HOGWIRE FENCE W/WOOD FRAME
[Symbol]	288	LF	4'-0" HORIZONTAL SLAT HARDWOOD PATIO RAILING
[Symbol]	288	LF	7'-0" SOLID REDWOOD FENCE W/12" LATTICE (WEST PROPERTY LINE) BOUNDWALL @ NW PL CORNER
[Symbol]	140	LF	7'-0" SOLID REDWOOD FENCE (WEST PROPERTY LINE)
[Symbol]	296	LF	5'-0" SOLID REDWOOD FENCE (NORTH PROPERTY LINE)
[Symbol]	4	EA	EXISTING OAKS TO REMAIN
[Symbol]			PROPOSED TREES (SEE PLANTING PLAN)
[Symbol]			LED LINE VOLTAGE POLE & BOLLARD LIGHTS (SEE ELECTRICAL PLAN)

**PYATOK**  
 1511 TELEGRAPH AVE. SUITE 200  
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 www.pyatok.com

Altamira Affordable Housing  
 Association  
 1531 Alameda Avenue  
 Berkeley, CA 94703

JOHN G. CROGAN  
 LANDSCAPE ARCHITECTURE  
 1111 Broadway, Suite 200, San Francisco, CA 94133  
 415.774.1111 | www.jgcrogan.com

**ALTIMIRA FAMILY HOUSING**  
 20269 Broadway, Sonoma, CA



Expiration: 3/31/2017

DATE: 3/27/18  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 SCALE: 1" = 32'-0"  
 SHEET: LAYOUT & CONSTRUCTION PLAN  
 #011  
**L1.01**

MAR 27 2018





QUERCUS AGRIFOLIA    ARBUTUS 'MARINA'    PISTACIA CHINENSIS    ACER RUBRUM 'ARMSTRONG GOLD'    ACER RUBRUM    LAGERSTROEMIA NATCHEZ WHITE    LAGERSTROEMIA DYNAMITE    CERCOB MERLOT    CERCOB OCCIDENTALIS    MALUS 'PRARIE FIRE'

TREES



MAGNOLIA STELLATA    ESPALIERED APPLES    MEYER LEMON    POMEGRANITE    LAURUS NOBILIS    RHAMNUS ALATERNUS    PRUNUS CAROLINIANA COMPACTA    ARBUTUS UNEDO 'COMPACTA'    CEANOTHUS CONCHA    HUCKLEBERRY

TREES

LARGE SHRUBS



JASMIRUM POLYANTHUM    HARDENBERGA HAPPY WANDERER    CARPENTERIA CALIFORNICA    RHAMNUS EYE CASE    CISTUS CORBARIENSIS    CISTUS 'SUNSET'    OLEA LITTLE OLLIE    ARCTOSTAPHYLOS HOWARD MCMINN    ARCTOSTAPHYLOS SUNSET    CORREA IVORY BELLS    ROSMARINUS TUSCAN BLUE

VINES

MEDIUM SHRUBS



SALVIA 'DEES BLISS'    MIMULUS JELLY BEANS 'ASSORTED'    ACHILLEA 'MOONBEAM'    ACHILLEA 'TERRA COTTA'    FENISTEMON MARGARITA BOP    VERBENA LILACINA DE LA MINA    SALVIA GREGGII 'ASSORTED'    ZAUSCHNERIA EYERETTS CHOICE

PERENNIALS



CEANOTHUS 'YANKEE POINT'    ARCTOSTAPHYLOS EMERALD CARPET    CISTUS SALVIFOLIUS    NEPETA FAASBENII    HEUCHERA MICKANTHA    GERANIUM ROZANNE    GERANIUM BICOLOA    CERASTIUM FLUMBAGINOIDES    HEUCHERA 'PALACE PURPLE'    RIBES VIBURNIFOLIUM    POLYSTICHUM MUNITUM    AUTUMN FERN

GROUNDCOVERS



AGAVE M. PALM    YUCCA FILAMENTOSA    PHORMIUM 'YELLOW WAVE'    MISCANTHUS MORNING LIGHT    CALAMAGROSTIS 'KARL FOERSTER'    CHONDROPETALUM TECTORUM    JUNCUS PATENS ELK BLUE    CAREX TESTACEA    LOMANDRA LONGIFOLIA BREEZE    NO MOW BIOSWALE BLEND    CAREX TUMULICOLA    IRIS DOUGLASIANA

ACCENTS & GRASSES

**PYATOK**  
 5611 TELEGRAPH AVE SUITE 200  
 OAKLAND, CA 94612  
 510.465.7110 | 510.465.8717  
 www.pyatok.com

Santa Clara Affordable Housing  
 Association  
 4522 Santa Clara Ave  
 San Jose, CA 95129

LORI CACVIN  
 LANDSCAPE ARCHITECTURE  
 11111 N. 1st Street, Suite 100  
 San Jose, CA 95131  
 408.255.1111

**ALTAMIRA FAMILY HOUSING**  
 20269 Broadway    Sanoma, CA

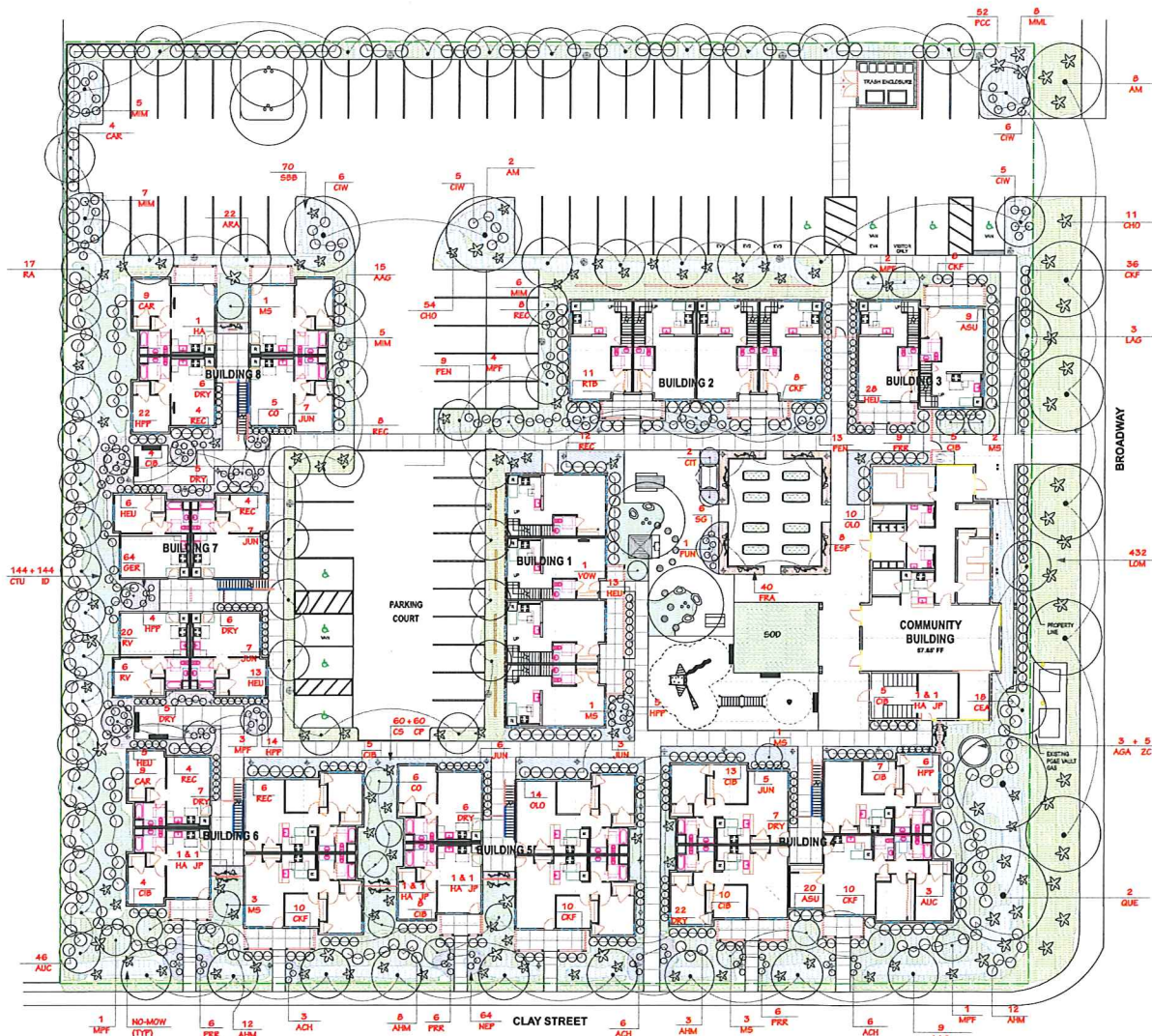
STAMP:

JOB NUMBER: 10  
 DRAWN BY: LC  
 CHECKED BY: EC  
 DATE: 27 MARCH 2018  
 SCALE:  
 TITLE:

PLANTING PALETTE MONTAGE

1417





**PLANTING NOTES**

- All plant material shall be approved by the Landscape Architect prior to installation and will be rejected if not in accordance with industry standards. Substitution requests to be made to the Landscape Architect for approval prior to site delivery.
- The plant count is for the convenience of the Landscape Contractor. In case of a discrepancy with the plan, the plant count shall govern.
- All proposed planting areas shall be cleared of any weeds and debris prior to soil preparation. In the case of pernicious perennial weeds, an organic systemic herbicide or sheet mulching shall be applied prior to clearing. If particularly difficult weeds, such as wild onion, are encountered, the Landscape Architect and owner shall be contacted prior to proceeding. No soil preparation shall take place in areas where soil is contaminated with cement, plaster, paint or other construction debris. All contaminated soil shall be removed and replaced with a friable sandy loam capable of sustaining healthy plant life and containing no noxious weeds or debris.
- All planting operations shall be performed by personnel familiar with this type of work and under the supervision of a qualified planting foreman.
- A minimum of one foot depth of non-mechanically compacted soil is available for water absorption.
- Per ETS Soils Report, the Landscape Contractor shall supply and cultivate into the top 6" - 8" of all proposed planting areas: 5 LBS/1000 SF UREA, 45 LBS/1000 SF LIME, 1.5-3 CY/10000 SF HROLIZED WOOD & HUMUS. Water thoroughly for a minimum of one week.
- Holes to be 2 x the diameter x the depth of the plant container. Per ETS Soils Report, the amended soil to be placed around the roots. Native soil mixed with 2.5 CY/1000 SF to be placed below the roots.
- Prior to planting, the final location of all plant material to be determined in the field by the Landscape Architect. The Landscape Contractor shall give three (3) days written notice prior to planting placement date.
- Planting areas shall receive a 3" layer of "Gold Pebbles" wood chip mulch or recycled arbor mulch available through United Forest Products, Santa Rosa, CA. Mulch to be spread after container planting but prior to groundcover planting. The landscape contractor shall provide a bark sample to the Landscape Architect prior to shipping to site.
- The Landscape Contractor shall guarantee all new plantings for a duration of six months. The guarantee period shall begin after the Final Inspection and approval.
- 15 gallon standard trees shall be staked with 2 - 2" diameter x 8' long lodgepole pine tree stakes and 2 ties per planting detail. 24" box and larger trees to be girdled with 3 deadman/turnbuckle systems equally placed around tree.
- 60 day establishment maintenance to be provided upon final approval of landscape installation.
- Planting shall conform to the City of Sonoma Ordinance # 05-2010 Water Efficient Landscape Guidelines (WELUG) and MAWA, maximum allowable water usage per WUCOLS Plant Material classifications.

**ALTAMIRA APARTMENTS PLANTING LEGEND**

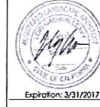
KEY	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	REMARKS	WUCOLS
<b>TREES</b>						
AM	Arbutus Menziesii or Ficus chinensis	Madrone Cree 'STD' or Chinese Pistache	8	15 gallon	Ca Native	L
ARA	Acer rubrum 'Armstrong'	Armstrong Maple	22	15 gallon	Seasonal Color	M
AAG	Acer rubrum 'Armstrong Gold'	Armstrong Maple	18	15 gallon	Seasonal Color	M
CT	Citrus Meyer Dwarf'	Dwarf Meyer Lemon	2	15 gallon	Fruit	M
CO	Cercis occidentalis 'Multi'	Western Redbud	11	15 gallon	Flowers/Fall Color	L
LAG	Lagrostroemia Natchez White or Lagrostroemia Dynamite'	White Crapemyrtle or Red Crapemyrtle	12	15 gallon	Summer Flowers	L
MFF	Malus Prairie Fire' or Cercis canadensis 'Merlot' 'Std'	Prairie Fire Crabapple or Merlot Redbud	11	15 gallon	Spring Flowers	L
MS	Magnolia stellata 'Pink Standard'	Star Magnolia	10	15 gallon	Winter Flowers	L
PLN	Juniperus procumbens 'Nana'	Prostrate Juniper	1	15 gallon	Fruit	L
QUE	Quercus chrysolepis or agrifolia	Canyon or Coast Live Oak	2	30" box	Native	L
KA	Rhamnus alaternus 'John Edwards' or Launus nobilis	Italian Buckthorn or Sweet Bay	17	24" box	Standard Staked	L
<b>SHRUBS</b>						
AM	Arctostaphylos 'McMin'	McMin Manzanita	30	5 gallon	Calif. Native	L
ASU	Arctostaphylos 'Sunset'	Sunset Manzanita	29	5 gallon	Calif. Native	L
AUC	Arctostaphylos 'Compacta'	Dwarf Strawberry Tree	40	5 gallon	Calif. Native	L
CW	Cistus corbariensis or ladaniifolius	White of Cistus Spot Rockrose	22	5 gallon	Mediterranean	L
CAR	Caryopteris californica 'Elizabeth'	Bush Anemone	22	5 gallon	Calif. Native	L
CEA	Ceanothus 'Sylark', 'Concha'	California Wild Lilac	16	5 gallon	Calif. Native	L
CB	Cercia 'Very Belle'	White Australia Fuchsia	46	5 gallon	Drought tolerant	L
OLO	Olea 'Little Olive'	Little Olive	24	5 gallon	Mediterranean	L
PCD	Prunus caroliniana 'Compacta'	Dwarf Carolina Cherry	52	5 gallon	Calif. Native	L
REC	Rhamnus 'Tuscan Blue'	California Coffeeberry	46	5 gallon	Calif. Native	L
RTB	Rosmarinus 'Tuscan Blue'	Tuscan Blue Rosemary	11	5 gallon	Herb	L
VOW	Vaccinium ovatum 'Wunderlich'	Huckleberry	1	5 gallon	Calif. Native	M
<b>VINES/SPALERS</b>						
HP	Mahoe & Fyrus spp.	Engelhard Apple & Pear	8	5 gallon	Edible - Engelhard	M
HA	Hardenbergia 'Happy Wanderer'	Hardenbergia	5	1 gallon	Drought tolerant	L
JAS	Jasminum polyanthum	Pink Jasmine	4	1 gallon	Fragrant	L
<b>GROUNDCOVERS</b>						
AEC	Arctostaphylos 'Emerald Carpet' & Ceanothus glaberrima 'Yankee Point'	Emerald Carpet Manzanita & Carmel Creeper	178	1 gallon	4"-6" OC-Native	L
CS	Cistus salvifolius & Ceratostigma plumbeoides	Sageleaf Rockrose & Dwarf Flumbago	60	1 gallon	36" OC-Color	L
OP	Origanum onites or 'Rosamund'	Cranesbill	64	4" or 1 gallon	30" OC-Color	L
REV	Ribes viburnifolium	Evergreen Currant	28	1 gallon	Calif. Native	L
SSS	Saxifraga 'Bees Blue'	Bees Blue Creeping Sage	70	1 gallon	36" OC - Calif. Native	L
<b>PERENNIALS</b>						
AQH	Achillea 'Moonshine', 'Yayoi'	Assorted Yarrow	16	1 gallon	30" OC-Color	L
FR	Fragaria 'Assorted' or Herbs	Edible Strawberry or Herbs	40	Bare root	24" OC-Edible	M
HBU	Hesperis matronalis	Island Alum Root	66	1 gallon	24" OC-Native	L
HFF	Hesperis matronalis 'Purple Purple' or Ceras testacea 'Prairie Fire'	Burgundy Alum Root or New Zealand Hair Sedge	51	1 gallon	24" OC-Native	L
MM	Mimulus 'Jelly Bean' 'Assorted'	Jelly Bean Monkey Flower	23	1 gallon	Calif. Native	L
NE	Nepeta faassenii 'Six Hills Giant'	Catmint	64	4" or 1 gallon	30" OC-Color	L
FDH	Penstemon 'Margarita BOP'	Footfall Penstemon	22	1 gallon	Calif. Native	L
FRK	Penstemon Rad or Purple Riding Hood	Riding Hood Beard Tongue	27	1 gallon	Cut Flowers	L
SG	Saxifraga greggii 'Assorted'	Autumn Sage	6	1 gallon	Calif. Native	L
YER	Yerba Buena De La Misa	De La Misa Yerba	9	1 gallon	Calif. Native	L
ZC	Zauschneria 'Everett's Choice'	Everett's Choice Calif. Fuchsia	8	1 gallon	30" OC-Native	L
<b>GRASSES/CACTUS/PERNS</b>						
AGA	Agave & majo-picta 'Aba' or Yucca filamentosa	White Century Plant or Adam's Needle	3	5 gallon	Accent - 48" OC	L
CHD	Chenopodium tataricum	Small Cape Rush	84	5 gallon	36" OC	L
CHL	Chenopodium leptanthum	Giant Cape Rush	28	5 gallon	48" OC	L
CLZ	Calamagrostis 'Karl Fenster'	Father Road Grass	80	1 gallon	3'-0" OC	L
CTU	Carex tumida & Carex douglasiana 'Assorted'	Barkley Sedge & Douglas Sedge	144	4" or 1 gallon	36" OC-Native	L
ID	Ipomoea pes-caprae	Autumn Fern	64	1 gallon	36" OC-Fall Color	L
IRY	Iris sibirica 'Assorted'	Western Sweet Fern	64	1 gallon	36" OC-Native	L
HEL	Hesperis matronalis	Blue Out Grass	17	1 gallon	30" OC-Native	L
JUN	Juncea patens 'Ed Blue'	Ed Blue California Gray Rush	35	1 gallon	30" OC-Native	L
LMH	Limonium longifolia 'Breeze'	Dwarf Salt Bush	432	4" or 1 gallon	36" OC-Flowers	L
MT	Miscanthus transpacificensis or Phloxium 'Black Adair', 'Yellow Wave'	Evergreen Miscanthus or New Zealand Flax	9	1 gallon	Accent	M
NO-MOW	Native Mow-Free Seed Blend	Delta Bluegrass Seed Blend	2300	SF	Bluegrass/Hybridseed	M
SOP	Sedum 'Blue Fescue Blend Seed'	Delta Bluegrass	600	SF	Play Areas	M

**PYATOK**  
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Sustainable Affordable Housing  
Associates  
1515 Marina Avenue  
Berkeley, CA 94705

LORE CAGWIN  
LANDSCAPE ARCHITECTURE  
1111 Broadway, Suite 200  
San Francisco, CA 94133

**ALTAMIRA FAMILY HOUSING**  
2026B Broadway, Sonoma, CA



Expiration: 3/31/2017

DATE: 05/20/16  
SCALE: 1" = 10'-0"

FILE: PLANTING PLAN

HEET

**L2.01**



**Altamira Family Apartments**  
20269 Broadway  
Sonoma, CA

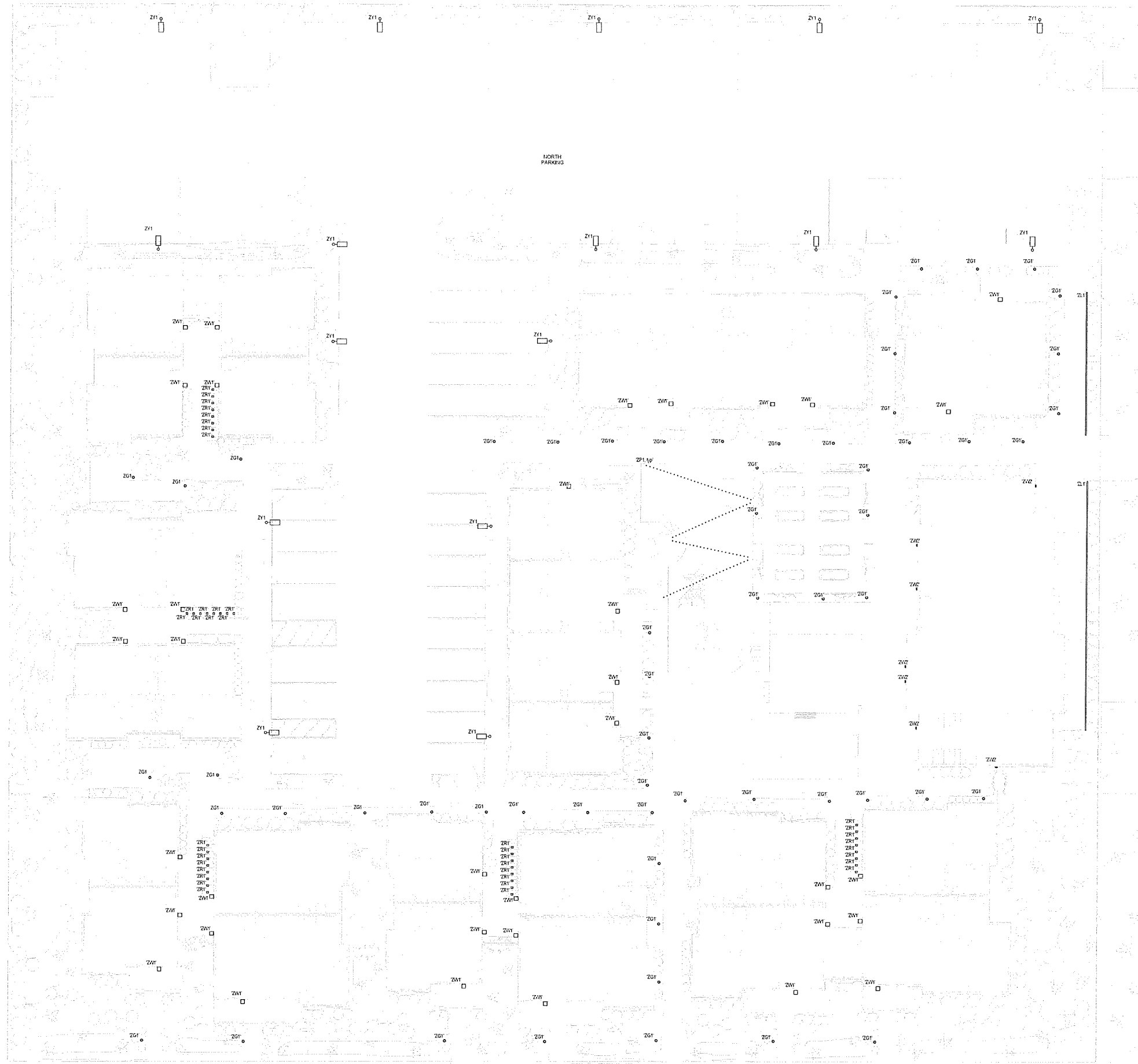
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CHECKED BY KL  
DATE jwy-mm-d  
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TITLE  
ELECTRICAL SITE PLAN

SHEET

**E1.01**

- PRELIMINARY - Not for Construction -





**Altamira Family Apartments**  
20269 Broadway  
Sonoma, CA

STAMP

NO. 1522  
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CHECKED BY: *Ocker*  
DATE: 1/11/11  
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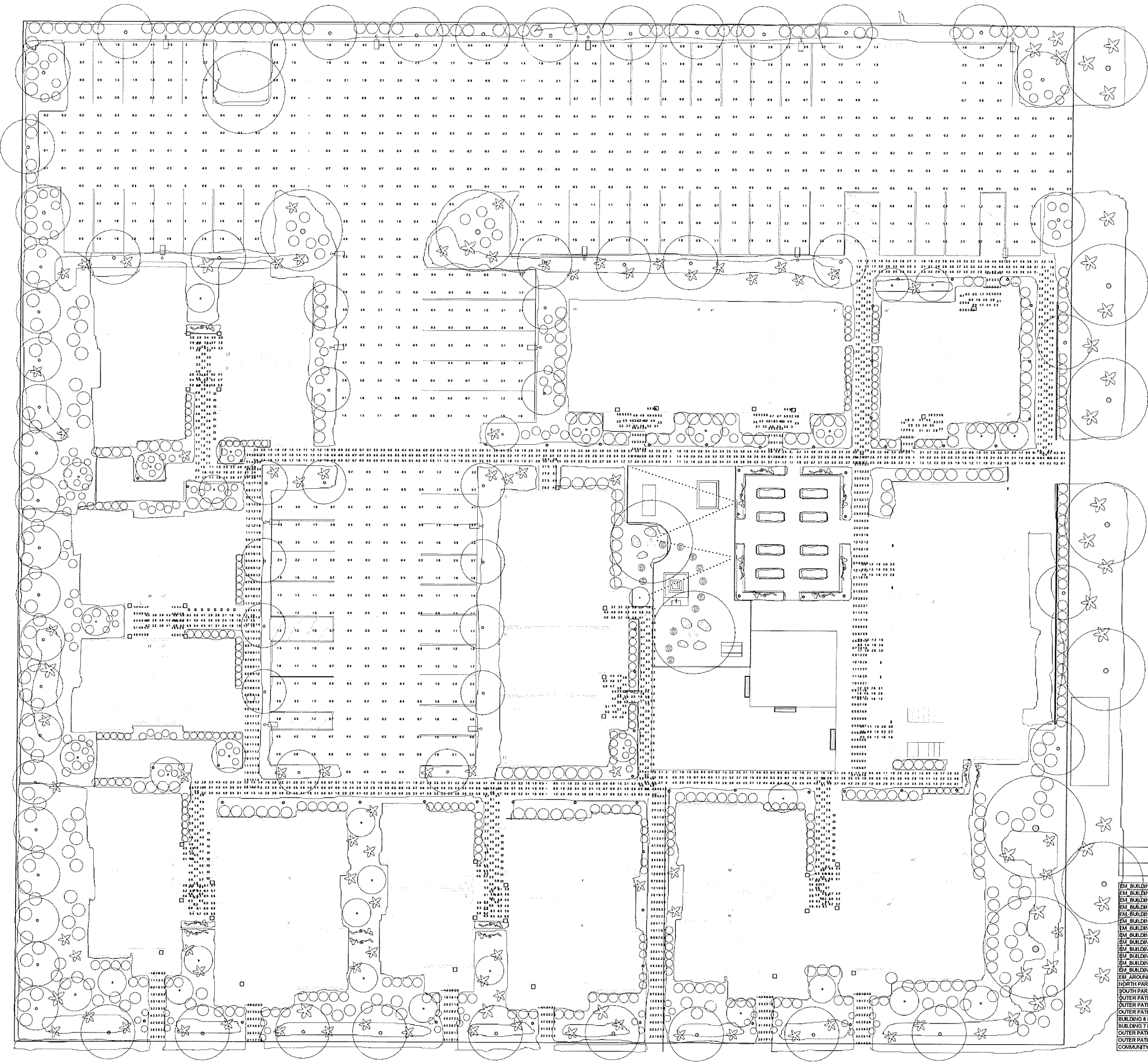
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SITE

SHEET

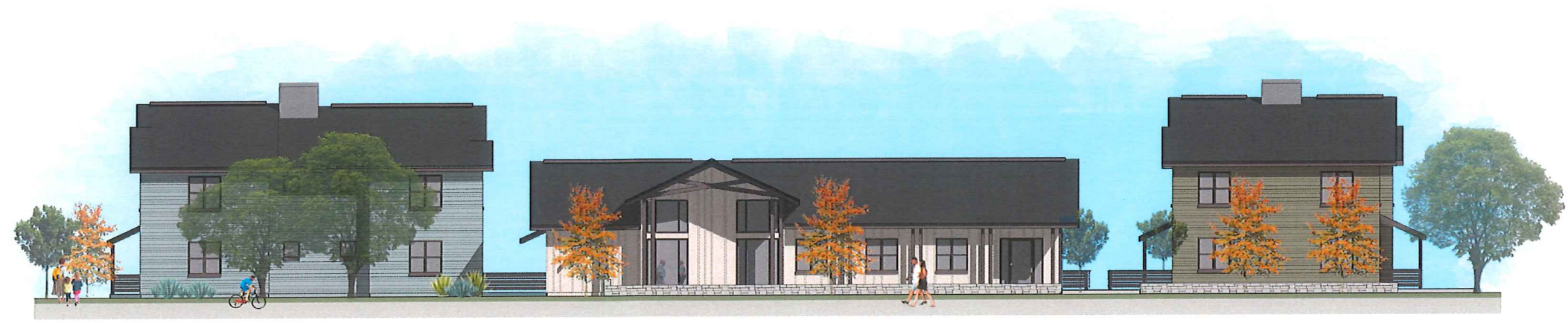
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-PRELIMINARY - Not for Construction-



ElumTools General Use Illuminance Results

Calculation Points Name	Average	Maximum	Minimum	Maximum / Minimum
EM_BUILDING 8	3.01 fc	7.10 fc	1.00 fc	7.1
EM_BUILDING 7	3.88 fc	6.22 fc	1.09 fc	5.7
EM_BUILDING 6	4.53 fc	6.29 fc	0.95 fc	6.7
EM_BUILDING 6 TO STREET	2.55 fc	5.48 fc	0.89 fc	6.2
EM_BUILDING 5	4.96 fc	6.51 fc	2.83 fc	2.3
EM_BUILDING 5 TO STREET	2.88 fc	4.85 fc	0.98 fc	4.8
EM_BUILDING 4	4.60 fc	6.39 fc	1.35 fc	4.7
EM_BUILDING 4 TO STREET	2.61 fc	4.59 fc	0.94 fc	4.8
EM_BUILDING 4 TO 5 CORRIDOR	2.12 fc	5.03 fc	0.42 fc	11.9
EM_BUILDING 1	3.20 fc	5.80 fc	0.92 fc	6.3
EM_BUILDING 1 TO PARKING	2.40 fc	4.20 fc	0.57 fc	7.4
EM_BUILDING 2	3.89 fc	5.55 fc	2.43 fc	2.3
EM_BUILDING 3	2.76 fc	4.34 fc	1.22 fc	3.6
EM_AROUND BUILDING 3	2.20 fc	5.70 fc	0.12 fc	48.0
NORTH PARKING	1.16 fc	5.30 fc	0.10 fc	54.8
SOUTH PARKING	1.35 fc	4.84 fc	0.24 fc	20.2
OUTER PATH NORTH	2.24 fc	6.44 fc	0.52 fc	12.4
OUTER PATH WEST	1.40 fc	7.08 fc	0.48 fc	14.7
OUTER PATH SOUTHWEST	2.83 fc	6.45 fc	0.40 fc	16.0
BUILDING 8 DOORS	3.95 fc	5.79 fc	1.98 fc	2.9
BUILDING 7 DOORS	4.88 fc	6.03 fc	3.84 fc	1.5
OUTER PATH SOUTHEAST	2.24 fc	5.12 fc	0.25 fc	20.4
OUTER PATH EAST	1.54 fc	3.09 fc	0.38 fc	8.2
COMMUNITY BUILDING WEST DOORS	1.66 fc	3.95 fc	0.54 fc	6.6



BROADWAY ELEVATION COLOR SCHEME ①



CLAY STREET ELEVATION COLOR SCHEME ②

**ALTAMIRA FAMILY APARTMENTS**  
 20269 Broadway, Sonoma, CA

STAMP:

JOB NUMBER: 1522  
 DRAWN BY: AJR  
 CHECKED BY: CJK  
 DATE:  
 SCALE:  
 TITLE:

Rendered Elevations 2

SHEET  
**A3.10**

PRELIMINARY - Not for Construction  
 MAR 27 2018





BROADWAY ELEVATION COLOR SCHEME ①



CLAY STREET ELEVATION COLOR SCHEME ②

**ALTAMIRA FAMILY APARTMENTS**  
20269 Broadway, Sonoma, CA

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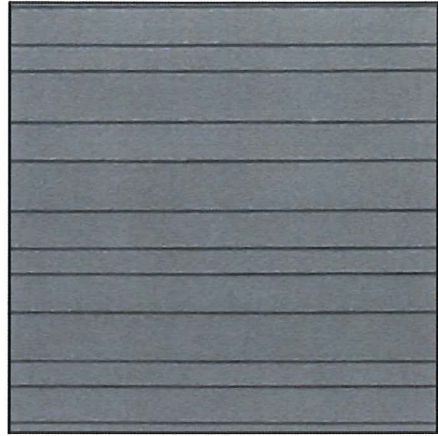
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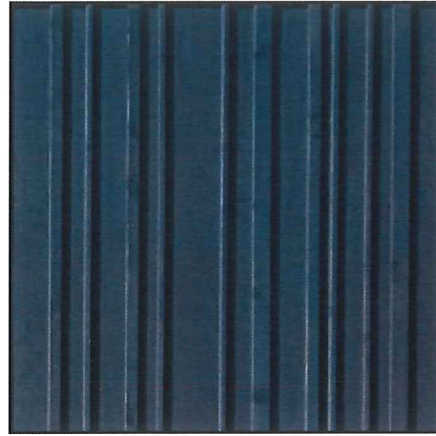
PRELIMINARY - Not for Construction  
MAR - 7 2018



## MATERIAL PALETTE



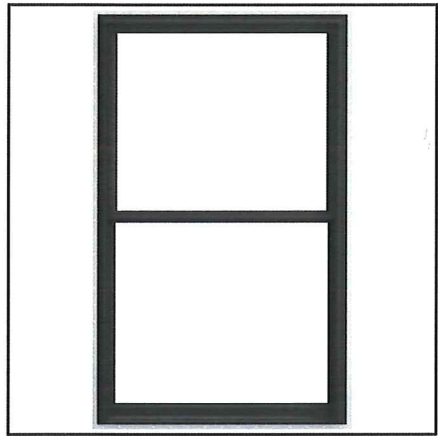
① Cement Board Lap Siding, Variable Exposure Widths, Smooth Painted Finish



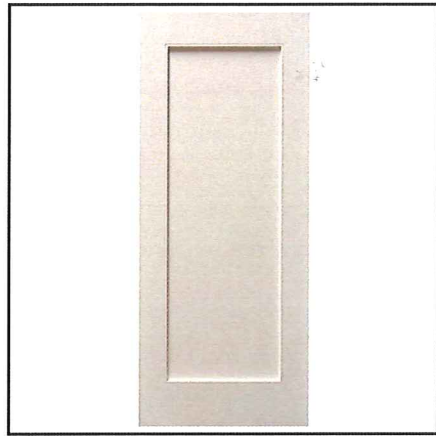
② Fiber Cement Board + Batten Siding, Variable Exposure Widths, Painted Finish



③ Certaineed Solaris Composite Shingle Roof, in Weathered Wood Color



④ VPI Architectural Bronze Double Hung Vinyl Windows



⑤ Doormerica Fiberglass Entry Doors, Painted



⑥ Horizontal Wood Porch Railings and Fences, Painted



⑦ Exterior Lamp Fixture, Wall-Mounted



⑧ Exterior Lamp Fixture, Pole



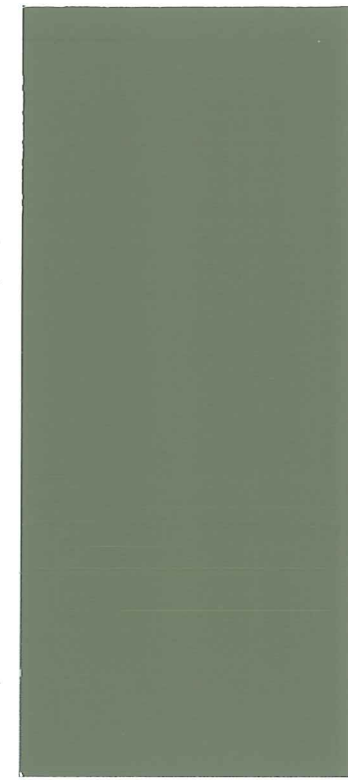
⑨ Stacked Stone Low Landscape Walls

## COLOR PALETTE

### HOUSING SIDING



Ⓐ Horizon Gray KM4858-2



Ⓑ Rolling Hills KM5758-3



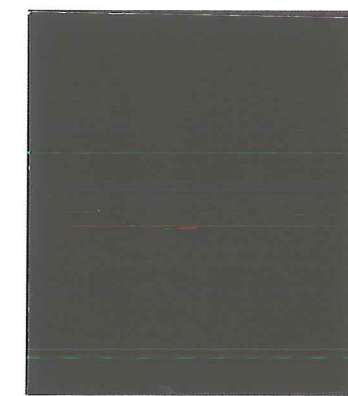
Ⓒ Trade Secret KM4860-3

### COMMUNITY BUILDING



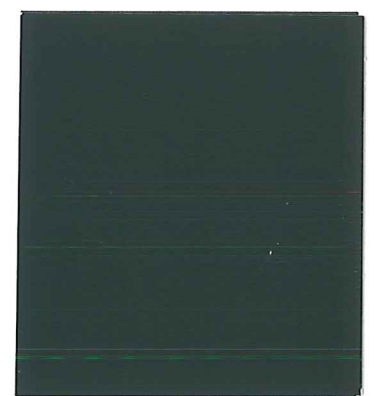
Ⓓ Oyster Haze KM4562-1

### TRIM



Ⓔ Thunderstruck KM4924-5

### FRONT DOOR



Ⓕ Green Valley KMA63-5



**PYA**

**MATERIALS & COLORS SCHEME 2**

20269 Broadway | Sonoma, CA





BROADWAY ELEVATION COLOR SCHEME ①



CLAY STREET ELEVATION COLOR SCHEME ②

**ALTAMIRA FAMILY APARTMENTS**  
 20269 Broadway, Sonoma, CA

STAMP:

JOB NUMBER: 1572  
 DRAWN BY: Alina  
 CHECKED BY: Chris  
 DATE:  
 SCALE: Not to a scale  
 TITLE:  
 Rendered Elevations 2

SHEET  
**A3.10**

PRELIMINARY - Not for Construction

MAR 27 2018





BROADWAY ELEVATION COLOR SCHEME ①



CLAY STREET ELEVATION COLOR SCHEME ②

**ALTAMIRA FAMILY APARTMENTS**  
 20269 Broadway, Sonoma, CA

STAMP:

JOB NUMBER	1527
DRAWN BY	Ally
CHECKED BY	Chris
DATE	
SCALE	Not to scale
TITLE	

Rendered Elevations 2

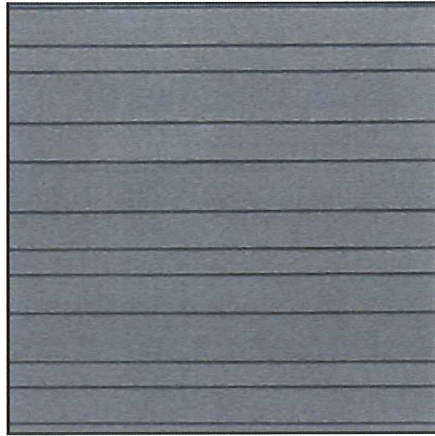
SHEET  
**A3.10**

PRELIMINARY - Not for Construction

MAR 27 2018



## MATERIAL PALETTE



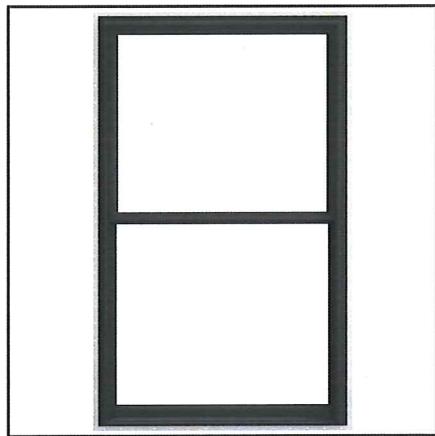
① Cement Board Lap Siding, Variable Exposure Widths, Smooth Painted Finish



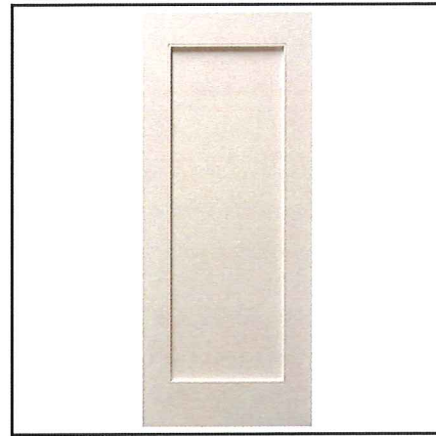
② Fiber Cement Board + Batten Siding, Variable Exposure Widths, Painted Finish



③ Certainteed Solaris Composite Shingle Roof, in Weathered Wood Color



④ VPI Architectural Bronze Double Hung Vinyl Windows



⑤ Doormerica Fiberglass Entry Doors, Painted



⑥ Horizontal Wood Porch Railings and Fences, Painted



⑦ Exterior Lamp Fixture, Wall-Mounted



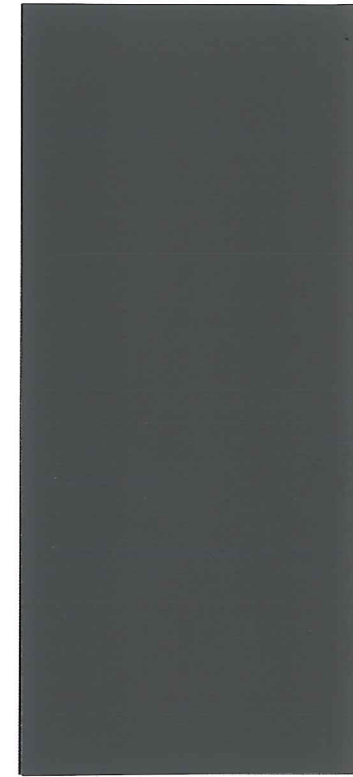
⑧ Exterior Lamp Fixture, Pole



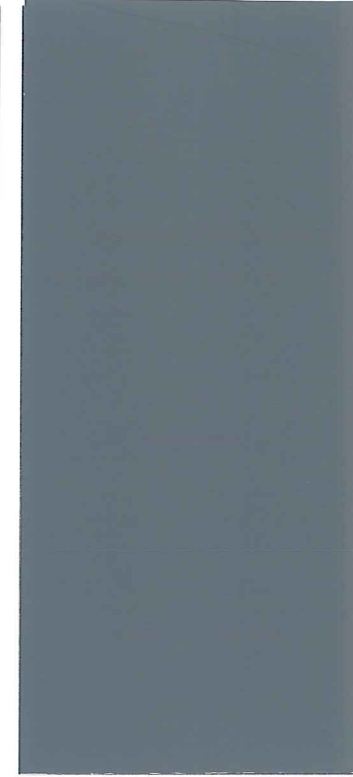
⑨ Stacked Stone Low Landscape Walls

## COLOR PALETTE

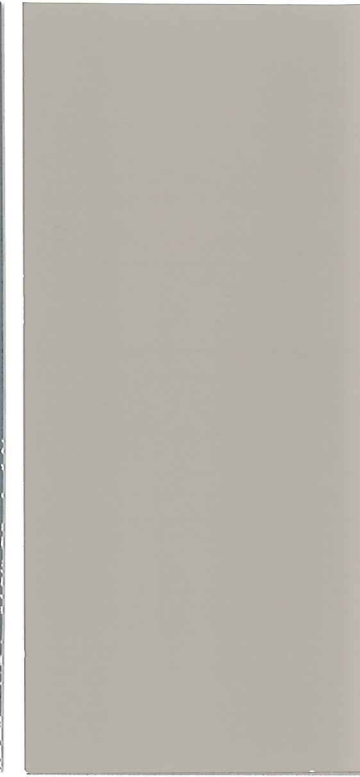
### HOUSING SIDING



Ⓐ Finger Print KMA85-5



Ⓑ Dapper Grey Hound KM4881-3

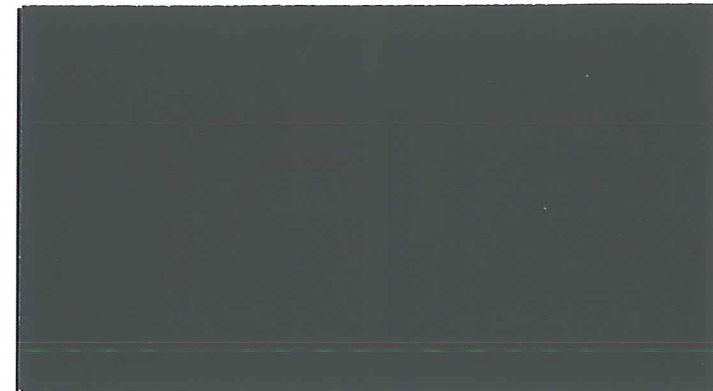


Ⓒ Warm Gray Flannel KM4929-2



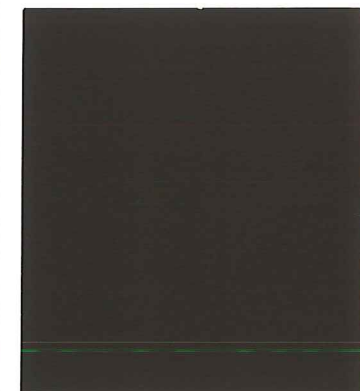
Ⓓ Pearl Oyster KM4577-1

### COMMUNITY BUILDING



Ⓔ Finger Print KMA85-5

### TRIM



Ⓕ Zin Cluster KMA70-5

### FRONT DOOR



Ⓖ Sequoia Redwood 159



**PYA**

**MATERIALS & COLORS SCHEME 1**

20269 Broadway | Sonoma, CA



# Endurance Series

Commercial Mid-rise Windows Designed to Outlast the Rest

## Endurance—the Optimum in Mid-rise Performance

If you are building a mid-rise structure in the Western United States, you are probably specifying the *Endurance Series by VPI Quality Windows*. In a world where demanding specifications and uncompromising job site testing is the way of life, a commercially rated window is the only acceptable solution, as residential windows leave room for unwanted risk. VPI prides itself on superior product performance ratings in the lab and the field. These are the result of our engineering centric organization that is obsessive with safety, quality & customer service, day-in and day-out.

- Commercial profile design coupled with industry leading glazing system delivers the right balance of aesthetics & performance, at a great value
- Our manufacturing process is systematic, documented, controlled and constantly improving
- Structural performance & deflection are enhanced by commercial grade metal reinforcements interconnected throughout the window assembly
- Endless configuration possibilities with fixed, awning and/or casement windows, thanks to an intersecting integral bar system, all assembled within continuous frames – no mulling nightmares!
- Durable, co-extruded acrylic exterior finishes allow for color diversity without compromising structural and thermal performance
- Panel level window design that optimizes water intrusion and air infiltration/ex-filtration

*The evolution is complete for mid and high rise commercial and mixed use applications, the future belongs to the Endurance Series window system!*

**ENDURANCE**  
SERIES

**Specify the ideal mix of strength, energy performance and aesthetics with Endurance!**

MAR 27 2018



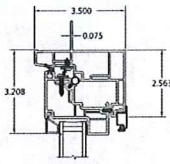
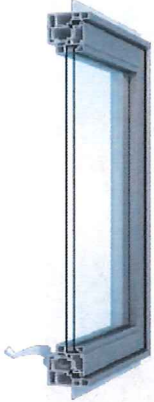
VPI Quality Windows manufactures ENERGYSTAR® qualified products, that use less energy.



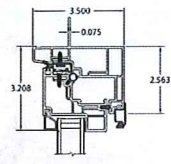
# Selected CAD Details

CAD files in DWG and PDF format and specifications for most products can be downloaded from [www.VPIwindows.com/cad](http://www.VPIwindows.com/cad)

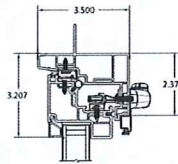
## Casement Awning 3 1/2" Frame Depth



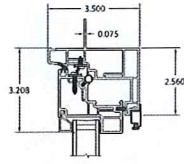
Casement Horizontal



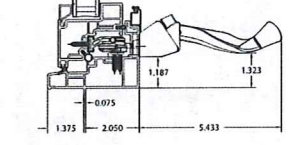
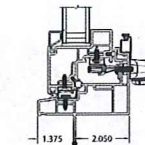
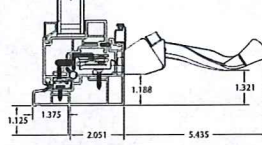
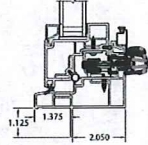
Casement Vertical



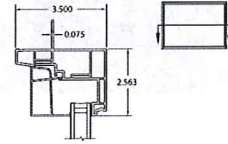
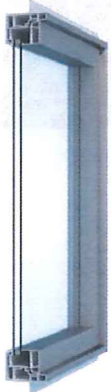
Awning Horizontal



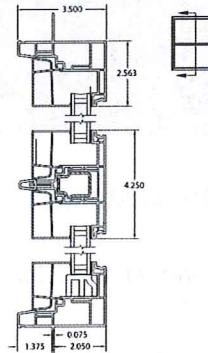
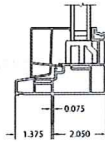
Awning Vertical



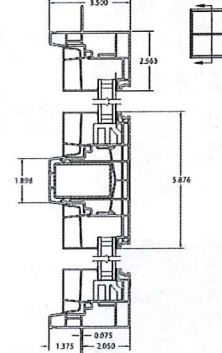
## Fixed Window 3 1/2" Frame Depth



Picture Window Vertical  
Available with IGUs 3/4"-1-1/4"OA

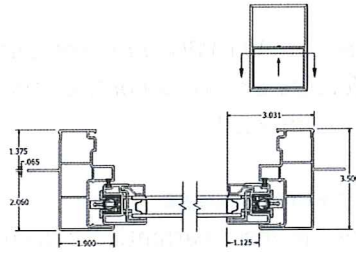


Picture Window Vertical  
with Narrow T-bar

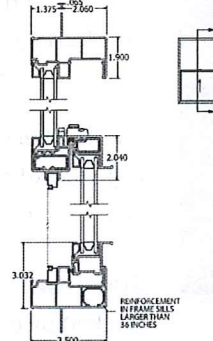


Picture Window Vertical  
with Wide T-bar

## Single Hung 3 1/2" Frame Depth

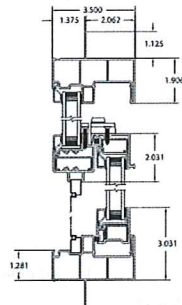
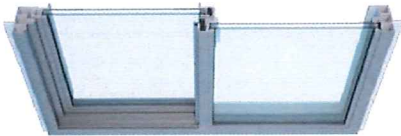


Single Hung Upper Horizontal Section

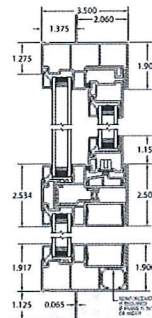


Single Hung Operable Vertical Section

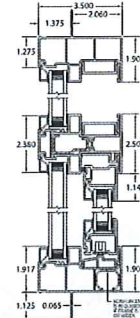
## Horizontal Slider 3 1/2" Frame Depth



Horizontal Slider



Horizontal Slider  
Above Fixed



Horizontal Slider  
Below to Fixed

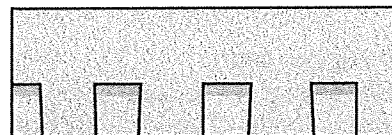
# Technical Data Sheet

## Landmark Solaris®



### PRODUCT INFORMATION

Landmark Solaris innovative technology produces a shingle that reflects solar energy in a traditional color palette. All colors are rated by Cool Roof Rating Council (CRRC) and meet California's Title 24 requirements for cool steep slope roofing. Landmark Solaris shingles are manufactured using the same high standards as all CertainTeed roofing products and are covered by the same superior warranty protection. These shingles are available in "Metric" dimensions 13 1/4" x 38 3/4". This product also features CertainTeed's NailTrak® that offers a wider nailing area.



Landmark Solaris algae-resistant (AR) shingles have the additional attribute of resisting the growth of algae especially in damp regions. AR shingles are not available in all regions.

Colors: Please refer to product brochure or CertainTeed website for the colors available in your region.

Color	Solar Radiative Properties							Meets California Title 24?	Energy Star Certified?
	CRRC Product ID#	Solar Reflectance		Thermal Emittance		Solar Reflective Index			
		Initial	Aged	Initial	Aged	Initial	Aged		
Crystal Gray	0668-0058	0.27	0.26	0.92	0.90	29	27	Yes	Yes
Aged Cedar	0668-0055	0.26	0.24	0.92	0.90	28	24	Yes	No
Dusky Clay	0668-0057	0.26	0.23	0.93	0.90	28	23	Yes	No
Sunset Shake	0668-0056	0.26	0.23	0.92	0.90	28	23	Yes	No
Adobe	0668-0091	0.26	pending	0.92	pending	28	25*	Yes	No
Mauna Loa	0668-0092	0.25	pending	0.92	pending	26	25*	Yes	No
Sedona	0668-0094	0.27	pending	0.92	pending	29	26*	Yes	No
Georgetown Gray	0668-0116	0.20	pending	0.91	pending	19	19*	Yes	No
Heather Blend	0668-0117	0.20	pending	0.91	pending	19	19*	Yes	No
Resawn Shake	0668-0118	0.19	pending	0.92	pending	19	19*	Yes	No
Weathered Wood	0668-0119	0.20	pending	0.91	pending	19	19*	Yes	No

\*Aged SRI is calculated using the California Energy Commission's Solar Reflective Index (SRI) Calculation Worksheet

**Limitations:** Use on roofs with slopes greater than 2" per foot. Low-slope applications (2" to 4" per foot) require additional underlayment. In areas where icing along eaves can cause the back-up of water, apply CertainTeed WinterGuard® Waterproofing Shingle Underlayment, or its equivalent, according to application instructions provided with the product and on the shingle package.

**Product Composition:** Landmark Solaris shingles are composed of a fiber glass mat base. Ceramic-coated mineral granules with high solar reflectance are tightly embedded in carefully refined, water-resistant asphalt. Two pieces of the shingle are firmly laminated together in special tough asphaltic cement. All Landmark Solaris shingles have self-sealing adhesive strips.

#### Applicable Standards:

- ASTM E108 Class A Fire Resistance
- UL 790 Class A Fire Resistance
- ASTM D3462
- ASTM D3018 Type I
- ASTM D3161 Class F Wind Resistance

- ASTM D7158 Class H Wind Resistance
- CSA Standard A123.5
- ICC-ES ESR-1389 & ESR-3537
- Florida Product Approval # FL5444
- California Title 24, Part 6 Compliant (Steep Slope)

**Flashing:** Use corrosion-resistant metal flashing.

**Hips and Ridges:** Use CertainTeed Solaris® Hip & Ridge shingles (West Coast) or Solaris® Accessory shingles (East Coast) of a like color for capping hips and ridges.

#### **MAINTENANCE**

These shingles do not require maintenance when installed according to manufacturer's application instructions. However, to protect the investment, any roof should be routinely inspected at least once a year. Older roofs should be looked at more frequently.

#### **WARRANTY**

Landmark Solaris shingles carry a Lifetime Limited Warranty, 10-year SureStart™ protection, and a 10-year 110 mph wind-resistance warranty (upgradeable to 130 mph when using CertainTeed starter and CertainTeed hip and ridge), and 15 year algae resistance warranty. For specific warranty details and limitations, refer to the warranty itself (available from the local supplier, roofing contractor or on-line at [www.certainteed.com](http://www.certainteed.com)).

#### **FOR MORE INFORMATION**

Sales Support Group: 800-233-8990

Web site: [www.certainteed.com](http://www.certainteed.com)

**CertainTeed Roofing**  
20 Moores Road  
Malvern, PA 19355

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