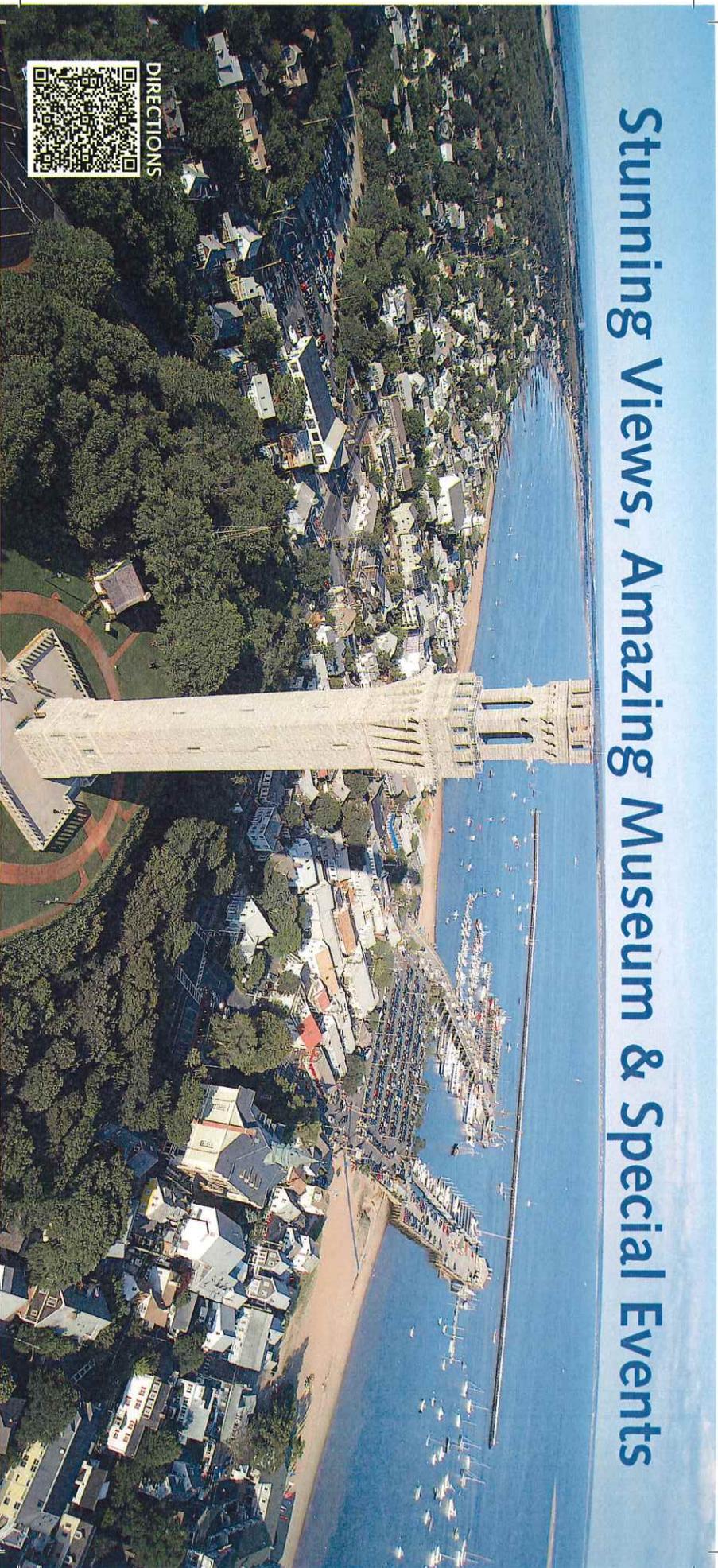


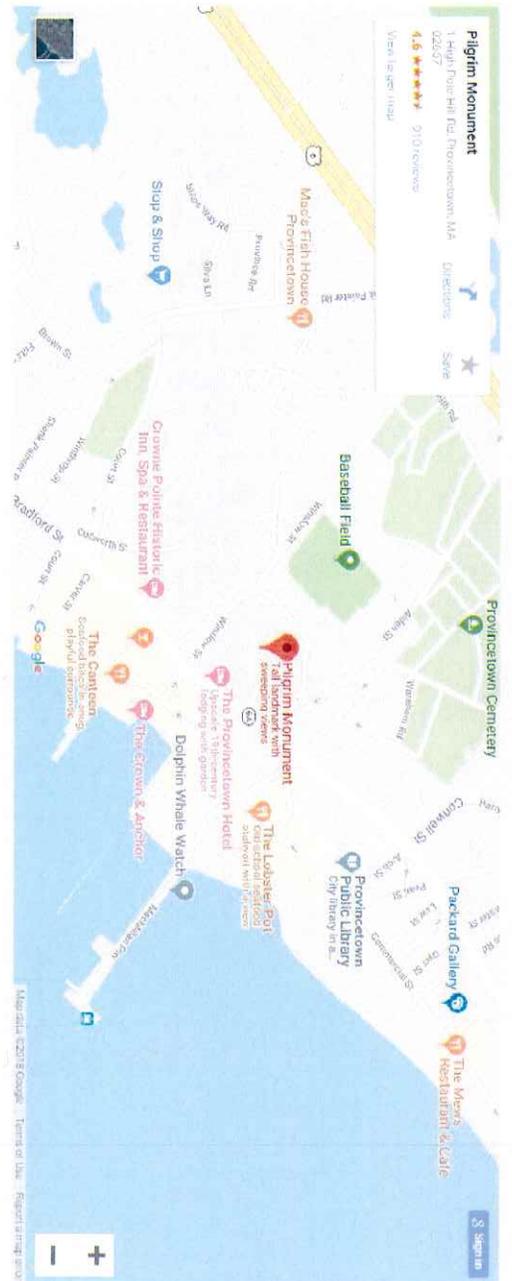
Stunning Views, Amazing Museum & Special Events



DIRECTIONS

Pilgrim Monument Provincetown Museum

+1 (508) 487-1310 | High Pole Hill Road Provincetown, MA 02657



Open Daily April 1 - January 1

April 1 till Memorial Day: 9 am – 5 pm

Memorial Day till Labor Day: 9 am – 7 pm

Labor Day through January 1: 9 am – 5 pm

Closed Thanksgiving Day and December 24-27

Last Monument climb is 30 minutes before closing

Directions by Car

Follow US-6 E to Corwell St. in Provincetown

Turn right onto Bradford Street, stay on Bradford Street for about 0.5 miles

Turn right onto Winslow Street

Take Winslow Street to High Pole Hill Rd.

Walking Directions

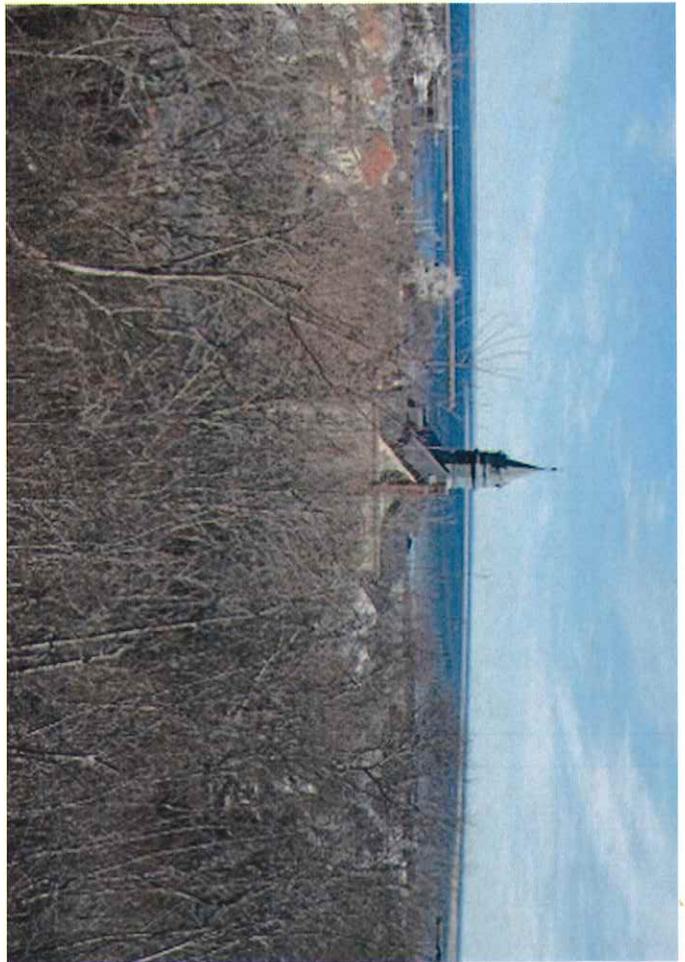
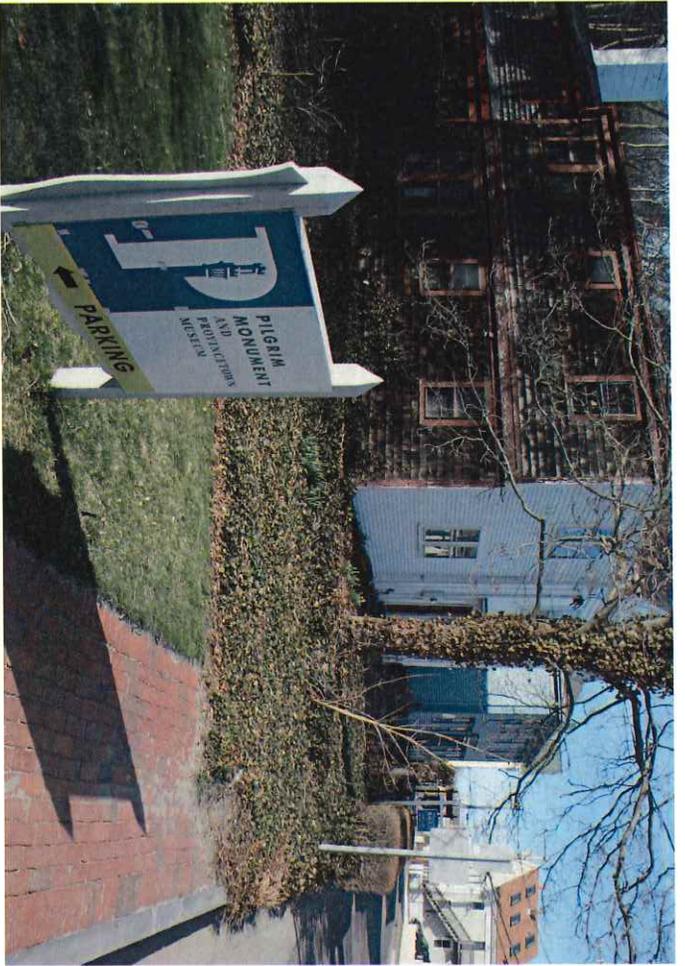
Walking from Provincetown Center (Intersection of Commercial Street and MacMillan Pier):

Follow Spanish Street Northwest towards Bradford Street

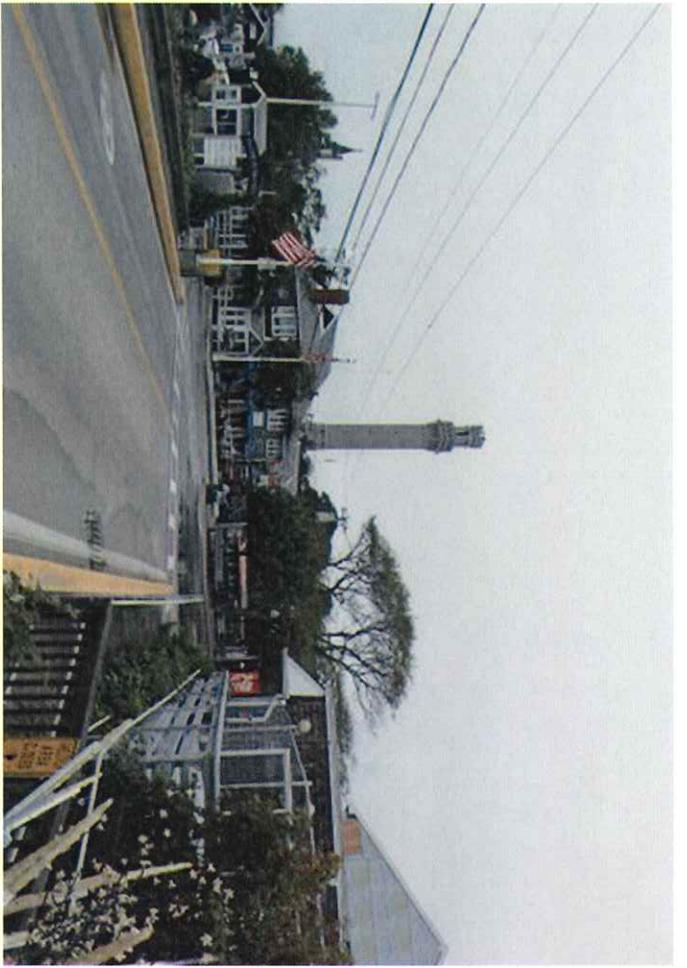
Turn left on Bradford Street, stay on Bradford Street for about 0.3 miles

Turn right on Winslow Street

Take Winslow Street to High Pole Hill Rd.







BOLD

FIXTURE SCHEDULE
PILGRIM MONUMENT - BRADFORD ACCESS
ISSUED FOR PLANNING BOARD MEETING

TYPE	DESCRIPTION	CAD SYMBOL	LUMINAIRE MANUF.	LUMINAIRE PART NUMBER	TOTAL WATTS	VOLTS	TRANSFORMER/ DRIVER	LAMP MANUFACTURER	LAMP INFO	# LAMPS	LAMP WATTS	CONTROL TYPE	MOUNTING	LOCATION	NOTES
LA-01	POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER		INTENSE LIGHTING	#{IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)	4.6 W/ft.	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	4.6 W	3-WIRE	POST MOUNTED	WALK PATH	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF
LA-02	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP		REJUVENATION	#{PNF-3"-LED-E64-MFL-A9-FINISH-12-11-A)-(POWER PIPE)	9 W	PER EE	NONE	GREEN CREATIVE	97780/9A19DIM/827	1	9 W	LINE	SUSPENDED	FUNICULAR PAVILION	FIXTURE IS A SUSPENDED DECORATIVE PENDANT, 54" OAL. ARCHITECT TO PROVIDE ADDITIONAL SUPPORT/MOUNTING BRACKET AS REQUIRED. FIXTURE PROVIDED WITH 5" OD CANOPY COVER. FIXTURE TO BE USED WITH LED RETROFIT A19/E26 LED LAMP SUITABLE FOR USE WITH ENCLOSED FIXTURES.
LA-03	SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT, FIXTURE REQUIRES REMOTE X-		BK LIGHTING	#{SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSL REMOTE XFORMER)	14 W	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	7	2 W	MLV	SURFACE MOUNTED	FUNICULAR PAVILION CANOPY	FIXTURE INTENDED TO BE SURFACE MOUNTED. FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQ'D TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED, VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.
LA-04	SURFACE MOUNTED IN ARCHITECTURAL COVE DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR		LUMINII LIGHTING	#{KS-LENGTH AS REQ'D-SOHD-F-FC-SA-FEED AS REQ'D)-(ACCESSORIES)-(CVE-SIZE-24-VOLTAGE)	4 W	PER EE	REMOTE ELECT	INTEGRAL LED	INTEGRAL LED	1	4 W/ft.	ELV	SURFACE MOUNTED	FUNICULAR PAVILION	PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQ'D. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINII CVE-SERIES. SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPERS/MOUNTING ACCESSORIES AS REQ'D FOR FULL SYSTEM OPERATION.
LA-05	SURFACE WALL MOUNTED, WET LISTED DOWNLIGHT/SCONCE.		TEKA-ILLUMINATION	#{AR-FS-20-LED-390-BZP-WHT-VOLTAGE)-(REMOTE X-FORMER)	10 W	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	10 W	MLV	SURFACE WALL MOUNTED	INFORMATIONAL DISPLAY	VERIFY FIXTURE FINISH PER ARCHITECT. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHT/DETAILS. FIXTURE REQUIRES REMOTE X-FORMER. FIXTURE REQUIRES RECESSED J-BOX BY OTHERS.
LA-06	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-		TEKA ILLUMINATION	#{BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)	10 W	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	10 W	0-10V	POST MOUNTED	PATHWAY/INFORMATION SIGNAGE	FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.
LA-07	RECESSED LOW LEVEL WALL/STEP LIGHT		BK LIGHTING	#{CD-BQL-LED-E64-A9-BZP-D)-(REMOTE BKSSL XFORMER)	3 W	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	3 W	MLV	RECESSED WALL/STEP	STEPS	RECESSED WALL MOUNTED STEP LIGHT. VERIFY RECESSING DEPTH PER ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS/DETAILS FOR FIXTURE MOUNTING HEIGHT/ELEVATION. FIXTURE PROVIDED WITH CORE-DRILL APPLICATION VERSION, CONFIRM BY ARCHITECT. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER.
LA-08	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT		BK LIGHTING	#{LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)	3 W	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	3 W	NON-DIM	POWER PIPE	THROUGHOUT	VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. FIXTURE INTENDED TO BE NON-DIM. FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.
LA-09	SURFACE WALL MOUNTED LOW LEVEL, LED PATHWAY LIGHT		BK LIGHTING	#{YM-LED-E80-MFL-BZP-12-11-A)-(BC10-BZP)-(REMOTE XFORMER)	3 W	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	3 W	MLV	SURFACE WALL MOUNTED	FUNICULAR LANDING PLATFORM	REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED J-BOX PROVIDED BY OTHERS.

BOLD

GENERAL NOTES

1. Electrical Contractor responsible for verification of all run length configurations and quantities. All continuous run lengths must be continuously illuminated, hairline seams only, unless otherwise noted.
2. Electrical Contractor to verify all voltages, lamp types, field measurements, etc as required.
3. Electrical Contractor to field verify all mounting conditions and provide all hardware necessary to complete installation for full system operation.
4. Electrical Contractor shall verify the type of ceiling, coordinated with architectural and/or electrical drawings prior to purchase of fixtures.
5. Electrical Contractor must comply with maximum do not exceed remote distance of power supplies per manufacturers recommendation.
6. By bidding on this lighting design package, the Contractor acknowledges that lead times for fixtures can range from 2-8 weeks. BOLD will not approve or accept substitutions resulting from the Electrical Contractor's failure to account for lead times.
7. All remote transformers shall be located at an accessible, sound attenuated, ventilated location where indicated on the electrical drawings.
8. The client shall not hold consultant liable for re-design services due to cost overruns if they choose not to define targeted budgets.
9. Manufacturer must provide shop drawings for all continuously illuminated run lengths or custom sized panels, to be coordinated with architectural and/or electrical drawings.
10. Distributors must provide anticipated ship dates upon return of approved lighting fixture submittals.
11. Distributors must provide manufacturer-verified lead times based on fixture quantities.
12. Distributors must provide broken down unit prices by type. Bids that do not include unit pricing will be rejected as incomplete.
13. All emergency related electrical characteristics must be verified by the Electrical Engineer or Electrical Contractor.
14. All LED Retrofit lamps on dimming system must be for 120v only. For high-voltage applications, Electrical Contractor must verify with manufacturer prior to specification and purchase of system.
15. See architectural and/or electrical drawings for fixture locations, quantities and/or run length configurations. BOLD is not responsible for final locations, quantities and/or run length configurations.
16. Manufacturer labels shall be turned away from public view. No construction notations shall be visible in areas exposed to public view.
17. All lighting fixtures shall be supplied with lamps, color filters and accessories as specified.
18. Electrical Contractor to replace all lamps with new lamps at the end of construction phase prior to commissioning phase and owner occupancy or project opening.
19. All measurements indicated in BOLD lighting plans are approximate. Electrical contractor is required to make field measurements based on actual site conditions to develop complete orders and install systems per drawings and specifications.
20. Electrical Engineer must provide required compatibility interfaces, if required, for compatibility to selected lighting control system.
21. All lighting fixtures installed in architectural details and/or millwork details must be confirmed and installed per BOLD recommended criteria (ie. aperture opening, visual cutoff angles, aiming angles, etc.).
22. All lighting fixture finishes to be reviewed and approved by Architect and/or Interior Designer prior to purchase.

ABBREVIATED TERMS

LINE- LINE VOLTAGE DIMMABLE

ELV- REVERSE-PHASE ELECTRONIC LOW VOLTAGE DIMMING

FWD ELV- FORWARD-PHASE ELECTRONIC LOW VOLTAGE DIMMING

MLV- MAGNETIC LOW VOLTAGE (FORWARD PHASE) DIMMING

DMX- DMX512 CONTROL

DALI- DALI CONTROL

2-WIRE- LUTRON 2-WIRE DIMMING

3-WIRE- LUTRON 3-WIRE DIMMING

ECO- LUTRON ECOSYSTEM

NON-DIM- NON-DIMMING or SWITCHED

0-10V- 0-10V DIMMING

VIF- VERIFY IN FIELD

TBD- TO BE DETERMINED

TBC- TO BE CONFIRMED

Cape Cod Pilgrim Memorial Association
Bradford Access Project
Maintenance-Access-Security-Traffic-Admission Ticketing
and
Wayfinding Protocols

Maintenance:

A 5-year maintenance contract will be in force at the initiation of the funicular with Outdoor Engineers, Inc. with a minimum of a twice (2x) yearly comprehensive maintenance schedule to include but not limited to: the cabin, the motor & electronics/mechanics, doors, and associated mechanicals.

Daily operational checks of the funicular at 0700, 1200, 1500, 1700, 1900 will be conducted to include but not limited to: door operations, motor performance, track obstructions, cabin cleanliness, and general funicular operations.

Daily grounds maintenance of the pavilion, queuing area, pavement, rubbish containers, and etc. with specific checks at 0700, 1200, 1500, 1700, 1900 will be conducted.

Access:

The funicular will be operational 365 days a year. **NOTE:** It is necessary to operate the funicular daily to ensure track and operational safety.

Operational is defined as being in "top-peak" performance/working order. For example: February Valentine's Day Weekend or a Federal Holiday like President's Day Weekend-When the Monument and Museum will be open from 09:00-17:00 Friday-Saturday-Sunday, the funicular will be in operation. The PMPM Parking Lot will be plowed and the Monument and Museum will be open for visitors.

The funicular will be open during ALL operational hours of the Monument and Museum, including Grounds Rental Events. **NOTE:** Ground rental events generally end by 23:00 hours and are staffed by attendant(s). The CCPMA provides service to our guests by having access to our parking lot following a ground rental events. Once the event is concluded, the funicular will be returned to the top for the remainder of the evening.

The funicular will be staffed. The CCPMA reserves the right to determine staffing requirements after 12 months of regular operation.

An automated ticket (online-physical) process will be enabled-so that patrons may purchase tickets online via the PMPM Website and via a permanent ticket kiosk located at the pavilion. Tickets will enable patrons to travel the funicular and visit the Pilgrim Monument and Provincetown Museum.

Security:

The funicular (and associated areas of property owned by the CCPMA including the Monument, Parking Lot, and Grounds) will be fully secured by video surveillance, including the grounds, the funicular "park" and inside the funicular cabin.

The security system of the funicular will be tied into the main monitoring system of the Pilgrim Monument and Provincetown Museum.

Staff attendant(s) will act as on-site security and will have walkie-talkie communications to the Museum administrative staff.

Traffic Monitoring:

During the first 12 months of operation, PMPM Staff will be assigned to funicular operations to assist in monitoring vehicular and pedestrian traffic within the vicinity of the pavilion/park.

The monitoring program will focus on peak conditions during the summer, grounds rentals, events, and weekends with the funicular use is expected to be higher.

PMPM Staff will monitor vehicular traffic operations to ensure vehicles DO NOT stop at the site to drop-off patrons. PMPM Staff will be trained to manage vehicular traffic to the PMPM parking lot or other public parking facilities.

PMPM Staff will monitor pedestrian traffic and on-site queuing within the adjacent sidewalk with regards to safety.

If pedestrian demands for the funicular begin to exceed capacity within the pavilion/park, PMPM Staff will assist patrons to a safe waiting zone and will have the ability to cease funicular operations until pedestrian traffic has reduced.

Admission Ticketing:

Our Point of Sale system will be modified to enable ON-LINE ticket purchases for entrance to the Pilgrim Monument and Provincetown Museum. There will be NO special admission ticket to access the funicular. A regular admission ticket (paper or electronic bar code) will suffice for day-of entrance and egress. It is planned that an admission ticket to the Pilgrim Monument and Provincetown Museum will be accessible in the following ways: 1) Direct physical purchase at the Museum; 2) Direct physical purchase at the ticket kiosk located at the funicular; 3) Online purchase via the website; or 4) Other alternative ticket sale mechanisms, for example: hand-held admission ticket sales.

Wayfinding: The proposed National Endowment for the Arts Wayfinding grant will place an Augmented Reality Marker at 8 Pilgrim Sites, the Pilgrim Monument being site number one (1). The marker, positioned at the base of the funicular, will provide through augmented reality and other innovative emerging technology, a visitor experience with tailored accurate information about Provincetown, the Mayflower Compact, and the Pilgrim Monument. This tailored visitor experience will be “free” to anyone who passes by the funicular and uses their “Smart-Phone” at the marker. There will also be available marketing collateral (on-line and print based) to inform visitors of the Wayfinding system and to encourage visitor to visit the other Pilgrim Sites. The options for customized programming are endless with this technology. The initial content delivered through augmented reality will focus on the 400th Anniversary of the *Mayflower Pilgrims* landing in Provincetown, the signing of the *Mayflower Compact*, and the interactions of the *Mayflower Pilgrims* with the Wampanoag people. It is anticipated that the consortium organizations will be notified in November 2018 of the success of the grant. Should the grant not be successful, there are plans to provide development (fund raising) opportunities to help fund the initiative in time for 2020.



PLYMOUTH 400™ 1620-2020

The Plymouth story is epic in scope and encompasses many different perspectives, themes, and entry points. Interpreting Plymouth Colony will work to organize and shape these diverse viewpoints into a cohesive narrative that will feature wayfinding and interactive elements meant to create an intuitive educational experience for visitors to the area in 2020.

Ambitious in scope, this interpretive journey stretches more than 115 miles, and joins together nine towns and four counties in Massachusetts.



Pilgrim Monument & Museum
Provincetown



Corn Hill/Corn Hill Beach
Truro



First Encounter Beach
Eastham



Mashpee Wampanoag Museum
Mashpee Wampanoag Site



The Aquinnah Cultural Center
Aquinnah Wampanoag Site



Pilgrim Hall
Plymouth



The John and Priscilla Alden
Family Sites, Duxbury



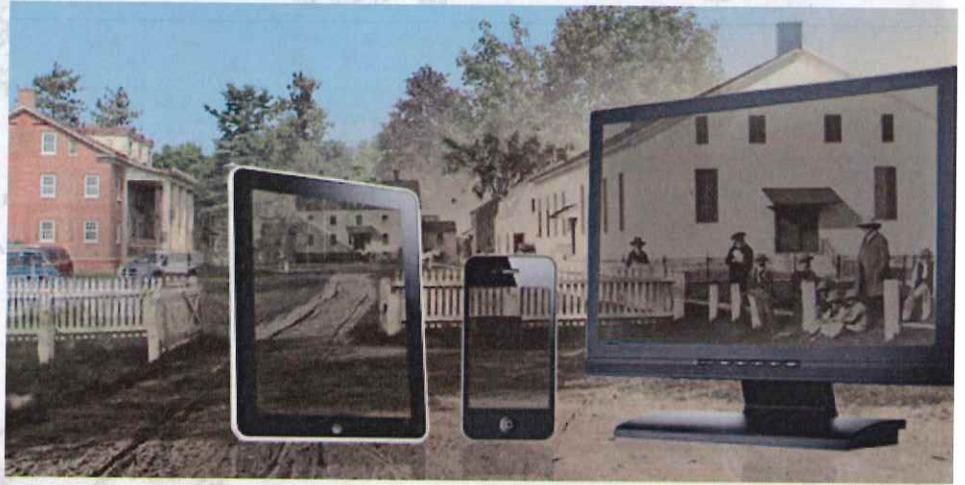
New England Historic
Genealogical Society, Boston



TIERED CONTENT DELIVERY SYSTEMS

1 AUGMENTED REALITY

Through augmented reality and other innovative, emerging technology, visitors will receive accurate information tailored to their immediate use and will increase their sense of place while they explore the actual physical sites where these pivotal moments in American history occurred.



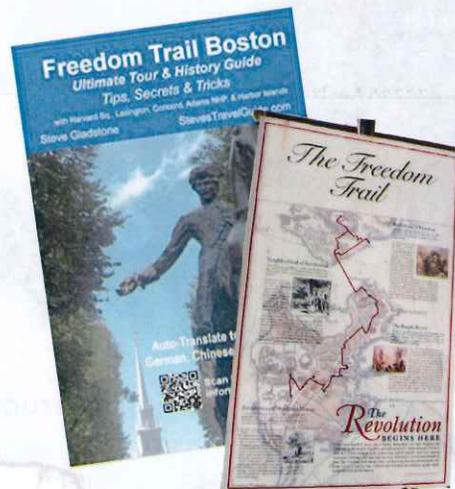
2 ILLUSTRATED & INTERACTIVE WEBSITE

With an interactive, illustrated Website featuring the basic narrative, further information on each historic site and museum, and additional examination of the unifying themes in greater depth; videos focusing on each historic site and museum that will provide virtual tours of their collections/displays



3 TRADITIONAL MAP & GUIDE

A print guide that can serve as a keepsake and non-technical means of wayfinding. Each partnering site will feature auxiliary programming for the 400th Anniversary, including visual and performing arts, dialogue series, lectures and symposia.



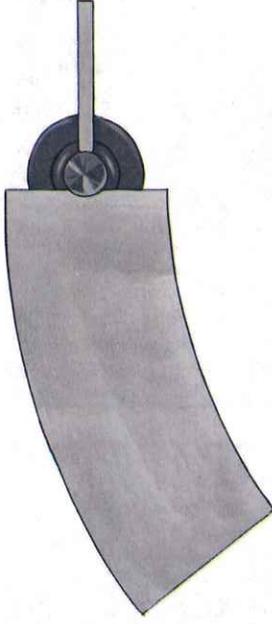

PLYMOUTH 400™
1620-2020

An American Story - A National Legacy

SITE MARKER

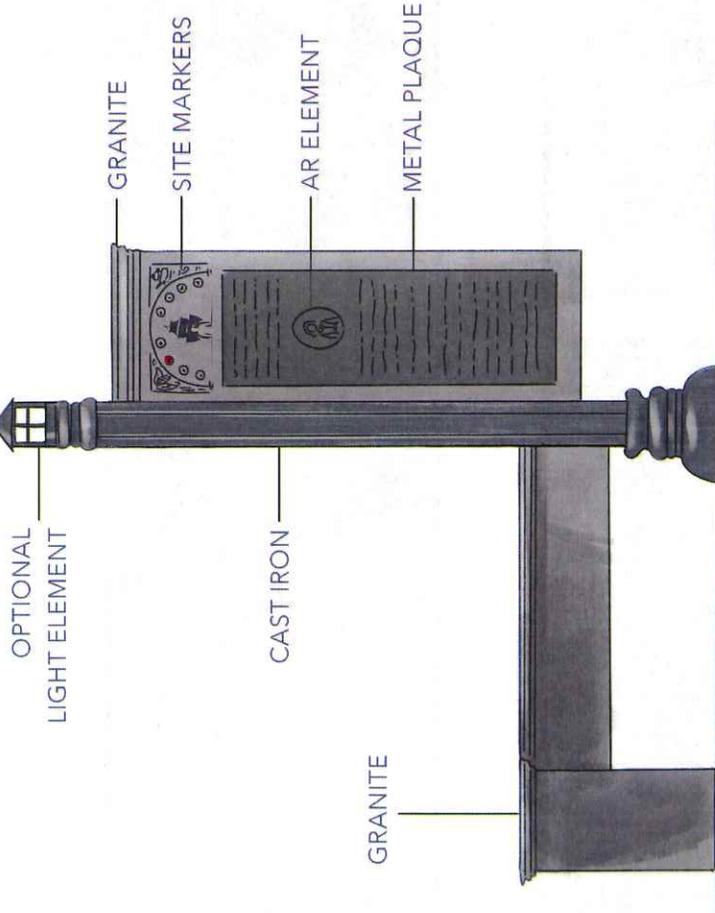
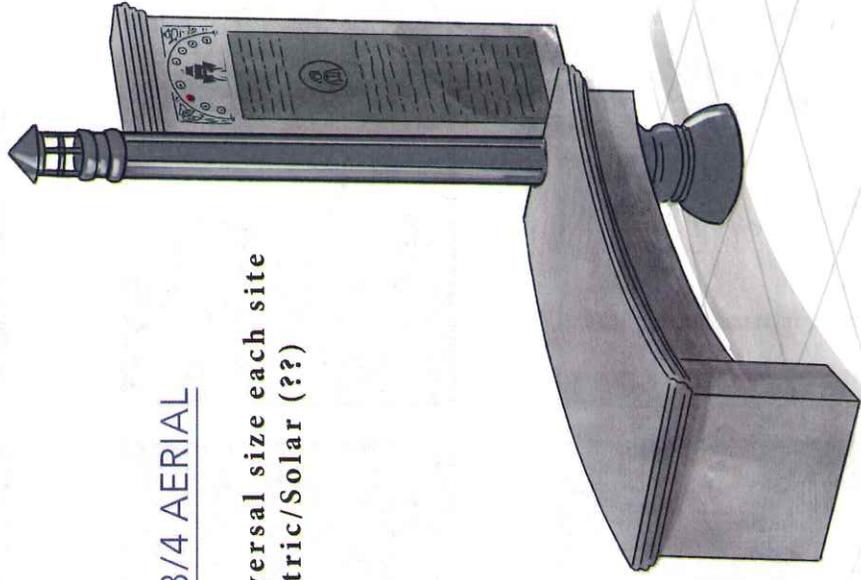
- Proposed A/R Marker for 8 Pilgrim Sites**
- Pilgrim Monument & Provincetown Museum
- Corn Hill Beach (Truro)
- First Encounter Beach (Eastham)
- Wampanoag Museum (Mashpee)
- Pilgrim Hall Museum (Plymouth)
- The Aquinnah Cultural Center (Vineyard)
- The John and Priscilla Alden Family Sites (Duxbury)
- New England Genealogical Society (Boston)
- Augmented Reality/Virtual Reality**
- Animation-Voice Overs-Video**

TOP



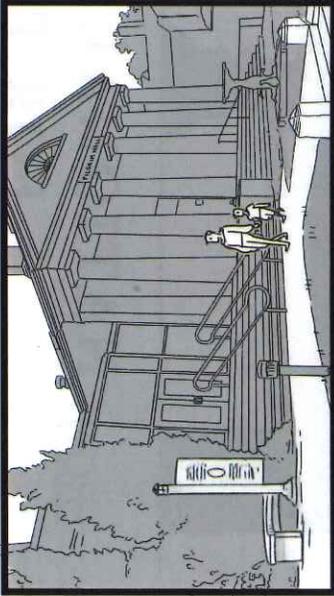
3/4 AERIAL

Universal size each site
Electric/Solar (??)

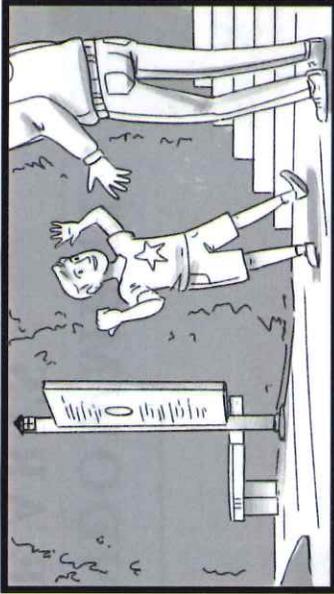


FRONT
**NATIONAL ENDOWMENT
FOR THE ARTS
GRANT PROPOSAL 2018**

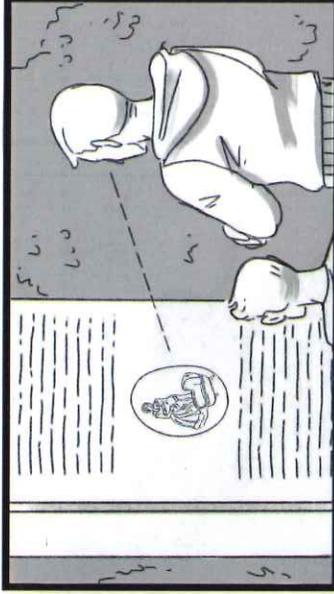
PILGRIM HALL MUSEUM STEP-BY-STEP



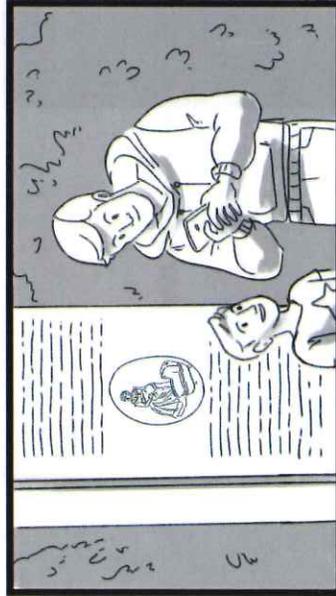
GUESTS VISIT SITE



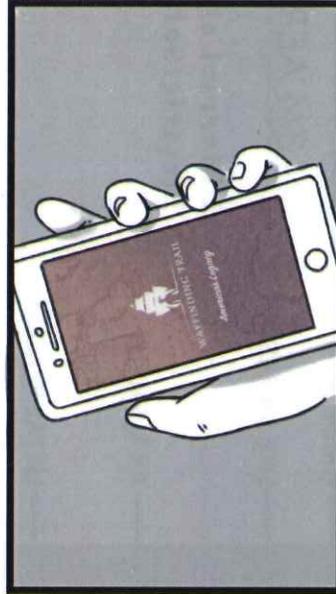
GUESTS APPROACH MARKER



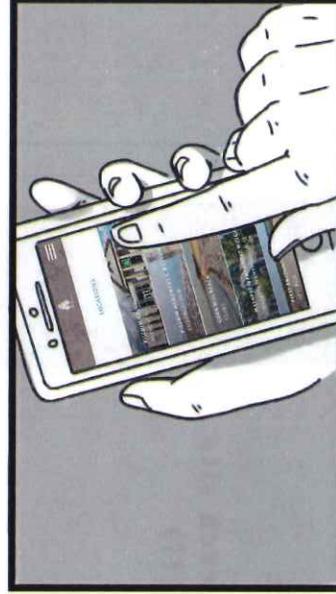
GUESTS READ SIGN, LEARN ABOUT APP



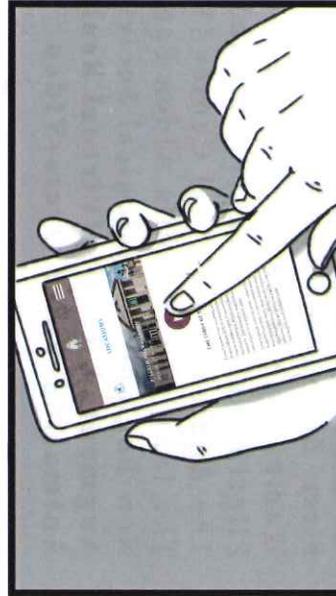
GUESTS DOWNLOAD APP



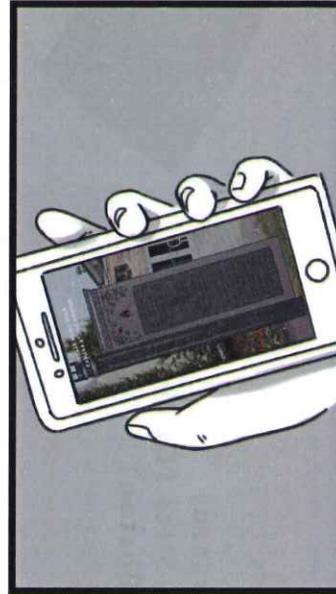
LANDING PAGE



SELECT PILGRIM HALL



BEGIN AR EXPERIENCE

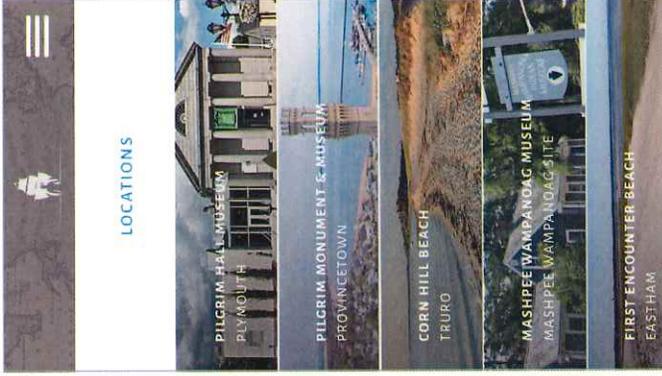
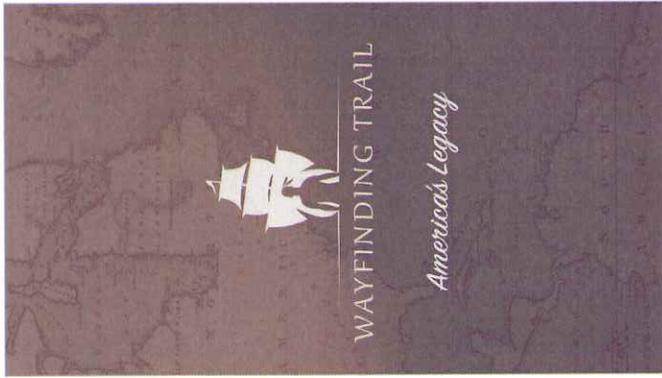


GUESTS INSTRUCTED TO FIND AR ELEMENT



AR VIDEO BEGINS

NATIONAL ENDOWMENT FOR THE ARTS GRANT PROPOSAL 2018



AR CAN FEATURE DIFFERENT TYPES OF EXPERIENCES LIKE:

- ANIMATION
- VOICE-OVERS/MUSIC
- VIDEO
- AND MORE

BOLD

PILGRIM MONUMENT - BRADFORD ACCESS
PILGRIM MONUMENT & PROVINCETOWN MUSEUM
ISSUED FOR PLANNING BOARD MEETING

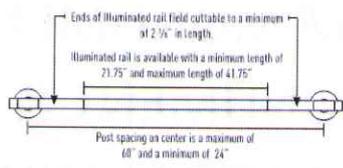
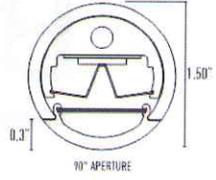
10/25/2018

REVISION: 0

IVR15-SPI
1.5" Solid State Illuminated Rail
2" Post Integral Power Supply



JOB NAME	CATALOG NUMBER	
NOTES	TYPE	



PHOTOMETRIC DATA

- LED: 4.6W High Output
- CCT: 3500K
- Illuminated Rail Length: 41"
- Rail Height: 36"
- Post Spacing: 48"

3'	.11	.11	.11	.11	.11
2'	.22	.22	.22	.22	.22
1'	.30	.31	.32	.31	.30

3'	.30	.31	.32	.31	.30
2'	.22	.22	.22	.22	.22
3'	.11	.11	.11	.11	.11

40° Flood

3'	.5	.5	.5	.5	.5
2'	.17	.17	.18	.17	.17
1'	.53	.54	.55	.54	.53

3'	.53	.54	.55	.54	.53
2'	.17	.17	.18	.17	.17
3'	.5	.5	.5	.5	.5

35° Narrow

3'	.4	.4	.4	.4	.4
2'	.9	.9	.9	.9	.9
1'	.20	.20	.20	.20	.20

3'	.33	.33	.34	.33	.33
2'	.23	.23	.23	.23	.23
3'	.10	.10	.10	.10	.10

30° Asymmetrical

CONSTRUCTION

Internal Rail Construction: Heavy duty extruded 6061-T6 Aluminum Alloy.
External Rail Jacket: Available in 304 or 316 stainless steel. Consult factory for custom powder coat finishes (AAMA 2604).

LED LIGHT SOURCE

Closely packed array of small LEDs allow for smooth seamless illumination with immediate overlap to avoid pixilation and provide a continuous flow of light. Color temperatures options include 2700K, 3000K, 3500K or 4000K.
 • 85 CRI
 • 50,000 hours of average rated life at 70% output
 • LED components are easily accessible to allow for easy maintenance
 • Maximum run length per driver: 8'

LED LIGHT ENGINE (PER FOOT)

- System Power Consumption: 4.6W
- Cool White 4000K: 219 lm
- Neutral White 3500K: 207 lm
- Warm White 3000K: 202 lm
- Warm White 2700K: 194 lm

OPTICAL SYSTEM

Innovative optical system includes integral reflector and light shaping diffuser. 92% transmission efficiency provides precise shaping, control and distribution of light. High impact acrylic lens is secured with (2) countersunk flush screws, (1) at each end. Distributions include flood, narrow and asymmetric.

MOUNTING / INSTALLATION

Each rail support is secured to the swivel mount on specified mounting system. Post or embedded mount is available. See mounting submittal sheets for detailed information.

EMERGENCY

Remote emergency inverter available. Can be remote up to 1000 ft. available. See IB-IES specification sheet.

WARRANTY / LISTINGS

- 5-Year Intense LED Limited Warranty (LED & Power Supply Only)
- ETL Wet Location Listed
- IDA Approved
- ADA Compliant

AWARD

- 2013 Next Generation Luminaires - "Recognized Winner"

227 WEST 29TH STREET 8TH FLOOR
NEW YORK, NY 10001
212.674.6500
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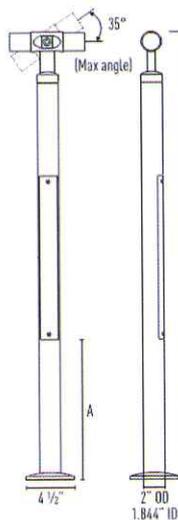
Fixture Information	Manufacturer	Part Number				
	INTENSE LIGHTING	#(IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	POST MOUNTED	3-WIRE	4.6 W/ft.	PER EE	INTEGRAL ELECT	
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4.6 W	2700K	
Notes	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM.					

Description
POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER SUPPLIES.

Location
WALK PATH

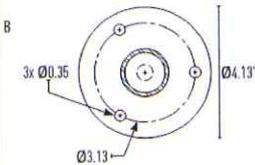
Type
LA-01

IVR15-SPI
2" Post Mount Assembly



DIMENSIONS	
	Handrail
A	14"
B	36"

BASE SPECIFICATION



CONSTRUCTION

Post mount assembly is available in No.4 polished 304 stainless steel. Consult factory for custom powder coat finishes (AAMA 2604).

MAINTENANCE

Posts include a driver access door where power supply components are easily accessible. Tamper proof hardware and special tools are standard and included.

POWER SUPPLY

Lutron Hi-Lume® A-Series Driver is a high-performance LED driver that provides smooth, continuous 1% dimming. See driver specifications.

- Dimming Range: 100% to 1%
- Operating Voltage: 120-277V @ 50/60Hz
- Rated Lifetime of 50,000 hrs. @ T_a = 65°C
- Power Factor: > 0.9 at 40W
- Standby Power Consumption: < 1.0W
- Total Harmonic Distortion: < 20% at 40W
- Inrush Current: < 2A

MOUNTING / INSTALLATION

Post are to be spaced at a maximum of 60" and minimum of 24" on centers. Post mount is to be surface mounted to concrete utilizing 3/4" anchor bolts (supplied by others). Anchoring means must be determined by local codes. Not to be supplied or engineered by Intense Lighting. See post mount installation chart for more information. Anchorage template available by request.

OPERATION

Post with integral power supply will power up to 83 1/2" of illuminated rail.

FITTINGS

Consult factory for standard fittings and epoxy weld adhesive specification.

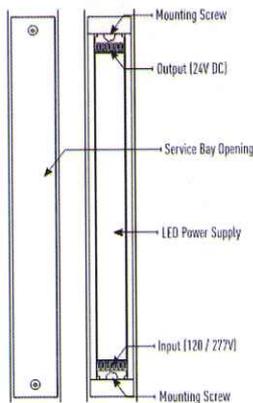
JOB NAME	CATALOG NUMBER
NOTES	TYPE

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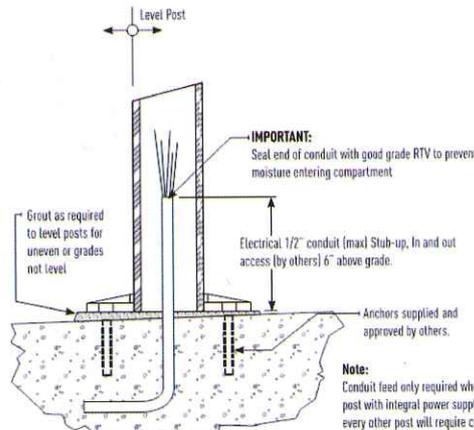
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Post Specification



Post Mount Installation Detail



Note:
Conduit feed only required when installing post with integral power supply. Typically every other post will require conduit feed.

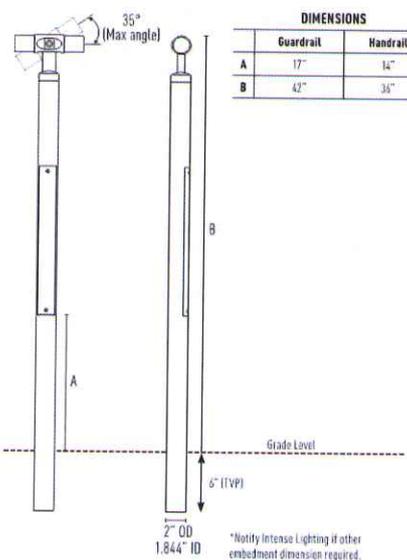
PA66-11W 2000077

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Fixture Information	Manufacturer	Part Number				
	INTENSE LIGHTING	#(IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	POST MOUNTED	3-WIRE	4.6 W/ft.	PER EE	INTEGRAL ELECT	
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4.6 W	2700K	
Notes	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM.					

IVR15-SPI
2" Post Embedded Assembly



DIMENSIONS	
Guardrail	Handrail
A 17"	14"
B 42"	35"

CONSTRUCTION
Post mount assembly is available in No. 4 polished 304 stainless steel. Consult factory for custom powder coat finishes (AAMA 2604).

MAINTENANCE
Posts include a driver access door where power supply components are easily accessible. Tamper proof hardware and special tools are standard and included.

POWER SUPPLY
Lutron Hi-Lume® A-Series Driver is a high-performance LED driver that provides smooth, continuous 1% dimming. See driver specifications.

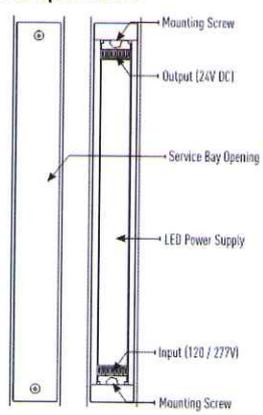
- Dimming Range: 100% to 1%
- Operating Voltage: 120-277V @ 50/60Hz
- Rated Lifetime of 50,000 hrs. @ T_a = 65°C
- Power Factor: > 0.9 at 40W
- Standby Power Consumption: < 1.0W
- Total Harmonic Distortion: < 20% at 40W
- Inrush Current: < 2A

MOUNTING / INSTALLATION
Post are to be spaced at a maximum of 60" and minimum of 24" on centers. Embedded mount post are set into place using Rockite® or Knixset® anchor cement. A minimum of 6" post must be embedded into concrete to structurally secure post. Anchoring means must be determined by local codes. Not to be supplied or engineered by Intense Lighting. See Embedded Mount Installation chart for more information.

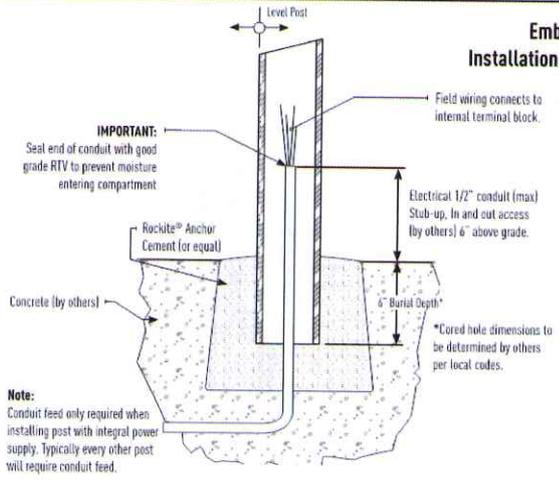
OPERATION
Post with integral power supply will power up to 83 1/2" of illuminated rail.

FITTINGS
Consult factory for standard fittings and epoxy weld adhesive specification.

Post Specification



Embedded Installation Detail



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Fixture Information	Manufacturer		Part Number			
	INTENSE LIGHTING		#(IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	POST MOUNTED		3-WIRE	4.6 W/ft.	PER EE	INTEGRAL ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4.6 W	2700K	

Notes
FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION. FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM.

Description

POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER SUPPLIES.

Location

WALK PATH

Type

LA-01

Lutron Hi-lume® A-Series Driver



Width: 1.18" Height: 1.00" Length: 14.25"

JOB NAME	CATALOG NUMBER
NOTES	TYPE

Maximum Driver-to-LED Light Engine Wire Length

Wire Gauge	Maximum Lead Length
18	15 ft (4.5 m)
16	25 ft (7.5 m)
14	40 ft (12 m)
12	60 ft (18 m)

DESCRIPTION

Hi-lume® A-Series Driver is a high-performance LED driver that provides smooth, continuous 1% dimming.

FEATURES

- Continuous, flicker free dimming from 100% to 1%
- Compatible with Energi Savr Node™ with EcoSystem® unit, OS control unit, PowPak® dimming allowing for integration into a planned or existing EcoSystem® lighting control solution.
- Standard 3-wire line-voltage phase-control technology for consistent dimming performance and compatibility with all Lutron® 3-wire fluorescent controls.
- Rated lifetime of 50,000 hours @ $t_c = 65^\circ\text{C}$
- UL recognized for United States and Canada
- RoHS Compliant
- Constant Voltage Driver with Pulse Width Modulation (PWM) dimming

PERFORMANCE

- Dimming Range: 100% to 1%
- Operating Voltage: 120-277V - at 50/60Hz
- Rated lifetime of 50,000 hours @ $t_c = 65^\circ\text{C}$
- Patented thermal foldback protection
- LEDs turn on to any dimmed level without going to full brightness
- Nonvolatile memory restores all driver settings after power failure
- Power Factor: > 0.9 at 40W
- Standby Power Consumption: < 1.0W
- Total Harmonic Distortion (THD): < 20% at 40W
- Inrush Current: < 2A
- Inrush Current Limiting Circuitry: eliminates circuit breaker tripping, switch arcing and relay failure
- Open circuit protected
- Short circuit protected
- Turn-on time: < 1 second
- PWM Dimming Frequency: 550Hz

ENVIRONMENTAL

- Sound Rating: Class A
- Relative Humidity: Maximum 90% non-condensing
- Minimum operating ambient temperature $t_c = 32^\circ\text{F}$ (0°C)

STANDARDS

- Meets ANSI C62.41 category A surge protection standards up to and including 4 kV
- FCC Part 15 compliant for commercial applications at 120V - or 277V -
- UL 8750 recognized

DRIVER WIRING AND MOUNTING

- Terminal blocks on the driver accept one solid wire per terminal from 18 to 16 AWG (0.75 to 1.5 mm²)
- Fixture must be grounded in accordance with local and national electrical codes

LISTINGS

- UL Recognized for United States and Canada
- RoHS Compliant
- FCC Compliant

PANEL NUMBER

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Fixture Information	Manufacturer		Part Number			
	INTENSE LIGHTING		#(IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drv
Source Info	POST MOUNTED		3-WIRE	4.6 W/ft.	PER EE	INTEGRAL ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4.6 W	2700K	
Notes	<p>FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION. FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM.</p>					

Description	POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER SUPPLIES.	Location	WALK PATH	Type LA-01

IVR15-SPI
1.5" Solid State Illuminated Rail
Specification Guide

V-Rail Part Number (Example: IVR15-SPI-ST-P36-H027-40S)
(Specify Quantity By Foot)

A: Family	B: Finish	C: Mounting/Height	D: LED Output	E: CCT	F: Light Distribution	G: Electrical	H: Options
IVR15-SPI	<input type="radio"/> -ST (304 Stainless Steel) <input type="radio"/> -C (Custom)	<input type="radio"/> -P36 (36" Post Mount) <input type="radio"/> -P42 (42" Post Mount) <input type="radio"/> -E36 (36" Embedded Mount) <input type="radio"/> -E42 (42" Embedded Mount)	<input type="radio"/> -HO (High Output 4.6W)	<input type="radio"/> 27 (2700K) <input type="radio"/> 30 (3000K) <input type="radio"/> 35 (3500K) <input type="radio"/> 40 (4000K)	<input type="radio"/> -40S (60° Flood) <input type="radio"/> -35S (35° Narrow) <input type="radio"/> -30AS (30° Asymmetric) <input type="radio"/> 40 (4000K)	<input type="radio"/> blank (24V Input)	<input type="radio"/> -I (Infill)

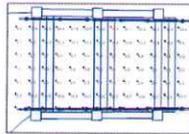
JOB NAME	CATALOG NUMBER
NOTES	TYPE

- Notes:**
- 316 Stainless steel available by special order
 - Special order, consult factory
 - No LED Infill only, see IVR15-RPS

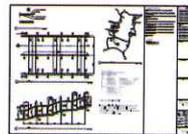
Specification and Delivery Process

Architectural drawings or detailed elevation drawings are required for a V-Rail quotation. A photometric layout will be provided if requested. Once an order is placed, Intense Lighting will provide detailed shop drawings for approval.

V-Rail will be delivered to the job site ready for installation. A detailed assembly drawing will be provided along with dimensions and locations for remote power supplies. All products included will be labeled clearly to match the assembly drawing. Certain tools and equipment will be required for the assembly of V-Rail. A detailed list of tools can be found in the V-Rail Installation Guide. Installation guide available upon request, consult factory.



Photometric Layout



Shop Drawing / Assembly Guide



Completed Project

Notes:

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TABLE OF CONTENTS

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Fixture Information	Manufacturer		Part Number			
	INTENSE LIGHTING		#(IVR15-SPI-C-*36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	POST MOUNTED		3-WIRE	4.6 W/ft.	PER EE	INTEGRAL ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4.6 W	2700K	
Notes	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM.					

Description	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP	Location	FUNICULAR PAVILION	Type
				LA-02

REJUVENATION



Specification	Detail
Hood	
Item #	A1445
	http://www.rejuvenation.com/s/18fzh
Finish	Oil-Rubbed Bronze
Length	54"
Socket type	E26
Minimum length	30"
Fixture maximum length	150"
Shade	B3960-18 in-OP
Shade SKU	B3960-18 in-OP
Max Wattage	300 W
UL Listing	UL Listed Damp
Canopy width	5"
Overall Width	18"
Number of sockets	1
Shade Height	17"

Base price: \$349.00
 Selected options total: \$495.00
 Total price as shown: \$844.00

*Shipping and handling fees apply

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Fixture Information	Manufacturer	Part Number				
	REJUVENATION	#(PNF-3"-LED-E64-MFL-A9-FINISH-12-11-A)-(POWER PIPE)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drv	
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	SUSPENDED	LINE	9 W	PER EE	NONE	
	GREEN CREATIVE	97780/9A19DIM/827	1	9 W	2700K	

Notes

FIXTURE IS A SUSPENDED DECORATIVE PENDANT, 54" OAL. ARCHITECT TO PROVIDE ADDITIONAL SUPPORT/MOUNTING BRACKET AS REQUIRED. FIXTURE PROVIDED WITH 5" OD CANOPY COVER. FIXTURE TO BE USED WITH LED RETROFIT A19/E26 LED LAMP SUITABLE FOR USE WITH ENCLOSED FIXTURES.

Description	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP	Location	FUNICULAR PAVILION	Type	LA-02
-------------	---	----------	--------------------	------	-------

A19 9W DIM. TITANIUM LED SERIES

9W REPLACES

**60W
Inc.**

80% Energy Savings

\$151 Savings per lamp*

- ⤵ Exceptional efficacy 89 LPW in Soft White
- ⤵ 40% more energy savings than CFL
- ⤵ Comfortable warm diffused light
- ⤵ Natural A-lamp shape fits all applications
- ⤵ Ideal for lamps with shades
- ⤵ Suitable for use in totally enclosed fixtures

25,000 H

DIMMABLE

89
LPW
EFFICACY

3 YR WARRANTY

CRI (Ra)

ENCLOSED**

LM 79

LM 80

TM 21

IES

A19 PRODUCT FEATURES

Suitable for Enclosed Fixtures

This A19 is suitable for use in totally enclosed fixtures and capable of operating in a broad range of applications. Whether it is installed in fully enclosed flushmounts or sconces, this lamp's advanced thermal design ensures optimal performance over the course of its lifetime.

Exceptional Efficacy

Technology	LPW
GREEN CREATIVE	89
OTHER TIER 1 LED	~70
ENERGY STAR LED	~65
CFL	~55
INC.	~15

At 89 LPW, this lamp's efficacy is higher than the Tier 1 LED A19 60W replacement industry average and exceeds new ENERGY STAR 2.0 requirements. This energy-saving performance makes this lamp a smart retrofit choice for incandescent and CFL bulbs.

www.greencreative.com / info@greencreative.com - Tel / Fax: (866) 774-5433 - [Twitter](#) / [GCLightingLED](#) [LinkedIn](#) / GREEN CREATIVE

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Fixture Information	Manufacturer	Part Number				
	REJUVENATION	#(PNF-3"-LED-E64-MFL-A9-FINISH-12-11-A)-(POWER PIPE)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
Source Info	SUSPENDED	LINE	9 W	PER EE	NONE	
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	GREEN CREATIVE	97780/9A19DIM/827	1	9 W	2700K	

Notes: FIXTURE IS A SUSPENDED DECORATIVE PENDANT, 54" OAL. ARCHITECT TO PROVIDE ADDITIONAL SUPPORT/MOUNTING BRACKET AS REQUIRED. FIXTURE PROVIDED WITH 5" OD CANOPY COVER. FIXTURE TO BE USED WITH LED RETROFIT A19/E26 LED LAMP SUITABLE FOR USE WITH ENCLOSED FIXTURES.

Description	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP	Location	FUNICULAR PAVILION	Type
				LA-02

A19 9W DIM. TITANIUM LED SERIES 



SPECIFICATIONS

Product Model	97780 9A19DIM/827	97781 9A19DIM/830	97782 9A19DIM/840
Type	A19	A19	A19
Base	E26	E26	E26
Power (W)	9	9	9
Voltage - Frequency	120V 60Hz	120V 60Hz	120V 60Hz
Color Temp. (ANSI)	Soft White 2700K	Warm White 3000K	Cool White 4000K
CRI (Ra) (typ.)	82	82	82
Typical lumens (lm)	800	820	860
Efficacy (LPW)	89	91	96
Beam Angle	240°	240°	240°
Dimmable	Yes**	Yes**	Yes**
Power Factor	0.9	0.9	0.9
Rated Lifetime - L70 (hrs.)	25,000	25,000	25,000
Dia. x MOL	2.36"x4.41" (60x112mm)	2.36"x4.41" (60x112mm)	2.36"x4.41" (60x112mm)
Weight (lb. / g)	0.10lb. / 45g	0.10lb. / 45g	0.10lb. / 45g

* Savings per lamp based on \$0.11 / kWh energy cost, 12 hrs / day lamp usage, \$2 incandescent with 1000-hr lifetime, \$16 LED with 25,000-hr lifetime
 ** Suitable for use in totally enclosed fixtures
 *** Suitable for damp locations. Not for use where directly exposed to weather or water

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	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drv	
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	SUSPENDED	LINE	9 W	PER EE	NONE	
	GREEN CREATIVE	97780/9A19DIM/827	1	9 W	2700K	

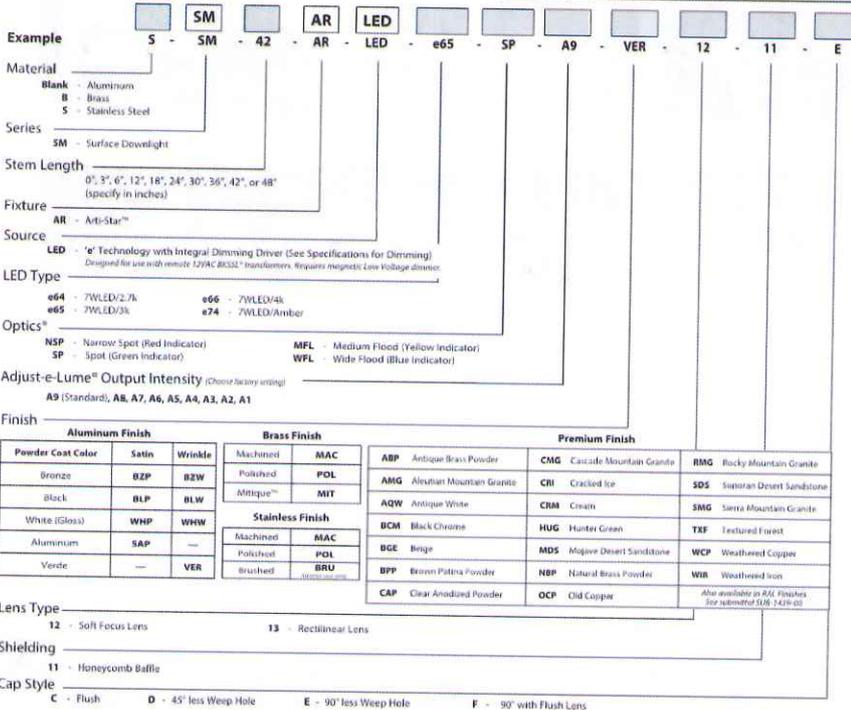
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ARTISTAR™ SURFACE DOWNLIGHT

PROJECT: _____
 TYPE: _____
 CATALOG NUMBER: _____
 SOURCE: _____
 NOTES: _____

CATALOG NUMBER LOGIC



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Fixture Information	Manufacturer		Part Number			
	BK LIGHTING		#(SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSSL REMOTE XFORMER)			
Source Info	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
	SURFACE MOUNTED		MLV	14 W	PER EE	REMOTE MAG
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	7	2 W	2700K	

FIXTURE INTENDED TO BE SURFACE MOUNTED, FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQ'D TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED, VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.

Description

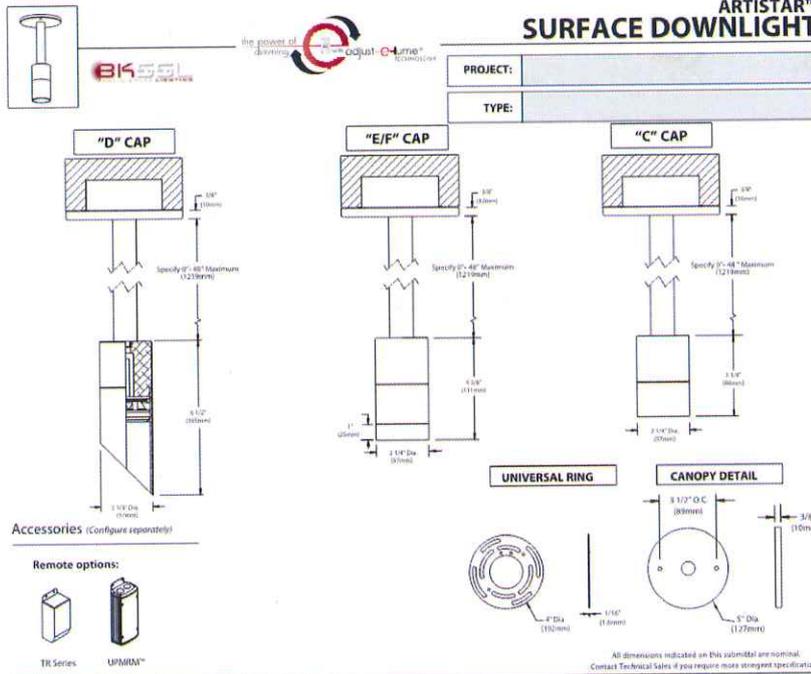
SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT, FIXTURE REQUIRES REMOTE X-FORMER

Location

FUNICULAR PAVILION CANOPY

Type

LA-03



SPECIFICATIONS

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program requirements.

Materials
Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360), or Stainless Steel (Type 304).

Body
Fully machined from solid billet. Unibody design provides enclosed, water-proof wireway and integral heat sink for maximum component life.

Cap
Fully machined. Accommodates (1) lens or louyer media. Choose from flush lens (C), 45° cutoff (D), 1" deep bezel with 90° cutoff (E) cap styles, or 1" deep cutoff with flush mounted lens (F).

Lens
Shock resistant, tempered, glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment. Specify soft focus (F12) or rectilinear (F13) lens.

Stem
Fully machined, 1" dia, with internal threads for maximum visual appeal. Available in configurable lengths to 48" maximum overall.

BKSSL™
Integrated solid state system with 'e' technology is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. High power, forward throw source complies with ANSI C78.377 binning requirements. Exceeds ENERGY STAR™ lumen maintenance requirements. LM-80 certified components.

Integral, constant current driver. 12VAC/VDC input. 50/60Hz. Proprietary input control scheme achieves power factor correction and eliminates inrush current. Output, over-voltage, open-circuit, and short circuit protected. Inrush current limited to <250mA (non-dimmed). Conforms to Safety Std. C22.2 No. 250.13-12.

Dimming
Line voltage dimmable via magnetic low voltage dimmer. For use with low voltage dimmer with dedicated neutral conductor. For purposes of dimming, Remote magnetic transformer with BKSSL™ Power of 'e' technology loads should be loaded to 25% of the transformer VA (watts) rated value.

Optics
Interchangeable OPTIKIT™ modules permit field changes to optical distribution. Color-coded for easy reference: Narrow Spot (NSP) = Red. Spot (SP) = Green. Medium Flood (MFL) = Yellow. Wide Flood (WFL) = Blue.

Adjust-e-Lume™ (Pat. Pending)
Integral electronics allows dynamic lumen response at the individual fixture. Indexed (100% to 25% nom.) lumen output. Maintains output at desired level or may be changed as conditions require. Specify factory preset output intensity.

Installation
5" dia, machined canopy with stainless steel universal mounting ring permits mounting to 4" octagonal junction box (by others).

Remote Transformer
For use with 12VAC. BKSSL™ remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.

Wiring
Teflon™ coated, 18AWG, 150V, 60°C rated and certified to UL 1838 standard.

Hardware
Tamper-resistant, stainless steel hardware. Canopy mounting screws are additionally black oxide treated for additional corrosion resistance.

Finish
StarGuard®, our exclusive RoHS compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class A TGIC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish. Stainless steel components are available in handcrafted metal finish. (Brushed finish for interior use only).

Warranty
5 year limited warranty.

Certification and Listing
ITL tested to IESNA LM-79, UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. IP66 Rated. Made in USA.



*Teflon is a registered trademark of DuPont Corporation.
Energy Star is a registered trademark of the United States Environmental Protection Agency.

B-K LIGHTING	40429 Brickyard Drive • Madera, CA 93636 • USA 559.438.5600 • FAX 559.438.5900 www.bklighting.com • info@bklighting.com	RELEASED 01-04-18	DRAWING NUMBER SUB001155
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212 674 6500
WWW.BRIANORTER.COM

PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer		Part Number			
	BK LIGHTING		#(SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSL REMOTE XFORMER)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	SURFACE MOUNTED		MLV	14 W	PER EE	REMOTE MAG
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	7	2 W	2700K	

Notes
FIXTURE INTENDED TO BE SURFACE MOUNTED. FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQ'D TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED, VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.

Description

SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT, FIXTURE REQUIRES REMOTE X-FORMER

Location

FUNICULAR PAVILION CANOPY

Type
LA-03



LAMP & DRIVER DATA
e64, e65, e66, e74

DRIVER DATA	Input Volts	InRush Current	Operating	Dimmable	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<250mA (non-dimmed)	700mA	Magnetic Low Voltage Dimmer	-22°F-194°F (-30°C -90°C)

LM79 DATA				L70 DATA		OPTICAL DATA		
BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L70)		Angle	CBCP	Delivered Lumens
e64	2700K	80	7	50,000		13°	5993	456
	2700K	80	7	50,000		16°	4546	445
	2700K	80	7	50,000		23°	1726	397
	2700K	80	7	50,000		31°	1131	399
e65	3000K	80	7	50,000		13°	6131	466
	3000K	80	7	50,000		16°	4650	455
	3000K	80	7	50,000		23°	1766	406
	3000K	80	7	50,000		31°	1157	409
e66	4000K	80	7	50,000		13°	6889	524
	4000K	80	7	50,000		16°	5225	511
	4000K	80	7	50,000		23°	1984	456
	4000K	80	7	50,000		31°	1300	459
e74	Amber (590nm)	-	7	50,000		-	-	-

FOR USE WITH			
NS	Nite Star™	EC	El Capitan Series™
NSII	Nite Star II™	ED	El Dorado™
AR	ArtiStar™	SM-AR	ArtiStar™ Surface Downlight
DS	Delta Star™	PM	Pendant
SN	Sign Star™	WM	Twin Pendant
ST	Twin Sign Star™	UL-AR	ArtiStar™ Recessed Uplight
SF	Staff Star™	HP2	HP2 Series™
TF	Twin Staff Star™	CO2	CO2 Series™
WS	Well Star™	CD-VS	Core Drill Versa Star™
AW	Adjustable Well Star™	CD-VQ	Core Drill Square Versa Star™
SW	Square Adjustable Well Star™		
GD	Gold Star™		
GQ	Square Gold Star™		

OPTICS	
Optic	Angle
NSP - Narrow Spot	13°
SP - Spot	16°
MFL - Medium Flood	23°
WFL - Wide Flood	31°

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Fixture Information	Manufacturer		Part Number			
		BK LIGHTING	#(SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSSL REMOTE XFORMER)			
Source Info	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
	SURFACE MOUNTED		MLV	14 W	PER EE	REMOTE MAG
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Description

SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT, FIXTURE REQUIRES REMOTE X-FORMER

Location

FUNICULAR PAVILION CANOPY

Type

LA-03

adjust e-lume
TECHNOLOGY



- RED ● Narrow Spot (NSP)
- GREEN ● Spot (SP)
- YELLOW ● Medium Flood (MFL)
- BLUE ● Wide Flood (WFL)

NOTE:
Adjust-e-Lume® dial is set to the factory standard: 9

NARROW SPOT : 13°

Distance	Beam Dia.	Footcandles		
		e64 2700K	e65 3000K	e66 4000K
4'	1'	375	384	431
8'	2'	94	96	108
12'	3'	42	43	48
16'	4'	23	24	27
20'	5'	15	15	17

If using No. 11 Honeycomb Baffle, multiply footcandle values by .80

SPOT : 15°

Distance	Beam Dia.	Footcandles		
		e64 2700K	e65 3000K	e66 4000K
4'	1'	284	291	327
8'	2'	71	73	82
12'	3'	32	32	36
16'	4'	18	18	20
20'	5'	11	12	13

If using No. 11 Honeycomb Baffle, multiply footcandle values by .80

MEDIUM FLOOD : 23°

Distance	Beam Dia.	Footcandles		
		e64 2700K	e65 3000K	e66 4000K
4'	2'	108	110	124
8'	3'	27	28	31
12'	5'	12	12	14
16'	7'	7	7	8
20'	8'	4	4	5

If using No. 11 Honeycomb Baffle, multiply footcandle values by .80

WIDE FLOOD : 31°

Distance	Beam Dia.	Footcandles		
		e64 2700K	e65 3000K	e66 4000K
4'	2'	71	72	81
8'	4'	18	18	20
12'	7'	8	8	9
16'	9'	4	5	5
20'	11'	3	3	3

If using No. 11 Honeycomb Baffle, multiply footcandle values by .80



B-K LIGHTING

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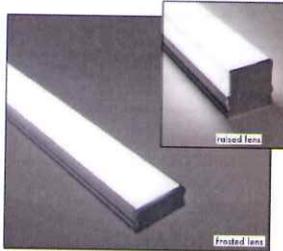
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Fixture Information	Manufacturer		Part Number				
	BK LIGHTING		#(SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSL REMOTE XFORMER)				
	Mounting		Control Type		Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	SURFACE MOUNTED		MLV		14 W	PER EE	REMOTE MAG
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color		
	INTEGRAL LED	INTEGRAL LED	7	2 W	2700K		
Notes	FIXTURE INTENDED TO BE SURFACE MOUNTED. FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQ'D TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED, VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.						

Description	SURFACE MOUNTED IN ARCHITECTURAL COVE DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR USE WITH REMOTE POWER SUPPLIES	Location	FUNICULAR PAVILION	Type
				LA-04

Kendo S Linear Illumination System



Features

- 24VDC Class 2 fixtures made to order up to 144". Fixtures can be linked up to 35' depending on output
- Suitable for undercabinet, millwork recessed and surface mount applications
- Approved for closet/storage space installation per NEC 410.16(A)(3) and 410.16(C)(5)
- Dot free even illumination achievable in SOHD & VHO with frosted lens
- Louvers and Glare Shields available for clear, half-frosted, frosted & graze lens
- Vibrant colors with R9 values up to 98
- Single micro binned LEDs +/- 30 CCT
- Dims with minimal color shift
- Class 2 listed for damp locations
- Proprietary strong bond solder method handles up to 50lbs of torque on wire leads and connectors
- 5 Year warranty

Finish options

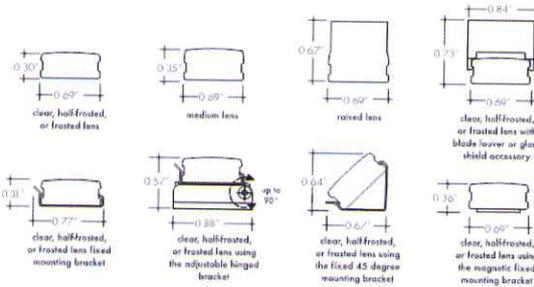


IC RATED



- Silver anodized
- Black powder coated
- Bronze powder coated
- White powder coated

Profile dimensions



Technical information

OUTPUT OPTIONS

Output	Lumens at 3000K (with clear lens)	Average power consumption at 4'	Lumens / Watt (with clear lens)	Maximum system length in meters
SO (IL36)	234 lm/ft	3.2 W/ft	74 lm/W	35'
SOHD (IL21LO)	273 lm/ft	4.0 W/ft	70 lm/W	24'
HO (IL54)	369 lm/ft	3.2 W/ft	78 lm/W	26'
VHO (IL72)	487 lm/ft	6.5 W/ft	77 lm/W	18'

CCT INFO/LUMEN MULTIPLIER

Color temperature	Multiplier (reference: 3000K)	CRI	R _f	R _g
2200K	0.83	86	87	98
2400K	0.65	98	95	102
2700K	0.72	97	95	101
2900K	0.79	97	94	101
3000K	1.00	91	89	98
3500K	0.92	94	90	102
4100K	1.15	94	86	96

Ordering code

MODEL	LENGTH	CCT	OUTPUT	LENS	MOUNTING	FINISH	POWER FEED POSITION / TYPE	ACCESSORIES
KS	12	22K	SO	C	FC	SA	E	BIS
KS	12" - 144"	22K	SO	C	FC	SA	E	BIS
KS	12" - 144"	22K	SOHD	F	AH	SA	E	BIS
KS	12" - 144"	22K	HO	M	FC45	SA	E	BIS
KS	12" - 144"	22K	VHO	*R	MAG	SA	E	BIS

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Fixture Information	Manufacturer		Part Number				
	LUMINII LIGHTING		#(KS-LENGTH AS REQ'D-SOHD-F-FC-SA-FEED AS REQ'D)-(ACCESSORIES)-(CVE-SIZE-24-VOLTAGE)				
	Mounting		Control Type		Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	SURFACE MOUNTED		ELV		4 W	PER EE	REMOTE ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color		
	INTEGRAL LED	INTEGRAL LED	1	4 W/ft.	2700K		

PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQ'D. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINII CVE-SERIES. SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPERS/MOUNTING ACCESSORIES AS REQ'D FOR FULL SYSTEM OPERATION.

Description SURFACE MOUNTED IN ARCHITECTURAL COVE
DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR
USE WITH REMOTE POWER SUPPLIES

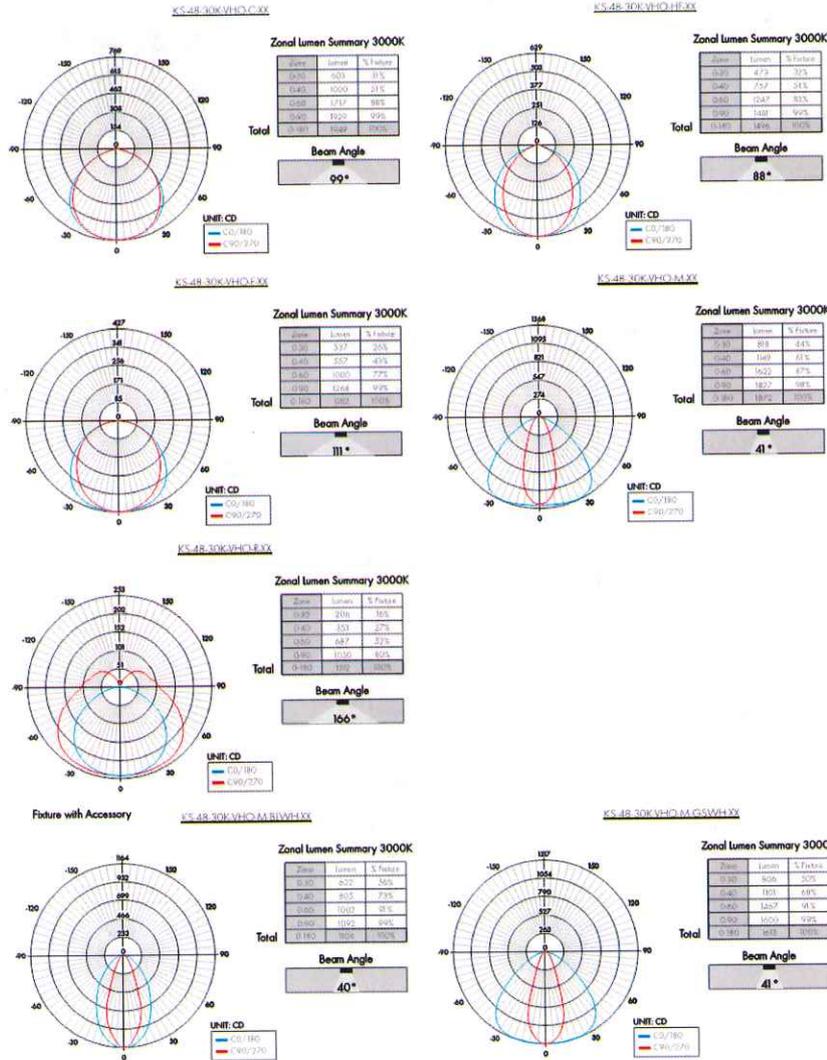
Location FUNICULAR PAVILION

Type
LA-04

Kendo S Linear Illumination System



Photometry



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DESCRIPTION
SURFACE MOUNTED IN ARCHITECTURAL COVE
DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR
USE WITH REMOTE POWER SUPPLIES

LOCATION
FUNICULAR PAVILION

Type
LA-04

Kendo S Linear Illumination System



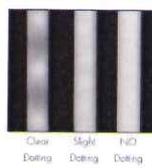
Light Transmission

Lens/Accessory	Percentage Light Transmission
clear lens	99%
medium lens	96%
medium lens w/ white glare shield	81%
half frosted lens	77%
raised lens	67%
frosted lens	56%
medium lens w/ white blade louver	57%

LED Dotting per extrusion

output	Lens				
	Clear	Half-Frosted	Medium	Frosted	Raised
SO (LL26)	CD	CD	CD	CD	ND
SOHD (LL72-LO)	CD	CD	CD	FD	ND
HO (LL54)	CD	CD	CD	FD	ND
VHO (LL72)	CD	CD	CD	FD	ND

CD = Clear Dotting
SD = Slight Dotting
ND = No Dotting



Power consumption per fixture length

Based on operation with PSD series of power supplies

Nominal Length	Actual Length	SO		Actual Length	SOHD		Actual Length	HO		Actual Length	VHO	
		W/ft	Total wattage									
12"	11-2/16"	3.23	3.25	13"	4.30	4.30	13"	3.33	4.30	13"	6.73	6.73
16"	16-14/16"	3.25	4.60	16-11/16"	4.21	3.66	16-13/16"	3.33	7.66	16-11/16"	6.72	4.00
20"	20-14/16"	3.25	3.25	20-10/16"	4.27	7.12	20-15/16"	3.31	8.60	20-10/16"	6.72	11.25
24"	24-13/16"	3.25	6.50	24-11/16"	4.30	3.60	24-13/16"	3.30	10.60	24-11/16"	6.72	12.80
28"	28-12/16"	3.23	7.75	28-12/16"	4.20	7.77	28-12/16"	3.28	12.31	28-12/16"	6.73	16.75
32"	32-11/16"	3.25	8.50	32-11/16"	4.30	10.92	32-11/16"	3.25	14.06	32-11/16"	6.73	19.00
36"	36-10/16"	3.23	9.75	36-10/16"	4.00	10.10	36-10/16"	3.22	15.80	36-10/16"	6.65	19.95
40"	40-9/16"	3.25	10.25	40-9/16"	4.00	13.41	40-9/16"	3.21	17.46	40-9/16"	6.65	20.20
44"	44-7/16"	3.20	11.75	44-7/16"	4.00	14.05	44-8/16"	3.21	19.00	44-9/16"	6.55	24.43
48"	48-7/16"	3.20	13.00	48-7/16"	4.00	16.30	48-7/16"	3.10	20.60	48-7/16"	6.50	26.20
52"	52-6/16"	3.20	13.40	52-7/16"	3.97	17.27	52-6/16"	3.19	22.40	52-7/16"	6.50	28.50
56"	56-5/16"	3.20	14.80	56-5/16"	3.95	18.44	56-5/16"	3.16	24.20	56-5/16"	6.53	30.50
60"	60-4/16"	3.20	15.00	60-4/16"	3.92	19.60	60-4/16"	3.15	25.70	60-4/16"	6.42	32.21
64"	64-3/16"	3.20	17.00	64-3/16"	3.89	20.71	64-3/16"	3.13	27.60	64-3/16"	6.45	34.40
68"	68-2/16"	3.15	18.00	68-2/16"	3.86	21.80	68-2/16"	3.11	29.20	68-2/16"	6.43	36.51
72"	72-1/16"	3.15	18.90	72-1/16"	3.83	23.00	72-1/16"	3.10	30.60	72-1/16"	6.40	38.10
76"	76"	3.15	19.00	76-12/16"	3.80	24.00	76"	3.08	32.80	76-12/16"	6.40	40.50
80"	79-15/16"	3.15	21.00	80-11/16"	3.81	25.17	79-15/16"	3.06	34.00	80-11/16"	6.40	43.00
84"	83-14/16"	3.15	22.00	84-11/16"	3.79	26.20	83-15/16"	3.03	36.70	84-11/16"	6.25	43.20
88"	87-13/16"	3.15	23.60	88-13/16"	3.71	27.31	87-12/16"	3.03	37.30	88-13/16"	6.23	45.00
92"	91-12/16"	3.10	24.00	92-12/16"	3.71	29.46	91-12/16"	3.01	38.50	92-12/16"	6.23	48.00
96"	95-12/16"	3.10	24.80	96-11/16"	3.70	29.60	97"	3.00	42.20	96-11/16"	6.15	49.20
100"	99-10/16"	3.10	26.30	100-10/16"	3.67	32.24	100-10/16"	2.99	41.40	100-10/16"	6.15	51.25
104"	103-8/16"	3.05	27.10	104-10/16"	3.64	33.51	104-11/16"	2.95	43.21	104-10/16"	6.15	53.00
108"	107-7/16"	3.05	28.00	108-7/16"	3.60	32.50	108-13/16"	2.91	44.80	108-7/16"	6.00	54.00
112"	111-7/16"	3.05	28.50	112-7/16"	3.59	33.40	112-12/16"	2.90	46.70	112-7/16"	6.00	56.00
116"	115-6/16"	3.05	30.00	116-7/16"	3.56	34.43	116-11/16"	2.91	47.60	116-7/16"	6.00	58.00
120"	119-5/16"	3.00	30.50	120-4/16"	3.54	35.80	120-11/16"	2.90	48.90	120-4/16"	5.90	59.00
124"	123-4/16"	3.00	31.50	124-3/16"	3.52	36.34	124-9/16"	2.88	50.40	124-3/16"	5.90	60.60
128"	127-3/16"	3.00	32.50	128-7/16"	3.50	37.20	128-5/16"	2.86	51.90	128-7/16"	5.90	62.20
132"	132-2/16"	2.95	33.50	133-1/16"	3.48	38.30	132-7/16"	2.85	53.30	133-1/16"	5.80	63.80
136"	136-1/16"	2.95	34.50	138"	3.46	39.20	136-7/16"	2.83	54.70	138"	5.80	65.35
140"	140"	2.95	35.20	141-15/16"	3.44	40.10	140-6/16"	2.81	56.10	141-15/16"	5.80	66.80
144"	143-15/16"	2.90	36.00	143-15/16"	3.43	41.00	144-3/16"	2.80	57.50	143-15/16"	5.70	68.40

REV9.2.07.102018

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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer		Part Number				
	LUMINII LIGHTING		#(KS-LENGTH AS REQ'D-SOHD-F-FC-SA-FEED AS REQ'D)-(ACCESSORIES)-(CVE-SIZE-24-VOLTAGE)				
	Mounting		Control Type		Input Watts	Voltage	Ballast/Trans/Drv
Source Info	SURFACE MOUNTED		ELV		4 W	PER EE	REMOTE ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color		
	INTEGRAL LED	INTEGRAL LED	1	4 W/ft.	2700K		
Notes	PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQ'D. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINII CVE-SERIES. SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPERS/MOUNTING ACCESSORIES AS REQ'D FOR FULL SYSTEM OPERATION.						

Description

SURFACE MOUNTED IN ARCHITECTURAL COVE
DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR
USE WITH REMOTE POWER SUPPLIES

Location

FUNICULAR PAVILION

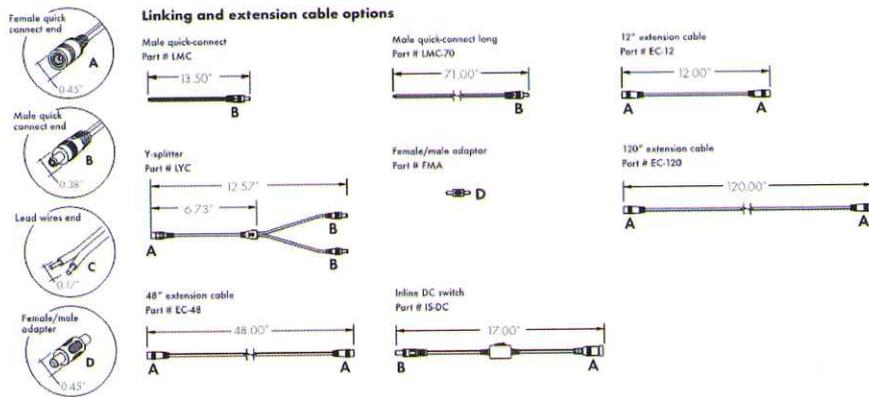
Type

LA-04

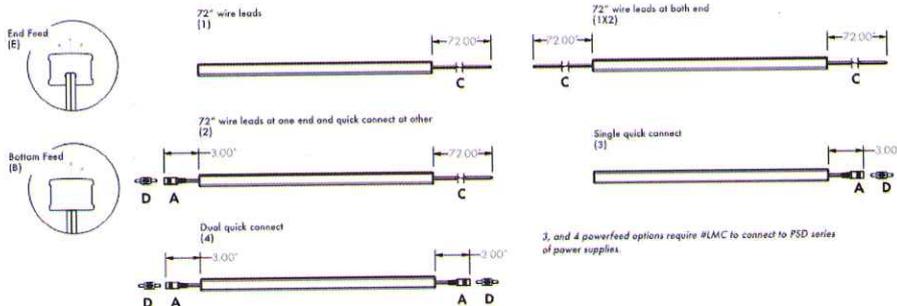
Kendo S Linear Illumination System



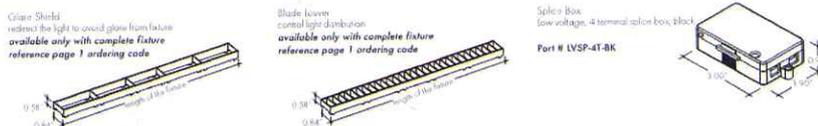
Connectors & Accessories



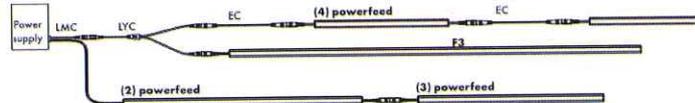
Powerfeed Position / Type



Accessory options



Sample layout



REV 9.2 07/10/2018

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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer	Part Number				
	LUMINII LIGHTING	#(KS-LENGTH AS REQ'D-SOHD-F-FC-SA-FEED AS REQ'D)-(ACCESSORIES)-(CVE-SIZE-24-VOLTAGE)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drv	
Source Info	SURFACE MOUNTED	ELV	4 W	PER EE	REMOTE ELECT	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	4 W/ft.	2700K	

PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQ'D. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINII CVE-SERIES. SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPERS/MOUNTING ACCESSORIES AS REQ'D FOR FULL SYSTEM OPERATION.

Description

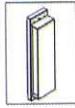
SURFACE WALL MOUNTED, WET LISTED
DOWNLIGHT/SCONCE.

Location

INFORMATIONAL DISPLAY

Type

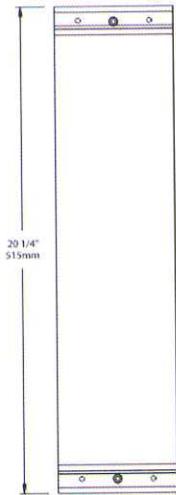
LA-05



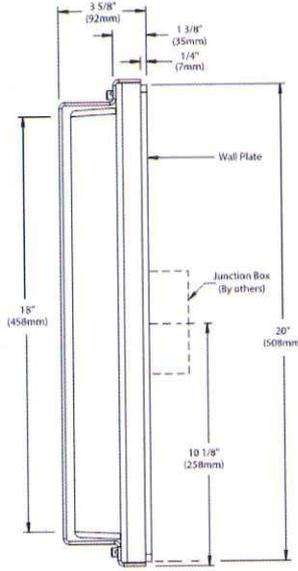
20" ARCADE FULL SHIELD (FS)

PROJECT: _____
TYPE: _____

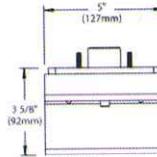
FRONT VIEW



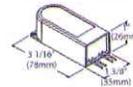
SIDE VIEW



TOP VIEW



TRANSFORMER



All dimensions indicated on this submittal are nominal. Contact Technical Sales if you require more stringent specifications.

SPECIFICATIONS

GreenSource Initiative™

Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced onsite. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.tekaillumination.com/greensource for program requirements.

Materials

Constructed from copper-free aluminum, copper and stainless steel. These lifetime materials are inherently corrosion resistant. Factory-applied finishes are also available.

Faceplate

Cast from solid, copper-free aluminum, copper or stainless steel with stainless steel fasteners.

Wall Plate

Cast from solid, copper-free aluminum. Fully gasketed, and mounts to a recessed 4" octagonal junction box.

Source

LED featuring BKSSL® technology (50,000 Hr. Life), 10W LED. Available in 2700K, 3000K and 4000K.

Transformer

Includes a 12 VAC transformer, 120V or 277V.

Diffuser

One of 6 standard molded, etched acrylic translucent diffusers for high transmittance and long life.

Wiring

Teflon® coated wire, 18AWG, 300V, 150°C rated and certified to UL 1659 standard.

Hardware

Tamper-resistant, stainless steel hardware with black oxide finish.

Finish

Copper: Natural (NAT): Copper components are sand blasted to expose the porous metal surface. Over time, and with exposure to the elements, the metal will naturally 'weather,' resulting in a unique patina.

Also available with hand-crafted metal finishes including brown patina (BP), green patina (GP), polish (POL), and nickel plate (NIC).

Aluminum, copper and stainless components are also available in powder coat finishes.

Optional ceramic clear coat protection (copper components only) seals and protects underlying metals and protects against discoloration, fading, and wear. Highly impervious to chemicals, solvents, and graffiti. For use with natural (NAT) and polish (POL) finishes.

Aluminum: StarGuard®, our exclusive RoHS compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating.

Warranty

5 year limited warranty.

Listings

UL tested to IESNA LM-79, UL Listed. Certified to CAN/CSA/ANSI Standards, RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. Additionally suitable for installation within 4' of the ground. IP66 Rated. Made in USA.



* Teflon is a registered trademark of DuPont Corporation.

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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer		Part Number			
	TEKA-ILLUMINATION		#(AR-FS-20-LED-390-BZP-WHT-VOLTAGE)-(REMOTE X-FORMER)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drv
Source Info	SURFACE WALL MOUNTED		MLV	10 W	PER EE	REMOTE MAG
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	10 W	2700K	
Notes	VERIFY FIXTURE FINISH PER ARCHITECT. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHT/DETAILS. FIXTURE REQUIRES REMOTE X-FORMER. FIXTURE REQUIRES RECESSED J-BOX BY OTHERS.					

Description

SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD

Location

PATHWAY/INFORMATION SIGNAGE

Type

LA-06



BEACON POLE MOUNT (BPM)

PROJECT:	
TYPE:	
CATALOG NUMBER:	BPM LED BW MT
SOURCE:	LED - Power of 'X' Technology
NOTES:	

CATALOG NUMBER LOGIC

Example **BPM** - **SD12** - **LED** - **x83** - **BW** - **WHW** - **A** - **DT** - **PT** - **D23** - **MT**

Material Blank - Aluminum (Must specify Aluminum Ring.) C - Copper (Must specify Brass or Stainless Steel Rings.)

Series **BPM** - Beacon Pole Mount

Style **SD12** - 12 inch Shade **SD15** - 15 inch Shade **SD24** - 24 inch Shade

Source LED - Power of 'X' Technology with Chip on Board Construction

LED Type **x83** - 23WLED/2700K **x84** - 23WLED/3000K **x85** - 23WLED/4000K

Optic **BW** - Batwing

Finish

Powder Coat Standard Finish			Powder Coat Premium Finish		
Powder Coat Color	Satin	Wrinkle	ABP	CAIG	BMG
Bronze	BZP	BZW	AMG	CMG	SDS
Black	BLP	BLW	AGW	CRM	SMG
White (Gloss)	WHP	WHW	BCM	HJG	TXF
Aluminum	SAP	---	BGE	MDS	WCP
Verde	---	VER	BPP	NBP	WR
			CAP	CCP	

Rings

A - Aluminum (Finish to match Fixture)
B - Brass (Finish to match Fixture)
S - Stainless Steel (Stainless Steel Rings are provided in Natural (NAT) regardless of Finish.)

Accessories (Select one)

DT - Dark Top (Eliminates glare in window above shade. Material and Finish to match Fixture.)
HS - House Side Shield (Material and Finish to match Fixture.)
MSH - Mesh Screen (Material and Finish to match Fixture.)

Option

CLR - Clear Coat Protection (For use with Natural (NAT) finish only. For use with Copper Finish only.)

Driver Mounting (One selection required)

PT - Pole Top Mounting (For straight pole applications. For use with 1-1/2" OD Pole End, Not available with x8P-xS.) Compatible with TEKA Illumination SRS.)
HB - Hinge Base Driver Mounting (For hinge base pole applications. Compatible with TEKA Illumination SRS.)
HM - Hand Hole Driver Mounting (For straight pole applications with 3"x3" Hand Hole. Compatible with TEKA Illumination SRS.)

Driver

D23 - 23W Dimming Driver (Standard Dimming 1-100%)

Input Voltage

MT - 120-277 VAC Input

DRIVER DATA

Type	AC Input Range	Frequency Hz	Power Factor At Full Load (Efficiency)	THD	InRush Current	Operating Current	Operation Ambient Temperature	Dimmer Type	Dimmer Range
D23	120-277Vac	50/60 Hz	>.90	≤20%	30mA's@277V	700mA	(-30° C to 50° C)	0-10V	1-100%

LM79 DATA

TEKA LED #	LUMENS (Delivered)	CCT	INPUT WATTS (Typ.)	CRI (Typ.)
x83	1725	2700	23	80
x84	1889	3000	23	80
x85	1913	4000	23	80

L70 DATA

Minimum Rated Life (hrs.) - 70% of initial lumens (L70)
50,000
50,000
50,000

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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer	Part Number				
	TEKA ILLUMINATION	#(BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	POST MOUNTED	0-10V	10 W	PER EE	INTEGRAL ELECT	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	10 W	2700K	

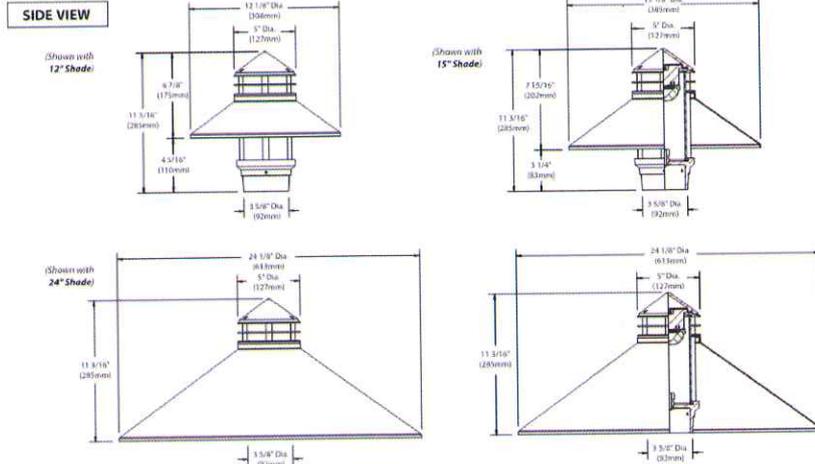
FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.

Description	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD	Location	PATHWAY/INFORMATION SIGNAGE	Type
				LA-06



BEACON POLE MOUNT (BPM)

PROJECT:	
TYPE:	



All dimensions indicated on this submittal are nominal. Contact Technical Sales if you require more stringent specifications.

SPECIFICATIONS

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced onsite. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.tekaiillumination.com/greensource for program requirements.

Materials
Copper: Constructed from copper and brass. These enduring metals are inherently corrosion resistant.
Aluminum: Constructed from Copper-free Aluminum (Type 6061-T6).

Base
Cast from solid bronze or copper free aluminum. Slip fits 3 1/2" OD TERA post top.

Mesh Screen
Diffuses light in window. Not available with half shield. Finish to match fixture. Not available with Dark Top (DT).

Dark Top
Eliminates glow in window above shade.

House Side Shield
Eliminates light from half of the fixture. Hand spun aluminum-3003 or copper-C101.

Shade
Hand spun from 16GA aluminum 3003-H14 or copper-C101. Specify 12", 15" or 24" diameter.

Optic
Acrylic Batwing Optic.

Lens
3.5" O.D. frosted acrylic lens.

Color Management
Chip on board technology delivers natural white light. Exact color point conformity exceeds ANSI C78.377 standard. Module exceeds 80 CRI (RA>80, R9,16). Color point uniformity 2 SDCM color control for 2700K-4000K CCT.

Driver (23W)
11 700mA (D23), Class A, constant current driver, 120-277VAC (nominal) primary input voltage, 50/60Hz, >0.90 Power Factor, 30mA²S in-rush current, <20%THD (nominal at 120VAC full load). Output over-voltage, over-current, and short circuit protection with auto recovery. EMC FCC/CE/FER Part 15 Class B compliant. Dimming driver for use with standard 0-10V dimmers and switch controls. 1-100% range (Refer to driver electrical data). D34 - 1-100% dimming range.

BKSSL™
Integrated solid state system with 'X' technology is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. Minimum 50,000 hour rated life at 70% of initial lumens (L70). BKSSL technology provides long life, significant energy reduction and exceptional thermal management.

Ring Stack
Solid aluminum with aluminum spacers; brass or stainless steel accent rings with solid brass spacers.

Wiring
Tezel™ coated stranded wire, 18GA, 600V, 150°C rated and certified to UL16 and certified to UL 1659 standard.

Hardware
Tamper-resistant, stainless steel hardware.

Driver Installation Options
(Please specify)

Pole Top: Driver suspended from fixture. Fits 3 1/2" OD maximum.

Hinge Base: Located at base of pole. Stand alone driver tray. For use with PTRS.

Hand Hole: Located at base of pole. Stand alone driver tray attaches to standard hand hole pole brackets per NEC. Hand hole must be 3"x5".

Finish
Copper and Brass: Natural (NAT): Copper and brass components are sand blasted to expose the porous metal surface. Over time, and with exposure to the elements, the metals will naturally 'weather' resulting in a unique patina. Also available with hand-crafted metal finishes including brown patina (BP), green patina (GP), polish (POL), and nickel plate (NIC).

Aluminum, Copper and brass components are also available in powder coat finishes. Optional ceramic clear coat protection (copper and brass components only) seals and protects underlying metals and protects against discoloration, fading, and wear. Highly impervious to chemicals, solvents, and graffiti. For use with natural (NAT) and polish (POL) finishes.

Aluminum: StarGuard™, our exclusive RoHS compliant, 15 stage chrome-free process cleans and conversion coats aluminum components prior to application of Class A TGIC polyester powder coating.

Warranty
5 year limited warranty.

Listings
UL tested to IESNA LM-79, UL Listed. Certified to CAN/CSA/ANSI Standards, RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. Additionally suitable for installation within 4' of the ground. IP66 Rated. Made in USA.



Tezel™ is a trademark of The Chemours Company FC, LLC.

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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer	Part Number				
	TEKA ILLUMINATION	#(BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	POST MOUNTED	0-10V	10 W	PER EE	INTEGRAL ELECT	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	10 W	2700K	
<p>FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.</p>						

Description	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD	Location	PATHWAY/INFORMATION SIGNAGE	Type
				LA-06



BEKSEL



BEACON POLE MOUNT (BPM)

PROJECT:	
TYPE:	

DRIVER MOUNTING OPTIONS

(Hand Hole Driver Mounting HB-D23)



(Hinge Base Driver Mounting HB-D22)



(Pole Top Mounting PT-D23)



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PILGRIM MONUMENT - BRADFORD ACCESS
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Fixture Information	Manufacturer	Part Number				
	TEKA ILLUMINATION	#(BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
Notes	FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.					

Description	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD	Location	PATHWAY/INFORMATION SIGNAGE	Type	LA-06

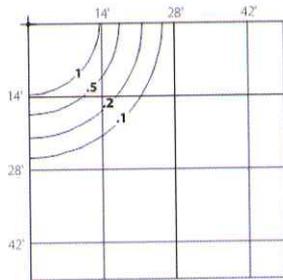


TEKA ILLUMINATION



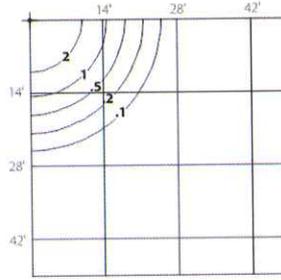
BEACON POLE MOUNT (BPM) HORIZONTAL FOOTCANDLES

BPM - LED - X85 (23W) - 4000K
Mounting Height = 12.00 Ft, Style = SD12



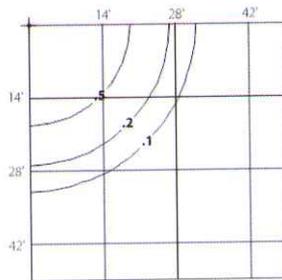
HORIZONTAL FOOTCANDLES
Light Loss Factor = 1.00
Luminaire Lumens = 1757
Maximum Calculated Value = 2.63 Fc
2.7K Multiplier = .9
3K Multiplier = .99
BUG Rating = B1 U2 G1

BPM - LED - X85 (23W) - 4000K
Mounting Height = 12.00 Ft, Style = SD15



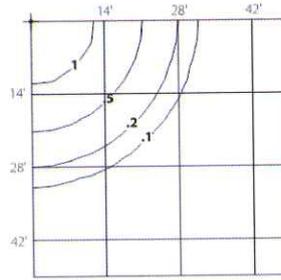
HORIZONTAL FOOTCANDLES
Light Loss Factor = 1.00
Luminaire Lumens = 1913
Maximum Calculated Value = 2.34 Fc
2.7K Multiplier = .9
3K Multiplier = .99
BUG Rating = B1 U2 G1

BPM - LED - X85 (23W) - 4000K
Mounting Height = 18.00 Ft, Style = SD12



HORIZONTAL FOOTCANDLES
Light Loss Factor = 1.00
Luminaire Lumens = 1757
Maximum Calculated Value = 0.90 Fc
2.7K Multiplier = .9
3K Multiplier = .99
BUG Rating = B1 U2 G1

BPM - LED - X85 (23W) - 4000K
Mounting Height = 18.00 Ft, Style = SD15



HORIZONTAL FOOTCANDLES
Light Loss Factor = 1.00
Luminaire Lumens = 1913
Maximum Calculated Value = 1.04 Fc
2.7K Multiplier = .9
3K Multiplier = .99
BUG Rating = B1 U2 G1

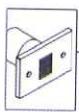
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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer		Part Number				
	TEKA ILLUMINATION		#(BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)				
	Mounting		Control Type		Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	POST MOUNTED		0-10V		10 W	PER EE	INTEGRAL ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color		
	INTEGRAL LED	INTEGRAL LED	1	10 W	2700K		
Notes	FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.						



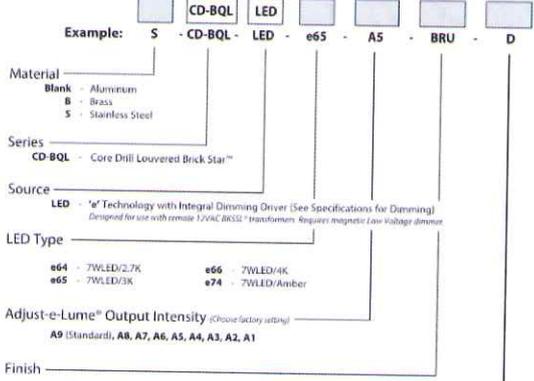
BKSSL
BRICK STAR SYSTEM



CORE DRILL LOUVERED BRICK STAR™

PROJECT: _____
 TYPE: _____
 CATALOG NUMBER: _____
 SOURCE: _____
 NOTES: _____

CATALOG NUMBER LOGIC



Aluminum Finish			Brass Finish		Premium Finish		
Powder Coat Color	Satin	Wrinkle	Machined	MAC	ABP	CMG	RMG
Bronze	BZP	BZW	Polished	POL	AMG	Cracked Ice	SDS
Black	BLP	BLW	Mitigated	MIT	AQW	Antique White	CRM
White (Gloss)	WHP	WHW	Stainless Finish		BCM	Black Chrome	HUG
Aluminum	SAP	—			BGE	Beige	MDS
Verde	—	VER	Machined	MAC	BPP	Brass Patina Powder	NBP
			Polished	POL	CAP	Clear Anodized Powder	OCF
			Brushed	BRU			

Louvers
 D - Rectangular, 30°

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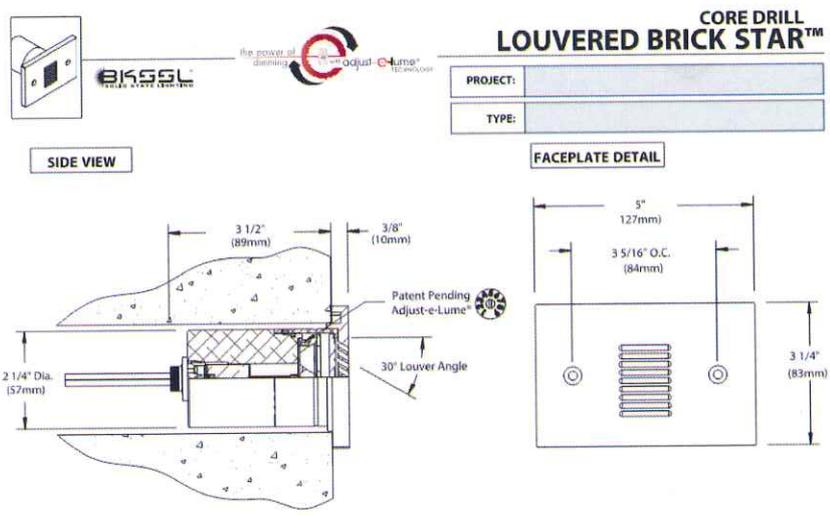
BOLD

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 559.438.5900 • FAX 559.438.5900
 www.bklighting.com • info@bklighting.com

RELEASED 05-17-17 DRAWING NUMBER SUB001023

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Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(CD-BQL-LED-E64-A9-BZP-D)-(REMOTE BKSSL XFORMER)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	RECESSED WALL/STEP	MLV	3 W	PER EE	REMOTE MAG	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	



Accessories (Configure separately)

Remote options:

TR Series UPMM™

Specifications

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFCs). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program requirements.

Materials
Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360) or Stainless Steel (Type 304).

Core Drill
Allows for mounting into existing structures that will not easily accept a standard box. 2-1/2" dia. hole required for slip fit.

Body
Fully machined from solid billet. Unibody design provides enclosed, water-proof wireway and integral heat sink for maximum component life. High temperature, silicone 'O' Ring provides water-tight seal. Provided with hand-coat (Type III) black anodize finish for maximum corrosion resistance. Weather-tight cable connector with 5/16" 18Ga, 2 wire low voltage cable.

Faceplate
Fully machined from solid billet. Countersunk holes provide for flush hardware mounting (by others).

Louvers and Cutoff
Lower pattern is machined into faceplate to prevent direct view to the source at nadir, 30° optical cutoff for mounting heights well below typical visual glare angles.

Lens
Shock resistant, tempered, glass lens is factory adhered to faceplate and provides hermetically sealed optical compartment.

BKSSL™
Integrated solid state system with 'e' technology is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. High power, forward throw source complies with ANSI C78.377 binning requirements. Exceeds ENERGY STAR™ lumen maintenance requirements. LM-80 certified components.

Integr. constant current driver, 12VAC/VDC, Input: 30/60Hz. Proprietary input control scheme achieves power factor correction and eliminates inrush current. Output, over-voltage, open-circuit, and short circuit protected. Inrush current limited to <1A (non-dimming). Conforms to Safety Std. C22.2 No. 250.13-12.

Dimming
Line voltage dimmable via magnetic low voltage dimmer. For use with low voltage dimmer with dedicated neutral conductor. For purposes of dimming; Remote magnetic transformer with BKSSL™ Power of 'e' technology loads should be loaded to 25% of the transformer VA (watts) rated value.

Optics
Rectilinear design provides wide lateral distribution and long forward throw.

Adjust-e-Lume® (Pat. Pending)
Integral electronics allows dynamic lumen response at the individual fixture. Indeed (100% to 25% nom.) lumen output. Maintains output at desired level or may be changed as conditions require. Specify factory preset output intensity.

Remote Transformer
For use with 12VAC. BKSSL™ remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.

Wiring
Teflon™ coated, 18AWG, 600V, 250° C rated and certified to UL 1659 standard. Anti-Siphon Valve (ASV™) prevents "wicking" through conductor insulation.

Hardware
Tamper-resistant, stainless steel hardware. Mounting hardware by others.

Finish
StarGuard®, our exclusive RoHS compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class A TGCC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish. Stainless steel components are available in handcrafted metal finish. (Brushed finish for interior use only).

Warranty
5 year limited warranty.

Certification and Listing
ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use. Suitable for installation in combustible materials (Type Non-IC). Suitable for use in wet locations. Suitable for installation within 4' of the ground. IP65 Rated. Made in USA.



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PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(CD-BQL-LED-E64-A9-BZP-D)-(REMOTE BKSSL XFORMER)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	RECESSED WALL/STEP	MLV	3 W	PER EE	REMOTE MAG	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	
RECESSED WALL MOUNTED STEP LIGHT. VERIFY RECESSING DEPTH PER ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS/DETAILS FOR FIXTURE MOUNTING HEIGHT/ELEVATION. FIXTURE PROVIDED WITH CORE-DRILL APPLICATION VERSION, CONFIRM BY ARCHITECT. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER.						

Description	RECESSED LOW LEVEL WALL/STEP LIGHT	Location	STEPS	Type	LA-07
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LAMP & DRIVER DATA
e64, e65, e66, e74

DRIVER DATA	Input Volts	InRush Current	Operating	Dimmable	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<250mA (non-dimmed)	700mA	Magnetic Low Voltage Dimmer	-10°F-130°F (-12°C-54°C)

LM79 DATA				L70 DATA	OPTICAL DATA	
BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L70)	Louver Angle	Delivered Lumens
e64	2700K	80	7	50,000	30°	43
e65	3000K	80	7	50,000	30°	50
e66	4000K	80	7	50,000	30°	56
e74	Amber (590nm)	-	7	50,000	-	-

FOR USE WITH

CD-SSL	Core Drill Louvered Star™
CD-SQL	Core Drill Louvered Square Step Star™
CD-BQL	Core Drill Louvered Brick Star™
CD-VBL	Core Drill Louvered Vertical Brick Star™

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Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(CD-BQL-LED-E64-A9-BZP-D)-(REMOTE BKSSL XFORMER)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
	RECESSED WALL/STEP	MLV	3 W	PER EE	REMOTE MAG	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

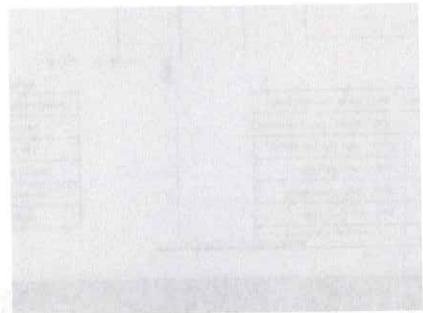
RECESSED WALL MOUNTED STEP LIGHT. VERIFY RECESSING DEPTH PER ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS/DETAILS FOR FIXTURE MOUNTING HEIGHT/ELEVATION. FIXTURE PROVIDED WITH CORE-DRILL APPLICATION VERSION, CONFIRM BY ARCHITECT. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER.

Description	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT	Location	THROUGHOUT	Type
				LA-08

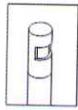
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Fixture Information	Manufacturer		Part Number				
	BK LIGHTING		#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)				
	Mounting		Control Type		Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	POWER PIPE		NON-DIM		3 W	PER EE	INTEGRAL ELECT
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color		
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K		
Notes	VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. FIXTURE INTENDED TO BE NON-DIM. FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.						



BESSL

the power of

LITESTICK®

PROJECT: _____

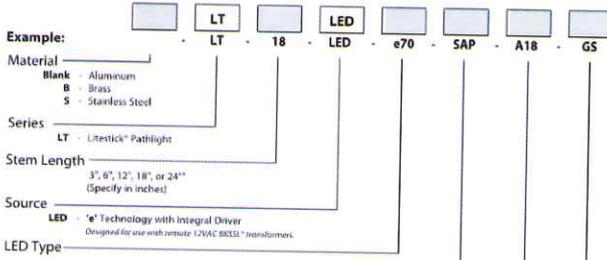
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CATALOG NUMBER: _____

SOURCE: _____

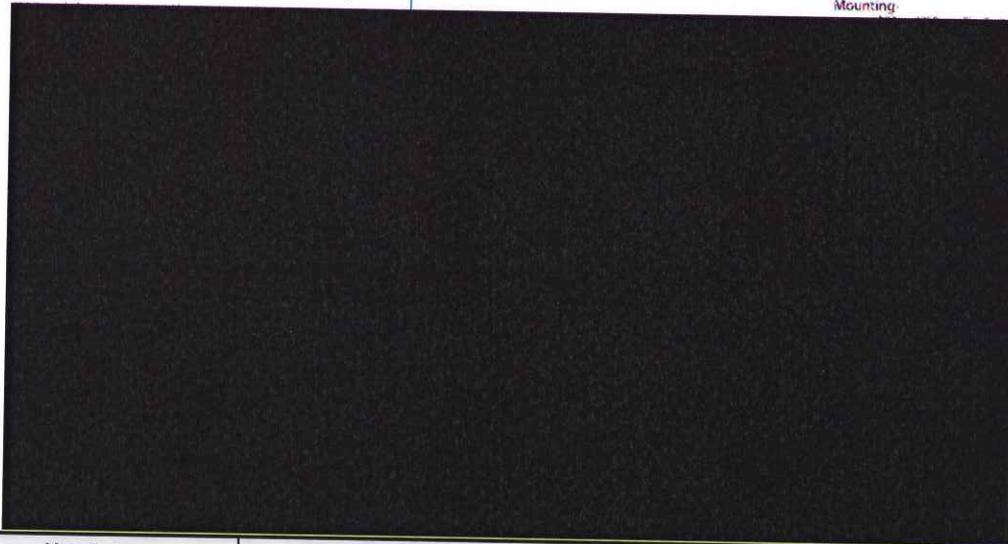
NOTES: _____

CATALOG NUMBER LOGIC



Premium Finish			
MAC	ABP Antique Brass Powder	CMG Cascade Mountain Granite	RMG Rocky Mountain Granite
POL	AMG Alcantara Mountain Granite	CRJ Cracked Ice	SDS Sonoran Desert Sandstone
MIT	AGW Antique White	CRM Cream	SMG Sierra Mountain Granite
Brass Finishes	BCM Black Chrome	HUG Hunter Green	TXF Textured Forest
	BGE Beige	MDS Mojave Desert Sandstone	WCP Weathered Copper
	BPP Brown Patina Powder	NBP Natural Brass Powder	WIR Weathered Iron
	CBP Clear Brushed Powder	DCP Dark Copper	Also available in RAL Finishes

Aluminum & Brass Finishes			Brass
Powder Coat Color	Satin	Wrinkle	
Bronze	BZP	BZW	Machined
Black	BLP	BLW	Polished
White (Gloss)	WHP	WHW	Mitque™
Aluminum	SAP	---	Stainless
Verde	---	VER	Machined
			Polished
			Brushed



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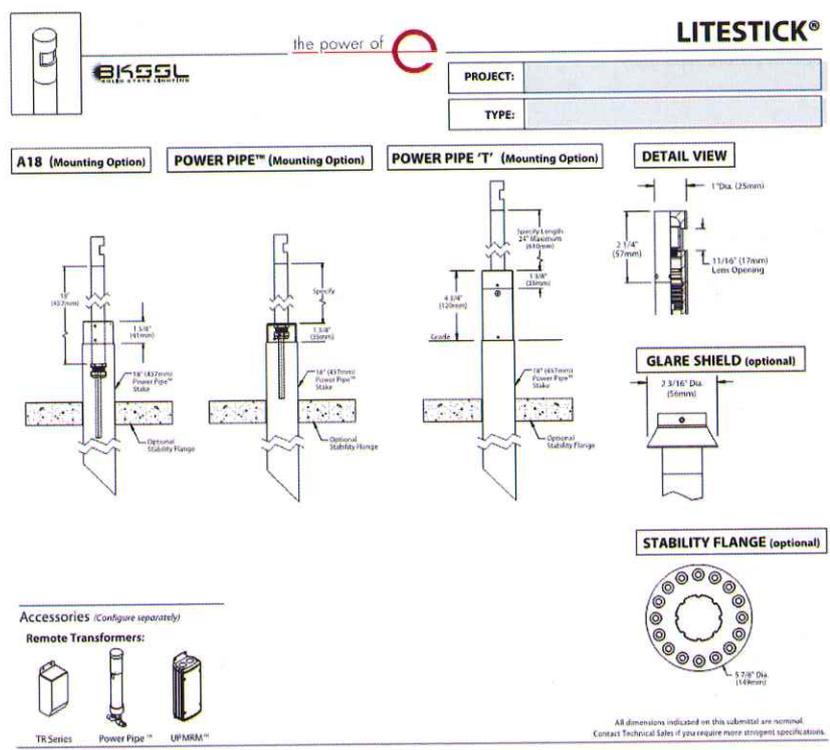
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BOLD

Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drvr	
Source Info	POWER PIPE	NON-DIM	3 W	PER EE	INTEGRAL ELECT	
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

Notes VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. **FIXTURE INTENDED TO BE NON-DIM.** FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.

Description	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT	Location	THROUGHOUT	Type
				LA-08



Accessories (Configure separately)

Remote Transformers:

TR Series Power Pipe™ UPMM™

SPECIFICATIONS

GreenSource Initiative™
Held and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebates. Consult www.bklighting.com/greensource for program requirements.

Materials
Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360) or Stainless Steel (Type 304).

Body
Fully machined from solid billet. Unbody design provides enclosed, water-proof wireway and integral heat sink for maximum component life. High temperature, silicone 'O' Ring provides water-tight seal. Weather-tight cable connector with 5, 2 wire low voltage cable.

Cap
Fully machined from solid billet with 11/16" lens opening, 360° rotation for precise optic positioning. Tamper resistant, stainless steel set screw. Optional 2-3/16" dia. machined glass shield reduces aperture brightness.

Stem
Fully machined, 1" dia. with internal threads for maximum visual appeal. Available in configurable lengths to 24" maximum overall.

Lens
Shock resistant, tempered, frosted glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.

BKSSL™
Integrated solid state system with 'e' technology is scalable for field upgrade. Modular design with electrical quick disconnects permit field maintenance. High power, forward throw source complies with ANSI C82.377 beaming requirements. Exceeds ENERGY STAR™ lumen maintenance requirements. LM-80 certified components. Side emitting optical grade lens delivers high efficiency, radial light distribution.

Installation
Available for installation in three distinct mounting conditions:

Power Pipe™
Provides a clean transition from wiring system to fixture. Schedule 40, 18" PVC housing for direct burial into soil or concrete. Machined 2-1/4" dia. cap for fixture mounting. Stainless steel hardware. Optional 5" diameter, machined stability flange, which simplifies installation and projects into substrate to reinforce housing stability. For use with 12VAC BKSSL™ remote transformer.

Power Pipe™ with Adjustable Mount
Features 18" Power Pipe™ and 18" stem which passes through a machined Delrin™ bushing within the Power Pipe™ Cap. (3) stainless steel set screws secure fixture position (Not available with integral transformer).

Power Pipe™ with Transformer Housing (Optional)
Additionally features integral transformer housing fully machined from copper-free aluminum. High temperature, silicone 'O' Ring provides water-tight seal. Integral, TR20 electronic transformer. 105-300VAC primary voltage, 50-60Hz, Non Dimming, 20VA maximum load.

Remote Transformer
For use with 12VAC BKSSL™ remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturer's transformers.

Wiring
PVC coated, 18AWG, 150V, 60V C rated and certified to UL 1838 standard.

Hardware
Tamper resistant, stainless steel hardware.

Finish
StarGuard™, our exclusive RoHS compliant, 15 stage chrome-free process cleans and conversion coats aluminum components prior to application of Class A, TGIC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish. Stainless steel components are available in handcrafted metal finish. (Brushed finish for interior use only).

Warranty
5 year limited warranty.

Certification and Listing
ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. IP66 Rated. Made in USA.

RoHS **UL** **ETL**

*Energy Star is a registered trademark of the United States Environmental Protection Agency.

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Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)				
	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drv	
Source Info	POWER PIPE	NON-DIM	3 W	PER EE	INTEGRAL ELECT	
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	
Notes	VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. FIXTURE INTENDED TO BE NON-DIM. FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.					

Description

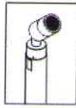
LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT

Location

THROUGHOUT

Type

LA-08

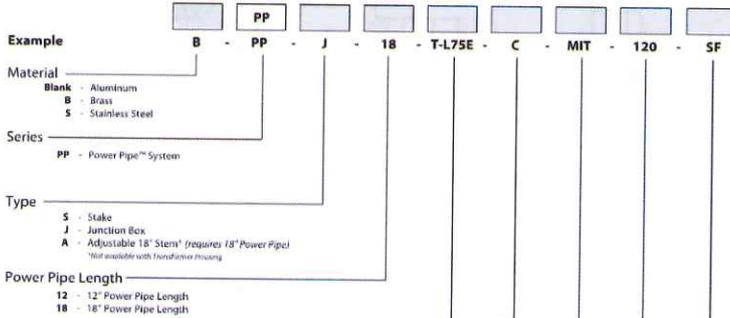


Specify Fixture Separately

POWER PIPE™ SYSTEM

PROJECT:	
TYPE:	
CATALOG NUMBER:	
LAMP(S):	
NOTES:	

CATALOG NUMBER LOGIC



Aluminum Finish			Brass		Premium Finish		
Powder Coat Color	Satin	Wrinkle	Machined	MAC	ABP	CMG	RMG
Bronze	BZP	BZW	Polished	POL	AMG	CRI	SDS
Black	BLP	BLW	Mitique™	MIT	AQW	CRM	SMG
White (Gloss)	WHP	WHW	Stainless		BCA	HUG	TFX
Aluminum	SAP	---	Machined	MAC	BGE	MDS	WCP
Verde	---	VER	Polished	POL	BPP	NBP	WIR
			Brushed	BRU	CAP	OCF	

Input Voltage: Blank - Less Transformer or For use with Tre20 Electronic Transformer (105-300 VAC, 50/60 Hz, Non-Dimming), 120 - 120 VAC Input (For use with L75E), 230 - 230 VAC Input (Non-Dimming, For use with L75E), 277 - 277 VAC Input (Non-Dimming, For use with L75E)

Options: SF - Stability Flange

B-K LIGHTING

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02-02-16

DRAWING NUMBER
SUB-1104-07

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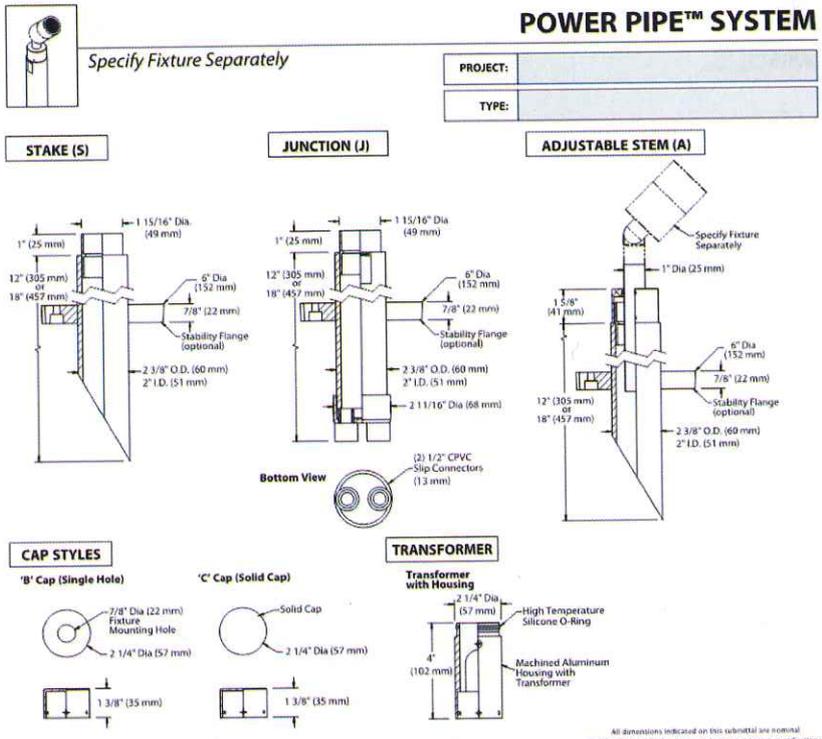
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BOLD

Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)				
Source Info	Mounting	Control Type		Input Watts	Voltage	Ballast/Trans/Drv
	POWER PIPE	NON-DIM		3 W	PER EE	INTEGRAL ELECT
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. **FIXTURE INTENDED TO BE NON-DIM.** FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.

Description	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT	Location	THROUGHOUT	Type
				LA-08



SPECIFICATIONS

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFC's). Use of this product may qualify for GreenSource efficacy and recycling rebates! Consult www.bklighting.com/greensource for program requirements.

Installation
Provides a clean, architectural transition from wiring system to fixture. 2" Schedule 80 PVC pipe. For direct burial into soil or concrete. Available in 12" and 18" lengths. Available in three installation types.

Stake (Type S)
60° angled bottom designed for use with conduit or direct burial low voltage cable.

Junction Box (Type J)
Includes (2) 1/2" PVC slip connectors for branch circuit wiring.

Adjustable Stem (Type A18)
18" field adjustable stem accommodates future landscape growth. Unused stem length remains hidden inside housing. Delrin bushing and stainless steel set screws lock mounting height.

Stability Flange
Optional 6" diameter, molded stability flange simplifies installation and projects into substrate to simplify installation and reinforce housing stability.

Cap Style
Machined from copper-free aluminum or machined brass. Choose from Solid (C), or Single Hole (B) cap styles.

Transformer Housing
Fully machined from copper-free aluminum, solid machined brass or stainless steel. Stainless steel hardware. High temperature, silicone 'O' Ring provides watertight seal.

Electronic Transformer
For use with halogen lamps. 120V, 230V, and 277V primary voltage. 120V is fully dimmable (40W minimum load). 50/60Hz. 11.6V secondary voltage. 10 watt minimum load (Halogen) non-dimmable. 75 watt maximum load. >0.93 Power Factor. <20% THD. Operating frequency >10kHz. Soft start circuitry to extend lamp life.

TRE20 Electronic Transformer
For use with **RESEEL** solid state 12V systems. 105-300VAC primary voltage. 50/60Hz. Non Dimming. 20VA maximum load.

Wiring
Teflon® coated wire, 18AWG, 600V, 250° C rated and certified to UL 1659 standard. Adjustable stem mount additionally includes 24" or 36" 12/2 direct burial low voltage cable.

Hardware
Tamper resistant, stainless steel hardware.

Finish
StarGuard®, our exclusive RoHS compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating.

Warranty
5 year limited warranty.

Listings
UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Made in USA.

*Teflon is a registered trademark of DuPont Corporation

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WWW.BRIANORTER.COM

PILGRIM MONUMENT - BRADFORD ACCESS
ISSUED FOR PLANNING BOARD MEETING

BOLD

Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)				
Source Info	Mounting	Control Type	Input Watts	Voltage	Ballast/Trans/Drv	
	POWER PIPE	NON-DIM	3 W	PER EE	INTEGRAL ELECT	
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. **FIXTURE INTENDED TO BE NON-DIM.** FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.

Description

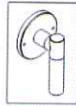
SURFACE WALL MOUNTED LOW LEVEL, LED PATHWAY LIGHT

Location

FUNICULAR LANDING PLATFORM

Type

LA-09



BKSS

the power of



MINI-MICRO™
CYLINDER

PROJECT: _____

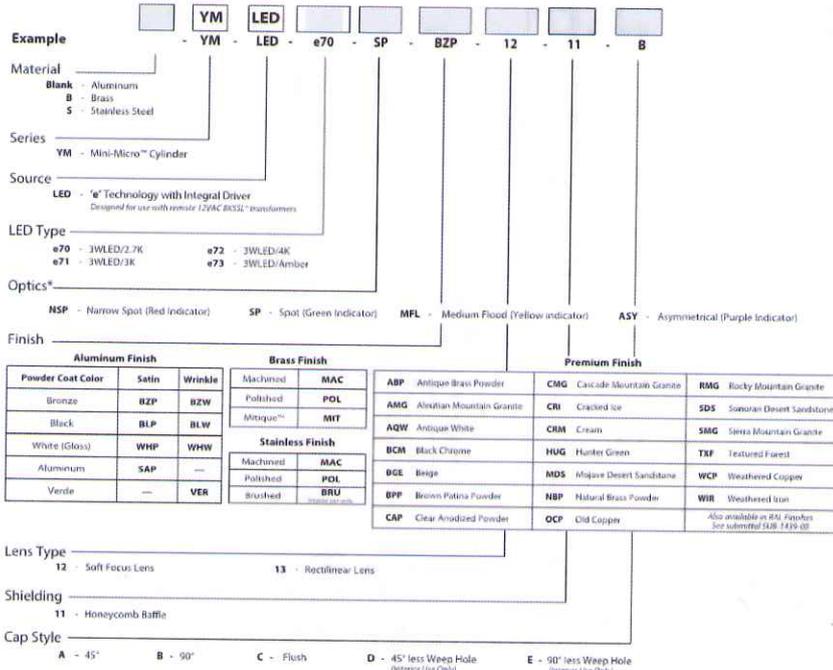
TYPE: _____

CATALOG NUMBER: _____

SOURCE: _____

NOTES: _____

CATALOG NUMBER LOGIC



227 WEST 29TH STREET 8TH FLOOR
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212 674 6500
WWW.BRIANORTER.COM

PILGRIM MONUMENT - BRADFORD ACCESS
ISSUED FOR PLANNING BOARD MEETING

BOLD

B-K LIGHTING 40429 Brickyard Drive • Madera, CA 93636 • USA
559.438.5800 • FAX 559.438.5800
www.bklighting.com • info@bklighting.com

RELEASED 01-04-18 DRAWING NUMBER SUB000965

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Fixture Information	Manufacturer		Part Number			
	BK LIGHTING		#(YM-LED-E80-MFL-BZP-12-11-A)-(BC10-BZP)-(REMOTE XFORMER)			
	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	SURFACE WALL MOUNTED		MLV	3 W	PER EE	REMOTE MAG
	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

Notes: REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED J-BOX PROVIDED BY OTHERS.

Description

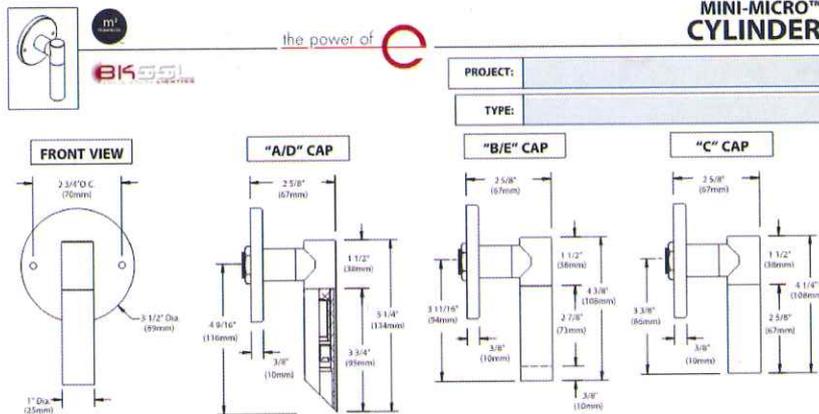
SURFACE WALL MOUNTED LOW LEVEL, LED PATHWAY LIGHT

Location

FUNICULAR LANDING PLATFORM

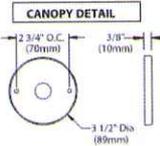
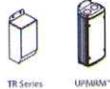
Type

LA-09



Accessories (Configure separately)

Remote options:



All dimensions indicated on this submittal are nominal. Contact Technical Sales if you require more stringent specifications.

SPECIFICATIONS

GreenSource Initiative™
Metal and packaging components are made from recycled materials. Manufactured using renewable solar energy, produced on site. Returnable to manufacturer at end of life to ensure cradle-to-cradle handling. Packaging contains no chlorofluorocarbons (CFCs). Use of this product may qualify for GreenSource efficacy and recycling rebate(s). Consult www.bklighting.com/greensource for program requirements.

Materials
Furnished in Copper-Free Aluminum (Type 6061-T6), Brass (Type 360) or Stainless Steel (Type 304).

Body
Fully machined from solid billet. Unibody design provides enclosed, water-proof wireway and integral heat sink for maximum component life. High temperature, silicone 'O' Ring provides water-tight seal.

Cap
Fully machined. Accommodates (1) lens or louver media. Choose from 45° cutoff (A or D), 3/8" deep bezel with 90° cutoff (B or E), or flush lens (C) cap styles. A and B caps include weep-hole for water and debris drainage. D and E caps exclude weep-hole and are for interior use only.

Lens
Shock resistant, tempered, glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment. Specify soft focus (#12) or rectilinear (#13) lens.

BKSSL™
Integrated solid state system with 'e' technology. High power, forward throw source complies with ANSI C78.377 binning requirements. Exceeds ENERGY STAR™ lumen maintenance requirements. LM-80 certified components.

Optics
OPTIKIT™ modules are color-coded for easy reference: Narrow Spot (NSP) = Red, Spot (SP) = Green, Medium Flood (MFL) = Yellow and Asymmetrical (ASY) = Purple.

Installation
3-1/2" dia. machined canopy permits mounting to 3" octagonal junction box or 4" junction box with mud ring (by others). Suitable for upright or downlight installation.

Wiring
Teflon™ coated. 18AWG, 600V, 250° C rated and certified to UL 1659 standard.

Remote Transformer
For use with 12VAC BKSSL remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.

Hardware
Tamper-resistant, stainless steel hardware. Canopy mounting screws are additionally black oxide treated for additional corrosion resistance.

Finish
StarGuard™, our exclusive RoHS compliant, 15 stage chromate-free process cleans and conversion coats aluminum components prior to application of Class A TGIC polyester powder coating. Brass components are available in powder coat or handcrafted metal finish. Stainless steel components are available in handcrafted metal finish. (Brushed finish for interior use only).

Warranty
5 year limited warranty.

Certification and Listing
ETL tested to IESNA LM-79, UL Listed. Certified to CAN/CSA/ANSI Standards, RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. IP66 Rated. Made in USA.



*Teflon is a registered trademark of DuPont Corporation. Energy Star is a registered trademark of the United States Environmental Protection Agency.

B-K LIGHTING

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RELEASED
01-04-18

DRAWING NUMBER
SUB000965

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NEW YORK, NY 10001
212 674 6500
WWW.BRIANORTER.COM

PILGRIM MONUMENT - BRADFORD ACCESS
ISSUED FOR PLANNING BOARD MEETING

BOLD

Fixture Information	Manufacturer		Part Number			
	BK LIGHTING		#(YM-LED-E80-MFL-BZP-12-11-A)-(BC10-BZP)-(REMOTE XFORMER)			
Source Info	Mounting		Control Type	Input Watts	Voltage	Ballast/Trans/Drvr
	SURFACE WALL MOUNTED		MLV	3 W	PER EE	REMOTE MAG
Notes	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED J-BOX PROVIDED BY OTHERS.



the power of

LAMP & DRIVER DATA
e70, e71, e72, e73

DRIVER DATA	Input Volts	InRush Current	Operating Current	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<250mA (non-dimmed)	500mA	-22°F-194°F (-30°C - 90°C)

LM79 DATA				L70 DATA		OPTICAL DATA		
BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L70)		Angle	CBCP	Delivered Lumens
e70	2700K	80	3	50,000		17°	1347	167
	2700K	80	3	50,000		21°	664	139
	2700K	80	3	50,000		28°	524	149
	2700K	-	3	50,000		17°x31°	613	151
e71	3000K	80	3	50,000		17°	1411	175
	3000K	80	3	50,000		21°	695	146
	3000K	80	3	50,000		28°	548	156
	3000K	-	3	50,000		17°x31°	642	158
e72	4000K	80	3	50,000		17°	1585	197
	4000K	80	3	50,000		21°	781	164
	4000K	80	3	50,000		28°	616	175
	4000K	-	3	50,000		17°x31°	721	178
e73	Amber (590nm)	-	3	50,000		-	-	-

FOR USE WITH

DM	Mini-Micro™ Recessed Downlight
MM	Mini-Micro™ Floodlight
OM	Mini-Micro™ Twin Cylinder
PM-MM	Mini-Micro™ Pendant
RM-MM	Mini-Micro™ Ring Mount
SF-MM	Mini-Micro™ Staff Star™
SM-MM	Mini-Micro™ Surface Downlight
SN-MM	Mini-Micro™ Sign Star™
ST-MM	Mini-Micro™ Twin Sign Star™
TF-MM	Mini-Micro™ Twin Staff Star™
UL-MM	Mini-Micro™ Recessed Uplight
WM-MM	Mini-Micro™ Twin Pendant
YM	Mini-Micro™ Cylinder

OPTICS

Optic	Angle
NSP - Narrow Spot	17°
SP - Spot	21°
MFL - Medium Flood	28°
ASY - Asymmetrical	17°x31°

227 WEST 29TH STREET 8TH FLOOR
NEW YORK, NY 10001
212 674 6500
WWW.BRIANORTER.COM

PILGRIM MONUMENT - BRADFORD ACCESS
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BOLD

B-K LIGHTING	40429 Bickyard Drive • Madera, CA 93636 • USA 559-438-5800 • FAX 559-438-5900 www.bklighting.com • info@bklighting.com	RELEASED 06-01-2018	DRAWING NUMBER SUB-2582-00
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Fixture Information	Manufacturer	Part Number				
	BK LIGHTING	#(YM-LED-E80-MFL-BZP-12-11-A)-(BC10-BZP)-(REMOTE XFORMER)				
	Mounting	Control Type		Input Watts	Voltage	Ballast/Trans/Drvr
Source Info	Lamp Manufacturer	Lamp Info/Part #	Lamps Per Fixture	Lamp Watts	Color	
	INTEGRAL LED	INTEGRAL LED	1	3 W	2700K	

Notes REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED J-BOX PROVIDED BY OTHERS.

BOLD

GENERAL NOTES

1. Electrical Contractor responsible for verification of all run length configurations and quantities. All continuous run lengths must be continuously illuminated, hairline seams only, unless otherwise noted.
2. Electrical Contractor to verify all voltages, lamp types, field measurements, etc as required.
3. Electrical Contractor to field verify all mounting conditions and provide all hardware necessary to complete installation for full system operation.
4. Electrical Contractor shall verify the type of ceiling, coordinated with architectural and/or electrical drawings prior to purchase of fixtures.
5. Electrical Contractor must comply with maximum do not exceed remote distance of power supplies per manufacturers recommendation.
6. By bidding on this lighting design package, the Contractor acknowledges that lead times for fixtures can range from 2-8 weeks. BOLD will not approve or accept substitutions resulting from the Electrical Contractor's failure to account for lead times.
7. All remote transformers shall be located at an accessible, sound attenuated, ventilated location where indicated on the electrical drawings.
8. The client shall not hold consultant liable for re-design services due to cost overruns if they choose not to define targeted budgets.
9. Manufacturer must provide shop drawings for all continuously illuminated run lengths or custom sized panels, to be coordinated with architectural and/or electrical drawings.
10. Distributors must provide anticipated ship dates upon return of approved lighting fixture submittals.
11. Distributors must provide manufacturer-verified lead times based on fixture quantities.
12. Distributors must provide broken down unit prices by type. Bids that do not include unit pricing will be rejected as incomplete.
13. All emergency related electrical characteristics must be verified by the Electrical Engineer or Electrical Contractor.
14. All LED Retrofit lamps on dimming system must be for 120v only. For high-voltage applications, Electrical Contractor must verify with manufacturer prior to specification and purchase of system.
15. See architectural and/or electrical drawings for fixture locations, quantities and/or run length configurations. BOLD is not responsible for final locations, quantities and/or run length configurations.
16. Manufacturer labels shall be turned away from public view. No construction notations shall be visible in areas exposed to public view.
17. All lighting fixtures shall be supplied with lamps, color filters and accessories as specified.
18. Electrical Contractor to replace all lamps with new lamps at the end of construction phase prior to commissioning phase and owner occupancy or project opening.
19. All measurements indicated in BOLD lighting plans are approximate. Electrical contractor is required to make field measurements based on actual site conditions to develop complete orders and install systems per drawings and specifications.
20. Electrical Engineer must provide required compatibility interfaces, if required, for compatibility to selected lighting control system.
21. All lighting fixtures installed in architectural details and/or millwork details must be confirmed and installed per BOLD recommended criteria (ie. aperture opening, visual cutoff angles, aiming angles, etc.).
22. All lighting fixture finishes to be reviewed and approved by Architect and/or Interior Designer prior to purchase.

ABBREVIATED TERMS

LINE- LINE VOLTAGE DIMMABLE
ELV- REVERSE-PHASE ELECTRONIC LOW VOLTAGE DIMMING
FWD ELV- FORWARD-PHASE ELECTRONIC LOW VOLTAGE DIMMING
MLV- MAGNETIC LOW VOLTAGE (FORWARD PHASE) DIMMING
DMX- DMX512 CONTROL
DALI- DALI CONTROL
2-WIRE- LUTRON 2-WIRE DIMMING
3-WIRE- LUTRON 3-WIRE DIMMING
ECO- LUTRON ECOSYSTEM
NON-DIM- NON-DIMMING or SWITCHED
0-10V- 0-10V DIMMING
VIF- VERIFY IN FIELD
TBD- TO BE DETERMINED
TBC- TO BE CONFIRMED

BOLD

ZONE SCHEDULE
Pilgrim Monument
10/12/2018

LOCATION SHEET# ZONE DESCRIPTION FIXTURE TYPE LAMP/SOURCE TYPE LOAD TYPE DRIVER TYPE DIMMING FIXTURE WATTS QTY. TOTAL WATTS NOTES REV.

LOWER

LOCATION	SHEET#	ZONE	DESCRIPTION	FIXTURE TYPE	LAMP/SOURCE TYPE	LOAD TYPE	DRIVER TYPE	DIMMING	FIXTURE WATTS	QTY.	TOTAL WATTS	NOTES	REV.
FUNICULAR PAVILION	LT-101.1	001	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP	LA-02	97760/9A19DIM/827	LINE	NONE	D	9.0w	1	9.0w	FIXTURE IS A SUSPENDED DECORATIVE PENDANT. 54" OAL. ARCHITECT TO PROVIDE ADDITIONAL SUPPORT/MOUNTING BRACKET AS REQUIRED. FIXTURE PROVIDED WITH 5" OD CANOPY COVER. FIXTURE TO BE USED WITH LED RETROFIT A19/E26 LED LAMP SUITABLE FOR USE WITH ENCLOSED FIXTURES.	
FUNICULAR PAVILION CANOPY	LT-101.1	002	SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT. FIXTURE REQUIRES REMOTE X-FORMER	LA-03	INTEGRAL LED	MLV	REMOTE MAG	D	14.0w	9	126.0w	FIXTURE INTENDED TO BE SURFACE MOUNTED. FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQD TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.	
WALK PATH	LT-101.1	003	POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER SUPPLIES.	LA-01	INTEGRAL LED	3-WIRE	INTEGRAL ELECT	D	4.6 w/ft	62 ft	282.9w	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED. VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE SHOP DRAWINGS INDICATING RUN OF LENGTH, LOCATION OF POST, ETC. PRIOR TO FINAL PROCUREMENT OF RAIL SYSTEM. VERIFY FIXTURE FINISH PER ARCHITECT.	
INFORMATIONAL DISPLAY	LT-101.1	004	SURFACE WALL MOUNTED, WET LISTED DOWNLIGHT/SCONCE.	LA-05	INTEGRAL LED	MLV	REMOTE MAG	D	10.0w	2	20.0w	REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHT/DETAILS. FIXTURE REQUIRES REMOTE X-FORMER. FIXTURE REQUIRES RECESSED J-BOX BY OTHERS.	
THROUGHOUT	LT-101.1	005	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT	LA-08	INTEGRAL LED	NON-DIM	INTEGRAL ELECT	D	3.0w	70	210.0w	VERIFY FINISH PER ARCHITECT. FIXTURE PROVIDED WITH POWER PIPE MOUNT. FIXTURE INTENDED TO BE NON-DIM. FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.	

BOLD

ZONE SCHEDULE
Pilgrim Monument
10/12/2018

LOCATION	SHEET #	ZONE	DESCRIPTION	FIXTURE TYPE	LAMP SOURCE TYPE	LOAD TYPE	DRIVER TYPE	DIMMING	FIXTURE WATTS	QTY.	TOTAL WATTS	NOTES	REV.
FUNICULAR PAVILION	LT-101.1	006	SURFACE MOUNTED IN ARCHITECTURAL COVE DETAIL. LINEAR LOW VOLTAGE LED LIGHT STRIP FOR USE WITH REMOTE POWER SUPPLIES	LA-04	INTEGRAL LED	ELV	REMOTE ELECT	D	4.0 wft	50 ft	200.0w	PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQD. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINAI (VESSELS) SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPER/MOUNTING ACCESSORIES AS REQD FOR FULL SYSTEM RECESSED WALL MOUNTED STEP LIGHT. VERIFY RECESSING DEPTH PER ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS/DETAILS FOR FIXTURE MOUNTING HEIGHT/ELEVATION. FIXTURE PROVIDED WITH CORE-DRILL APPLICATION VERSION, CONFIRM BY ARCHITECT. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER	
STEPS	LT-101.1	007	RECESSED LOW LEVEL WALL STEP LIGHT	LA-07	INTEGRAL LED	MLV	REMOTE MAG	D	3.0w	3	9.0w	FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.	
PATHWAY/INFORMATION SIGNAGE	LT-101.1	009	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS. DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD	LA-06	INTEGRAL LED	0-10V	INTEGRAL ELECT	D	10.0w	1	10.0w		
TOTAL WATTAGE:											866.9w		
UPPER													
FUNICULAR LANDING PLATFORM	LT-102.1	008	SURFACE WALL MOUNTED LOW LEVEL LED PATHWAY LIGHT	LA-09	INTEGRAL LED	MLV	REMOTE MAG	D	3.0w	8	24.0w	REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED JBOX PROVIDED BY OTHERS.	
TOTAL WATTAGE:											24.0w		

END OF ZONE SCHEDULE

GENERAL NOTES:

- QUANTITIES SHOWN ARE ESTIMATES FOR BUDGETING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIXTURE COUNTS AND LENGTHS.
- ELY- REVERSE PHASE ELECTRONIC LOW VOLTAGE DIMMING
- CONTRACTOR TO VERIFY ALL VOLTAGES, LAMP TYPES, FIELD MEASUREMENTS, AND PROVIDE ALL REMOTE TRANSFORMERS.
- CONTRACTOR TO FIELD VERIFY MOUNTING CONDITIONS AND PROVIDE ALL HARDWARE NECESSARY TO COMPLETE INSTALLATION.
- THE CLIENT SHALL NOT HOLD CONSULTANT LIABLE FOR RE-DESIGN SERVICES DUE TO COST OVERRUNS IF THEY CHOOSE NOT TO DEFINE TARGETED BUDGETS.
- *, ALLOW (1) OR MORE NON-DIM CIRCUITS FOR EACH DMX-CONTROLLED ZONE

ABBREVIATED TERMS:

- LINE- LINE VOLTAGE DIMMABLE
- ELV- REVERSE PHASE ELECTRONIC LOW VOLTAGE DIMMING
- FWD ELY- FORWARD PHASE ELECTRONIC LOW VOLTAGE DIMMING
- MLV- MAGNETIC LOW VOLTAGE (FORWARD PHASE) DIMMING
- DMX- DMX512 CONTROL
- DAU- DAU CONTROL

- 2-WIRE- LUTRON 2-WIRE DIMMING
- 3-WIRE- LUTRON 3-WIRE DIMMING
- ECO- LUTRON ECOSYSTEM
- NON-DIM- NON-DIMMING or SWITCHED
- 0-10V- 0-10V DIMMING
- VIF- VERIFY IN FIELD

BOLD

BRIAN ORTER LIGHTING DESIGN
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N1820 - PILGRIM MONUMENT (BRADFORD ST ACCESS) SHEET INDEX

SHEET #	SHEET NAME	10/15/2018 - DESIGN DOCUMENTATION	10/18/2018 - PRE-PLANNING BOARD REVIEW	10/25/2018 - PLANNING BOARD REVIEW						
LT-000	SHEET INDEX	X	X	X						
LT-001	GENERAL NOTES	X	X	X						
LT-002	LIGHTING FIXTURE MATRIX	X	X	X						
LT-003	ZONE SCHEDULE	X	X	X						
LT-004	FIXTURE REFERENCE IMAGES	X	X	X						
LT-101	PROPOSED LIGHTING PLAN, LOWER	X	X	X						
LT-102	PROPOSED LIGHTING PLAN, UPPER	X	X	X						
LT-103	PHOTOMETRIC PLAN, LOWER	X	X	X						
LT-104	PHOTOMETRIC PLAN, UPPER	X	X	X						
LT-301	ARCHITECTURAL LIGHTING DETAILS		X	X						
LT-302	ARCHITECTURAL LIGHTING DETAILS		X	X						
LT-901	LIGHTING PRESENTATION			X						
LT-902	LIGHTING PRESENTATION			X						
LT-903	LIGHTING PRESENTATION			X						
LT-904	LIGHTING PRESENTATION			X						
LT-905	LIGHTING PRESENTATION			X						
LT-906	LIGHTING PRESENTATION			X						
LT-907	LIGHTING PRESENTATION			X						
LT-908	LIGHTING PRESENTATION			X						
LT-909	LIGHTING PRESENTATION			X						
LT-901	LIGHTING PRESENTATION			X						

PILGRIM MONUMENT
(BRADFORD STREET ACCESS)
 PROVINCETOWN, MA
 NOT FOR CONSTRUCTION

DRAWING TITLE:
SHEET INDEX
 DATE: 10/15/2018
 ISSUANCE:
DESIGN DOCUMENTATION

PROJECT NO:
N1820
 SCALE:
AS NOTED
 DRAWING NO:
 LT-000

NOTE: THESE DRAWINGS ARE FOR INTERNAL REVIEW AND REFERENCE ONLY. REFER TO ARCHITECTURAL, INTERIOR DESIGN OR ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONED LOCATION OF LIGHTING FIXTURES.

Table with 4 main columns: LIGHTING NOTES, LIGHTING SEQUENCE OF OPERATION, ABBREVIATIONS, and SYMBOL LIST. Includes sections for GENERAL PROVISIONS, LUMINAIRE SPECIFICATIONS, LIGHTING CONTROL SEQUENCE OF OPERATIONS - GENERAL NOTES, and LIGHTING CONTROL SPECIFICATIONS.

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BOLD

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PILGRIM MONUMENT
 (BRADFORD STREET ACCESS)
 PROVINCETOWN, MA
 NOT FOR CONSTRUCTION

DRAWING TITLE:
 FIXTURE MATRIX
 DATE: 10/15/2018
 ISSUANCE:
 DESIGN DOCUMENTATION

PROJECT NO:
 N1820
 SCALE:
 AS NOTED
 DRAWING NO:

LT-002

TYPE	DESCRIPTION	CAD SYMBOL	LUMINAIRE MANUFACTURER	LUMINAIRE PART NUMBER	TOTAL WATTS	VOLTS	BALLAST/ TRANSFMR/DRIVER	LAMP MANUFACTURER	LAMP INFO	# LAMPS	LAMP WATTS	CONTROL TYPE	MOUNTING	LOCATION	NOTES
LA-01	POST MOUNTED, ASYMMETRIC ILLUMINATED CURVED HANDRAIL WITH INTEGRAL POWER SUPPLIES.		INTENSE LIGHTING	#(IVR15-SPL-C-36-HO-27-30AS-I)-(CURVED CUSTOM-SDA)	4.6	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	4.6	3-WIRE	POST MOUNTED	WALK PATH	FIXTURE INTENDED TO BE SELF ILLUMINATED HANDRAIL SYSTEM WITH ASYMMETRIC LIGHT DISTRIBUTION FOR NO SPILL LIGHT OUTSIDE OF PROPERTY LINE. ARCHITECT TO CONFIRM IF POST MOUNTING OR EMBEDDED MOUNTING WILL BE REQUIRED. LANDSCAPE ARCHITECT TO CONFIRM IF INFILL IS REQUIRED, VERIFY FIXTURE FINISH PER ARCHITECT. MANUFACTURER MUST PROVIDE
LA-02	SUSPENDED DECORATIVE PENDANT WITH LED RETROFIT LAMP		REJUVENATION	#(PNF-3"-LED-E64-MFL-A9-FINISH-12-11-A)-(POWER PIPE)	9	PER EE	NONE	GREEN CREATIVE	97780/9A19DIM/B27	1	9	LINE	SUSPENDED	FUNICULAR PAVILION	FIXTURE IS A SUSPENDED DECORATIVE PENDANT, 54" OAL. ARCHITECT TO PROVIDE ADDITIONAL SUPPORT/MOUNTING BRACKET AS REQUIRED. FIXTURE PROVIDED WITH 5" OD CANOPY COVER. FIXTURE TO BE USED WITH LED RETROFIT A19/E26 LED LAMP SUITABLE FOR USE WITH ENCLOSED FIXTURES.
LA-03	SURFACE MOUNTED ARCHITECTURAL DOWNLIGHT, FIXTURE REQUIRES REMOTE X-FORMER		BK LIGHTING	#(SM-0-AR-LED-E64-MFL-A9-BZP-12/11-E)-(BC12-BZP)-(BKSSL REMOTE XFORMER)	14	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	7	2	MLV	SURFACE MOUNTED	FUNICULAR PAVILION CANOPY	FIXTURE INTENDED TO BE SURFACE MOUNTED. FIXTURE TO BE PROVIDED WITH NOMINAL 4-1/2" CANOPY COVER (BC12). FIXTURE REQUIRES REMOTE POWER SUPPLIES AS REQ'D TO BE LOCATED AT ADJACENT ACCESSIBLE, SOUND ATTENUATED, VENTILATED LOCATION AS SHOWN ON THE ELECTRICAL DRAWINGS.
LA-04	SURFACE MOUNTED IN ARCHITECTURAL COVE DETAIL, LINEAR LOW-VOLTAGE LED LIGHT STRIP FOR USE WITH REMOTE POWER SUPPLIES		LUMINII LIGHTING	#(KS-LENGTH AS REQ'D-SOHD-F-FC-SA-FEED AS REQ'D)-(ACCESSORIES)-(CVE-SIZE-24-VOLTAGE)	4	PER EE	REMOTE ELECT	INTEGRAL LED	INTEGRAL LED	1	4	ELV	SURFACE MOUNTED	FUNICULAR PAVILION	PROVIDE CONTINUOUS ILLUMINATED RUN LENGTH AS REQ'D. REFER TO ARCHITECTURAL DETAILS FOR FIXTURE MOUNTING REQUIREMENTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO LUMINII CVE-SERIES, SIZE AND LOCATION TBD BY EE. PROVIDE ALL LEADERS/JUMPERS/MOUNTING ACCESSORIES AS REQ'D FOR FULL SYSTEM OPERATION.
LA-05	SURFACE WALL MOUNTED, WET LISTED DOWNLIGHT/SCONCE.		TEKA-ILLUMINATION	#(AR-FS-20-LED-390-BZP-WHT-VOLTAGE)-(REMOTE X-FORMER)	10	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	10	MLV	SURFACE WALL MOUNTED	INFORMATIONAL DISPLAY	VERIFY FIXTURE FINISH PER ARCHITECT. REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHT/DETAILS. FIXTURE REQUIRES REMOTE X-FORMER. FIXTURE REQUIRES RECESSED J-BOX BY OTHERS.
LA-06	SURFACE MOUNTED ON POST/BOLLARD BY OTHERS, DECORATIVE POST TOP LIGHT WITH ANTI-GLARE SHIELD		TEKA ILLUMINATION	#(BPM-SD12-LED-X83-BW-BZP-A-MSH-PT-D23-MT)-(DRIVER TBD)	10	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	10	0-10V	POST MOUNTED	PATHWAY/INFORMATION SIGNAGE	FIXTURE INTENDED TO BE MOUNTED ON POST/BOLLARD BY OTHERS. FIXTURE REQUIRES DRIVER MOUNTING OPTION TO BE SELECTED BY ARCHITECT.
LA-07	RECESSED LOW LEVEL WALL/STEP LIGHT		BK LIGHTING	#(CD-BOL-LED-E64-A9-BZP-D)-(REMOTE BKSSL XFORMER)	3	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	3	MLV	RECESSED WALL/STEP	STEPS	RECESSED WALL MOUNTED STEP LIGHT. VERIFY RECESSING DEPTH PER ARCHITECT. REFER TO ARCHITECTURAL DRAWINGS/DETAILS FOR FIXTURE MOUNTING HEIGHT/ELEVATION. FIXTURE PROVIDED WITH CORE-DRILL APPLICATION VERSION, CONFIRM BY ARCHITECT. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER.
LA-08	LOW PROFILE, SMALL APERTURE LANDSCAPE PATH LIGHT		BK LIGHTING	#(LT-18"-LED-E70-FINISH-PP-TRE20-GS-SF)-(PP-S-18-T-TRE20-CAP PER EC-FINISH-SF)	3	PER EE	INTEGRAL ELECT	INTEGRAL LED	INTEGRAL LED	1	3	NON-DIM	POWER PIPE	THROUGHOUT	VERIFY FINISH PER ARCH. FIXTURE PROVIDED WITH POWER PIPE MOUNT. FIXTURE INTENDED TO BE NON-DIM. FIXTURE PROVIDED WITH POWER PIPE MOUNT. ELECTRICAL CONTRACTOR TO PROVIDE SUFFICIENT CORD SLACK CAPABLE OF 5'-0" RADIUS ON-SITE RE-STAKING.
LA-09	SURFACE WALL MOUNTED LOW LEVEL, LED PATHWAY LIGHT		BK LIGHTING	#(YM-LED-E80-MFL-BZP-12-11-A)-(BC10-BZP)-(REMOTE XFORMER)	3	PER EE	REMOTE MAG	INTEGRAL LED	INTEGRAL LED	1	3	MLV	SURFACE WALL MOUNTED	FUNICULAR LANDING PLATFORM	REFER TO ARCHITECTURAL ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS. FIXTURE REQUIRES REMOTE POWER SUPPLIES EQUAL TO BKSSL XFORMER. FIXTURE TO BE PROVIDED WITH BK BC10 NOMINAL 3X5 CANOPY COVER. FIXTURE REQUIRES RECESSED J-BOX PROVIDED BY OTHERS.

NOTE: THESE DRAWINGS ARE FOR INTERNAL REVIEW AND REFERENCE ONLY. REFER TO ARCHITECTURAL, INTERIOR DESIGN OR ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONED LOCATION OF LIGHTING FIXTURES.



1 TYPE LA-01 ILLUMINATED HAND RAIL LIGHT



2 TYPE LA-02 DECORATIVE PENDANT



3 TYPE LA-03 SURFACE MOUNTED DOWNLIGHT



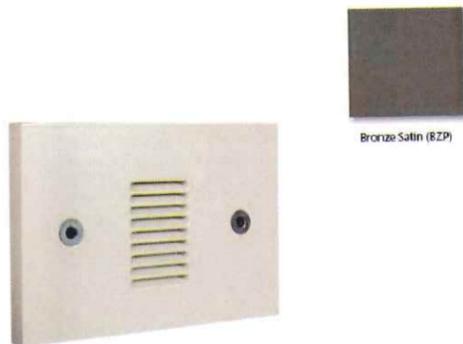
4 TYPE LA-04 LINEAR LED LIGHT STRIP



5 TYPE LA-05 WALL MOUNTED DECORATIVE SCENCE



6 TYPE LA-06 POST TOP LANTERN



7 TYPE LA-07 LOW LEVEL PATHWAY LIGHT



8 TYPE LA-08 STAKE MOUNTED PATH LIGHT



9 TYPE LA-09 WALL MOUNTED DOWNLIGHT

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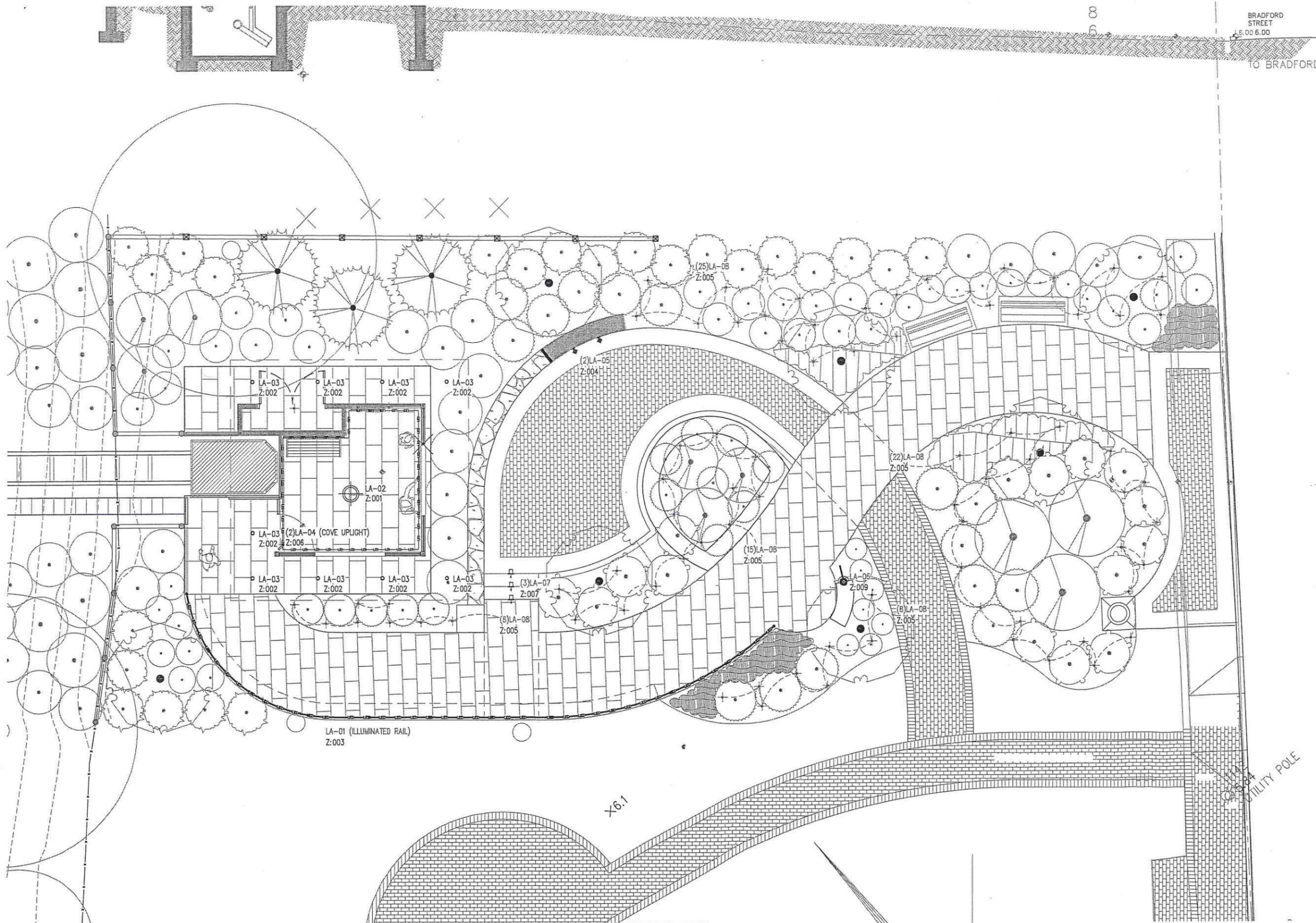
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1 1/4"=1'-0" OPEN PAVILION LIGHTING PLAN

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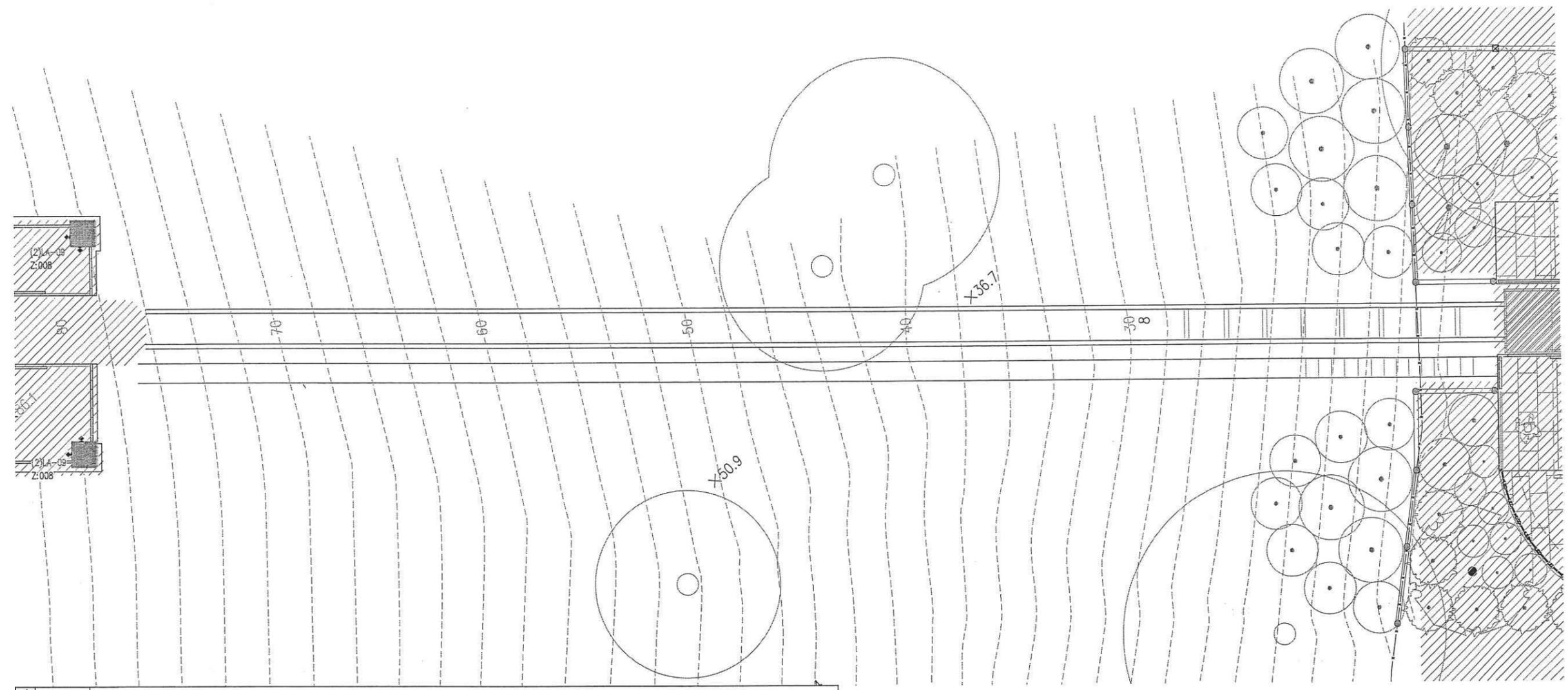
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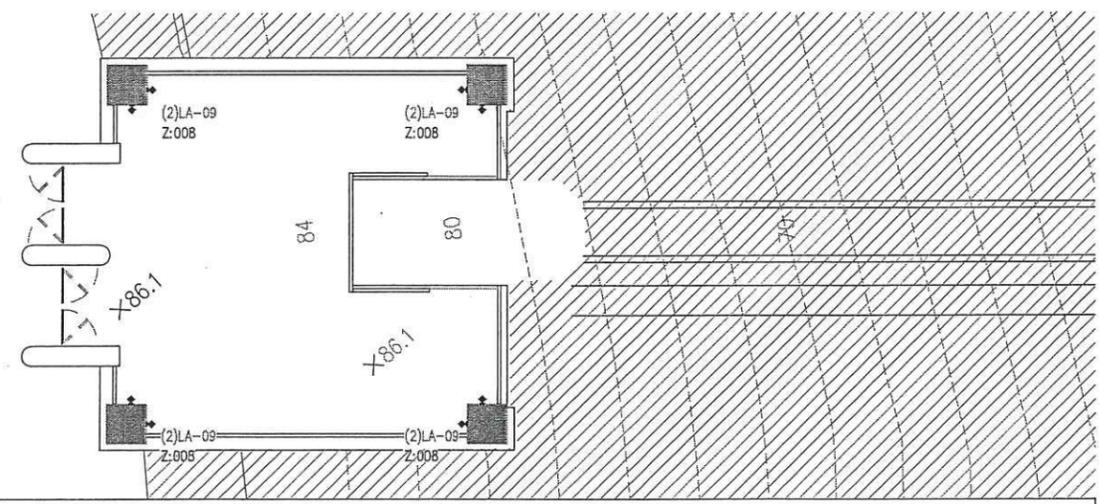
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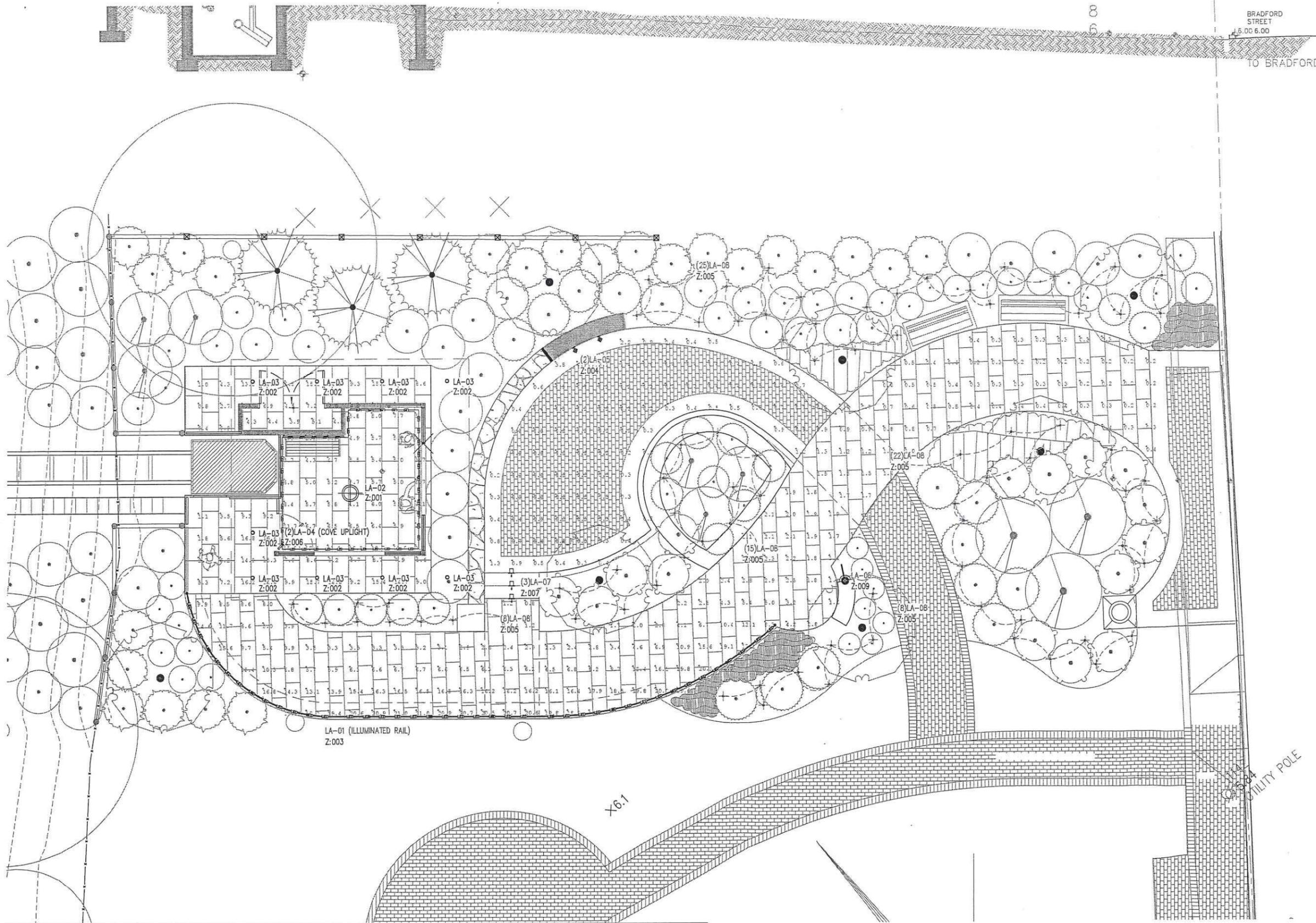


1 1/4"=1'-0" FUNICULAR PATHWAY LIGHTING PLAN



2 1/4"=1'-0" FUNICULAR PLATFORM LIGHTING PLAN

NOTE: THESE DRAWINGS ARE FOR INTERNAL REVIEW AND REFERENCE ONLY. REFER TO ARCHITECTURAL, INTERIOR DESIGN OR ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONED LOCATION OF LIGHTING FIXTURES.



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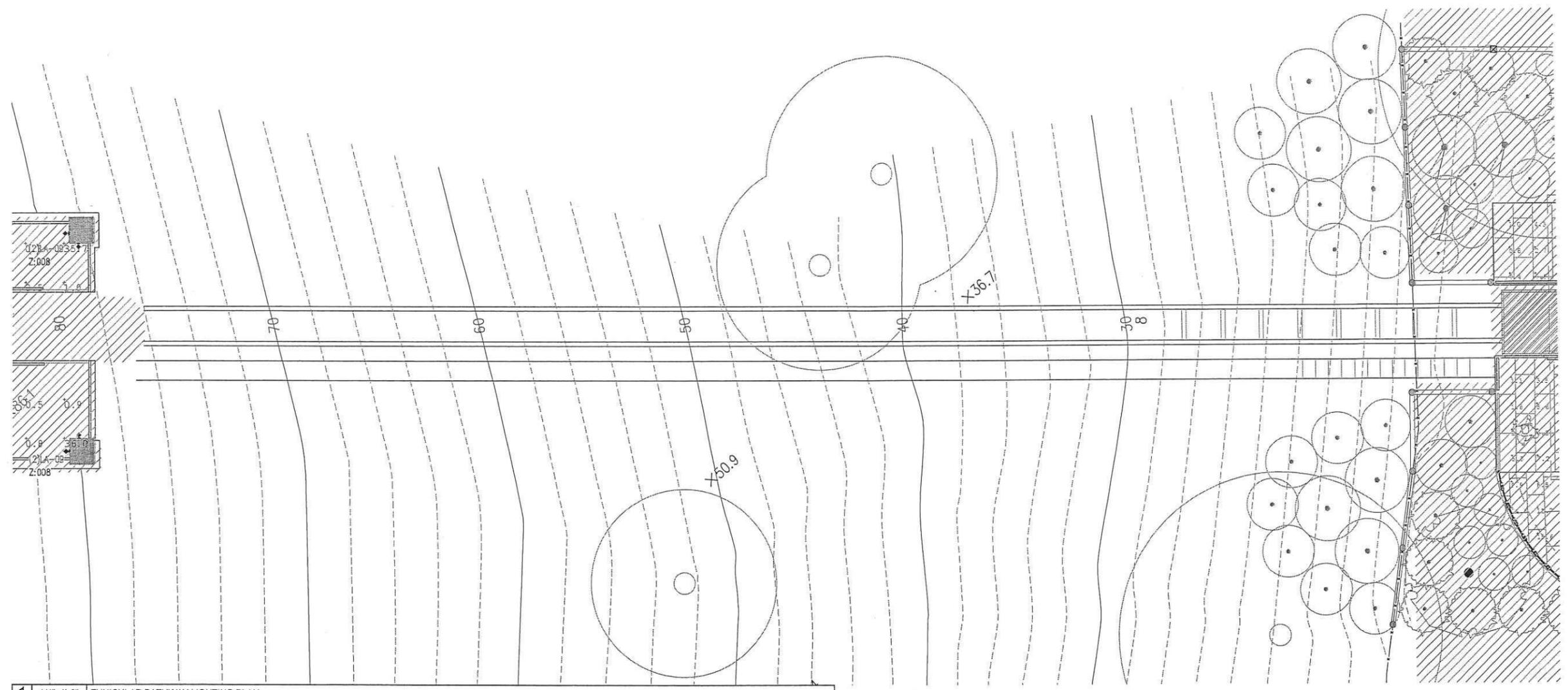
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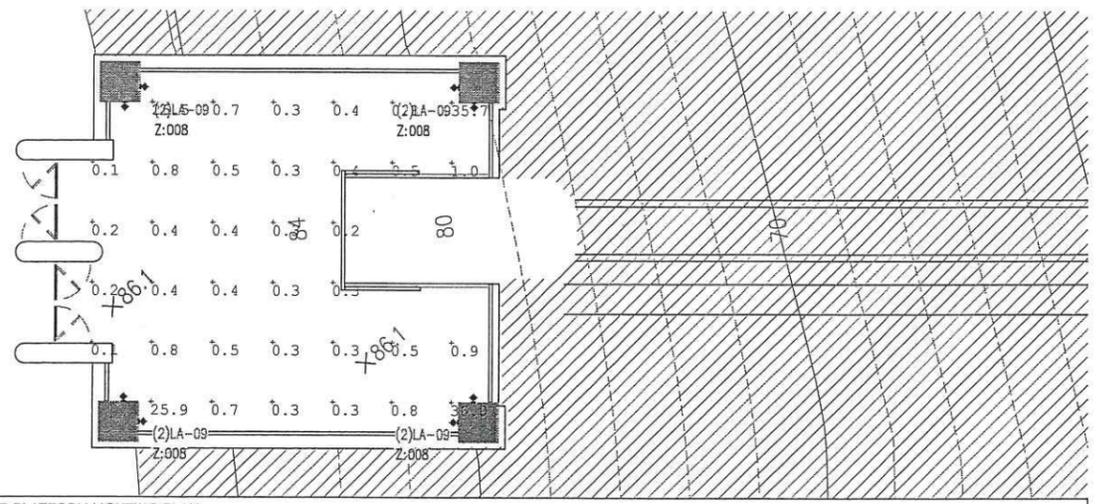
1 1/4"=1'-0" OPEN PAVILION LIGHTING PLAN

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1 1/4"=1'-0" FUNICULAR PATHWAY LIGHTING PLAN



2 1/4"=1'-0" FUNICULAR PLATFORM LIGHTING PLAN

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Pre-Development



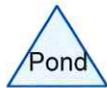
Post-Development



MANIFOLD 1B



RECHARGE SYSTEM 1



Routing Diagram for C14349.08 REV 1 hydroCAD
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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.051	98	Paved parking, HSG A (2S)
0.394	43	Woods/grass comb., Fair, HSG A (1S, 2S)
0.445	49	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.445	HSG A	1S, 2S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.445		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.051	0.000	0.000	0.000	0.000	0.051	Paved parking	2S
0.394	0.000	0.000	0.000	0.000	0.394	Woods/grass comb., Fair	1S, 2S
0.445	0.000	0.000	0.000	0.000	0.445	TOTAL AREA	

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	4R	9.49	9.29	10.0	0.0200	0.012	4.0	0.0	0.0

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Type III 24-hr 2 year Rainfall=3.20"

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Page 6

Time span=5.00-20.00 hrs, dt=0.10 hrs, 151 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Development

Runoff Area=9,409 sf 0.00% Impervious Runoff Depth>0.01"
Flow Length=131' Tc=6.0 min CN=43 Runoff=0.00 cfs 0.000 af

Subcatchment 2S: Post-Development

Runoff Area=9,990 sf 22.18% Impervious Runoff Depth>0.21"
Flow Length=131' Tc=6.0 min CN=55 Runoff=0.02 cfs 0.004 af

Reach 4R: MANIFOLD 1B

Avg. Flow Depth=0.03' Max Vel=1.17 fps Inflow=0.02 cfs 0.004 af
4.0" Round Pipe x 6.00 n=0.012 L=10.0' S=0.0200 ' Capacity=1.75 cfs Outflow=0.02 cfs 0.004 af

Pond 3P: RECHARGE SYSTEM 1

Peak Elev=5.81' Storage=2 cf Inflow=0.02 cfs 0.004 af
Outflow=0.02 cfs 0.004 af

Total Runoff Area = 0.445 ac Runoff Volume = 0.004 af Average Runoff Depth = 0.11"
88.58% Pervious = 0.394 ac 11.42% Impervious = 0.051 ac

Summary for Subcatchment 2S: Post-Development

[49] Hint: $T_c < 2dt$ may require smaller dt

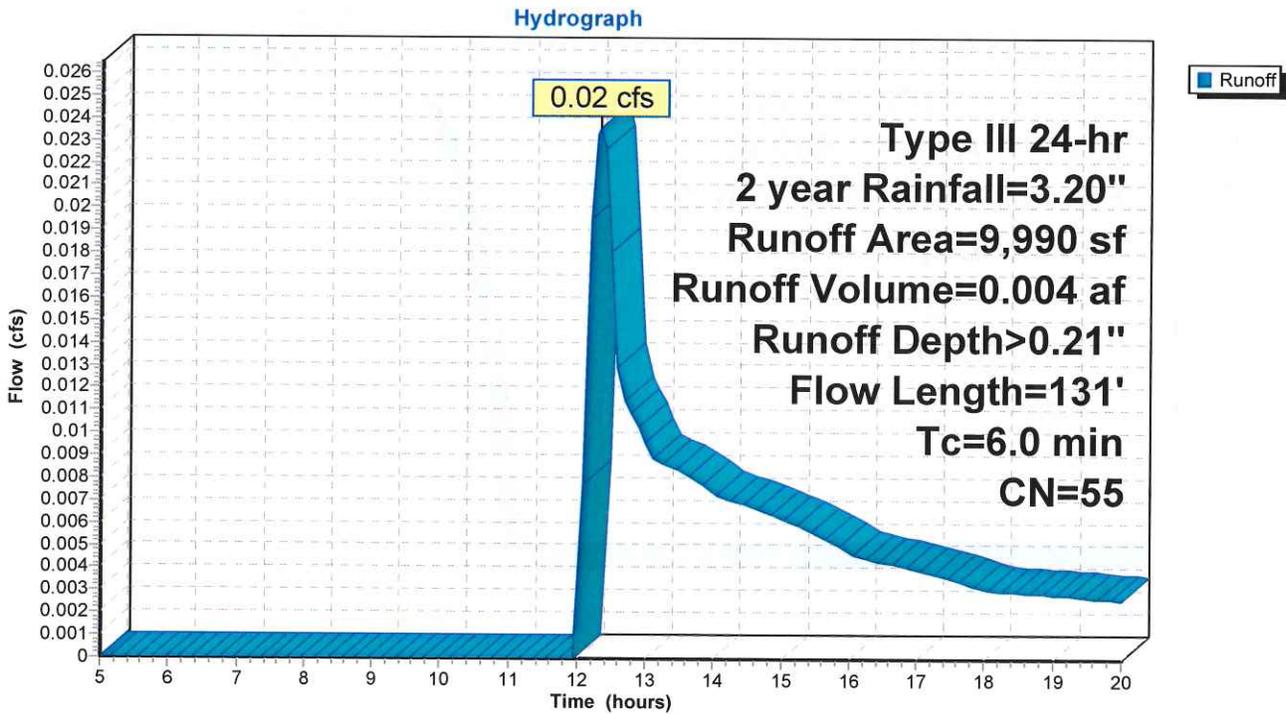
Runoff = 0.02 cfs @ 12.33 hrs, Volume= 0.004 af, Depth> 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt= 0.10$ hrs
 Type III 24-hr 2 year Rainfall=3.20"

Area (sf)	CN	Description
7,774	43	Woods/grass comb., Fair, HSG A
2,216	98	Paved parking, HSG A
9,990	55	Weighted Average
7,774		77.82% Pervious Area
2,216		22.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	131		0.36		Direct Entry, Over pavement

Subcatchment 2S: Post-Development



Summary for Reach 4R: MANIFOLD 1B

[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 0.21" for 2 year event
 Inflow = 0.02 cfs @ 12.33 hrs, Volume= 0.004 af
 Outflow = 0.02 cfs @ 12.34 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.4 min

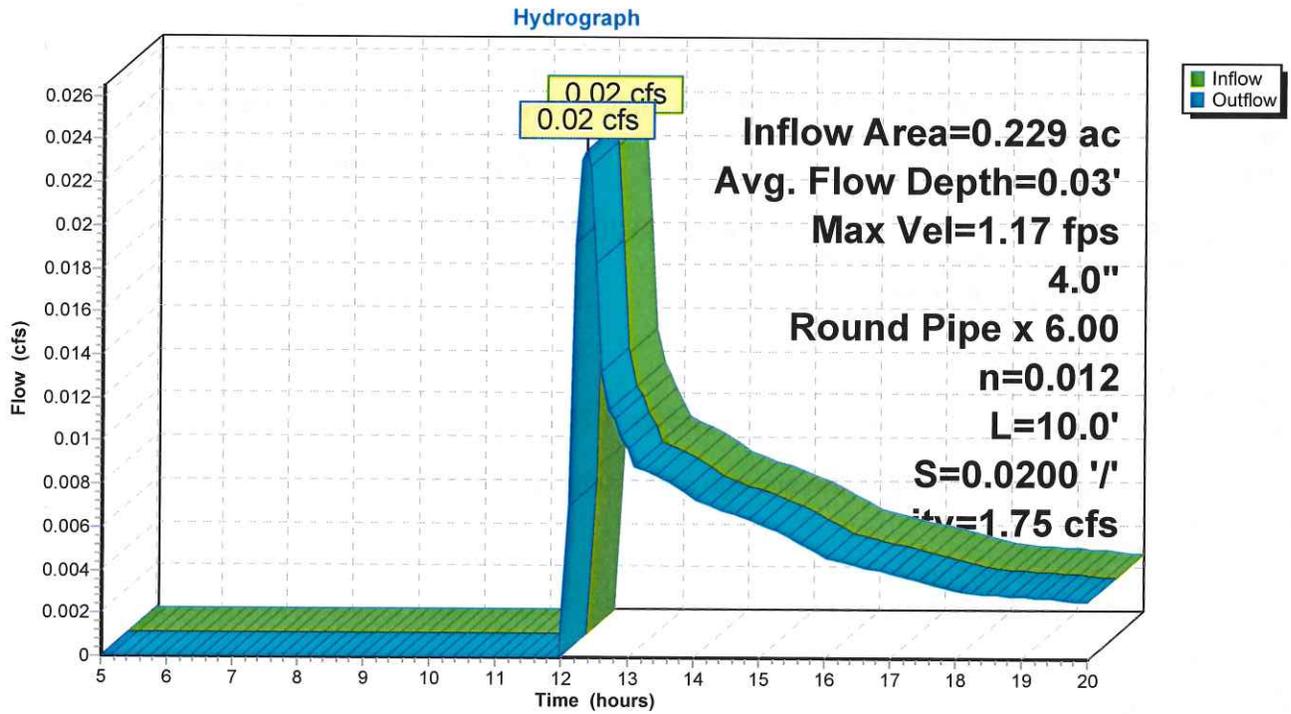
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Max. Velocity= 1.17 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 0.75 fps, Avg. Travel Time= 0.2 min

Peak Storage= 0 cf @ 12.34 hrs
 Average Depth at Peak Storage= 0.03'
 Bank-Full Depth= 0.33' Flow Area= 0.5 sf, Capacity= 1.75 cfs

A factor of 6.00 has been applied to the storage and discharge capacity
 4.0" Round Pipe
 n= 0.012
 Length= 10.0' Slope= 0.0200 '/'
 Inlet Invert= 9.49', Outlet Invert= 9.29'



Reach 4R: MANIFOLD 1B



Summary for Pond 3P: RECHARGE SYSTEM 1

Volume above grates of SC1 and SC2 between elevations 9.75 (grate elevs) and 10.2 or (max. elevation around impounded area) is shown for Custom Stage Data and is used for attenuation of 100-year event.

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 0.21" for 2 year event
 Inflow = 0.02 cfs @ 12.34 hrs, Volume= 0.004 af
 Outflow = 0.02 cfs @ 12.34 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.2 min
 Discarded = 0.02 cfs @ 12.34 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Peak Elev= 5.81' @ 12.34 hrs Surf.Area= 392 sf Storage= 2 cf

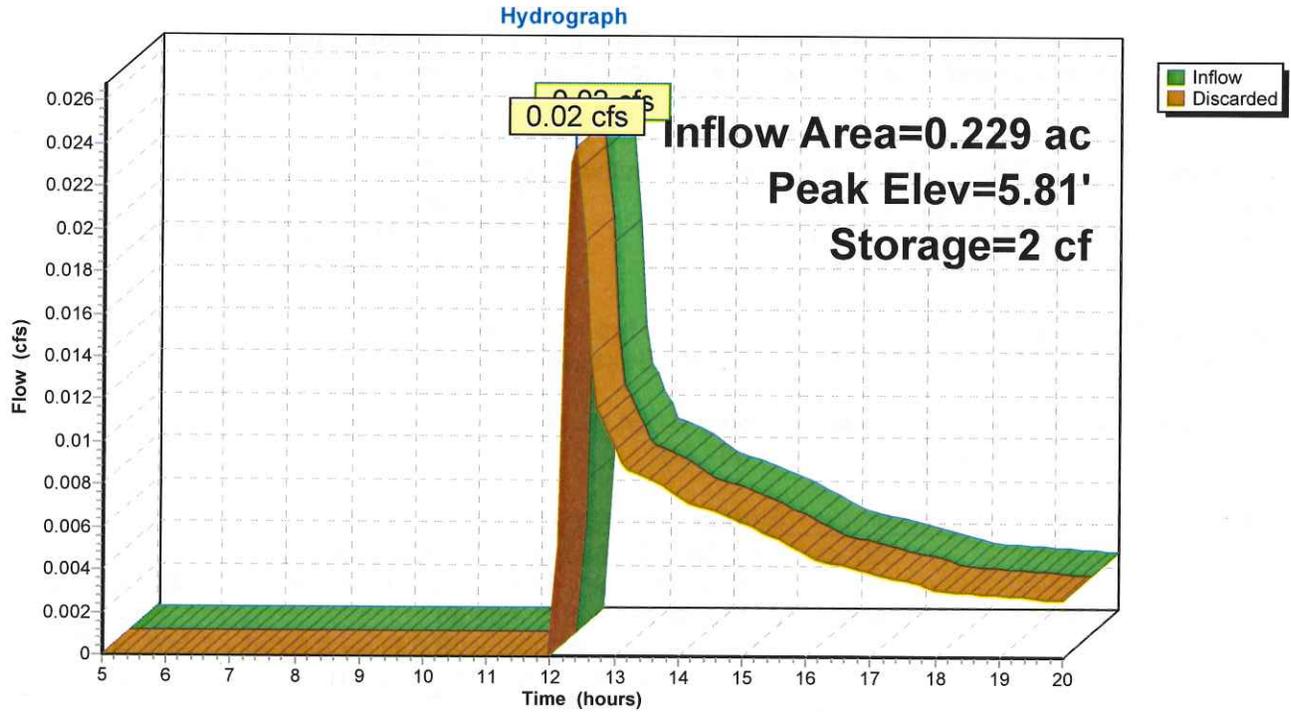
Plug-Flow detention time= 1.1 min calculated for 0.004 af (99% of inflow)
 Center-of-Mass det. time= 0.8 min (888.3 - 887.6)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	367 cf	14.00'W x 28.00'L x 3.21'H Excavation 1,258 cf Overall - 340 cf Embedded = 918 cf x 40.0% Voids
#2	6.30'	340 cf	Cultec R-280 x 8 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
		707 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 12.34 hrs HW=5.81' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 3P: RECHARGE SYSTEM 1



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Type III 24-hr 10 year Rainfall=4.90"

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Time span=5.00-20.00 hrs, dt=0.10 hrs, 151 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Development

Runoff Area=9,409 sf 0.00% Impervious Runoff Depth>0.27"
Flow Length=131' Tc=6.0 min CN=43 Runoff=0.03 cfs 0.005 af

Subcatchment 2S: Post-Development

Runoff Area=9,990 sf 22.18% Impervious Runoff Depth>0.83"
Flow Length=131' Tc=6.0 min CN=55 Runoff=0.19 cfs 0.016 af

Reach 4R: MANIFOLD 1B

Avg. Flow Depth=0.07' Max Vel=2.16 fps Inflow=0.19 cfs 0.016 af
4.0" Round Pipe x 6.00 n=0.012 L=10.0' S=0.0200 '/' Capacity=1.75 cfs Outflow=0.19 cfs 0.016 af

Pond 3P: RECHARGE SYSTEM 1

Peak Elev=6.36' Storage=96 cf Inflow=0.19 cfs 0.016 af
Outflow=0.08 cfs 0.016 af

Total Runoff Area = 0.445 ac Runoff Volume = 0.021 af Average Runoff Depth = 0.56"
88.58% Pervious = 0.394 ac 11.42% Impervious = 0.051 ac

Summary for Subcatchment 1S: Pre-Development

[49] Hint: $T_c < 2dt$ may require smaller dt

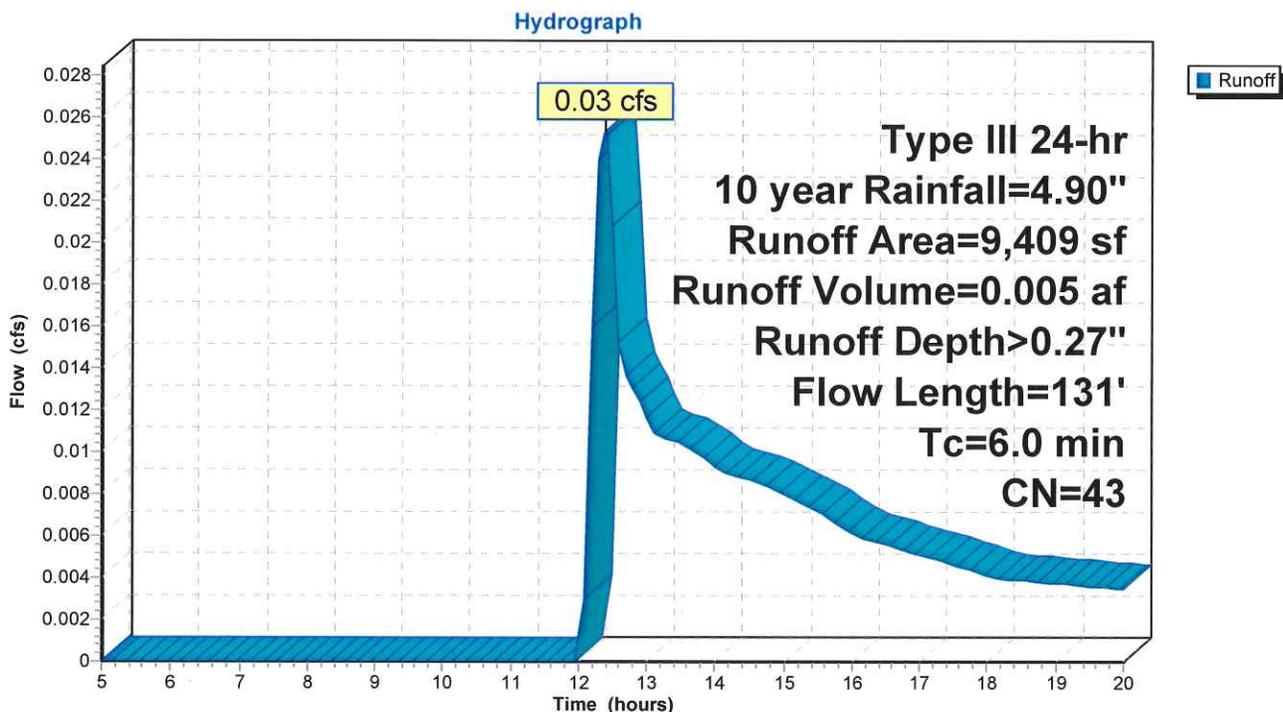
Runoff = 0.03 cfs @ 12.37 hrs, Volume= 0.005 af, Depth> 0.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
Type III 24-hr 10 year Rainfall=4.90"

Area (sf)	CN	Description
9,409	43	Woods/grass comb., Fair, HSG A
9,409		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	131		0.36		Direct Entry, Over pavement

Subcatchment 1S: Pre-Development



Summary for Subcatchment 2S: Post-Development

[49] Hint: $T_c < 2dt$ may require smaller dt

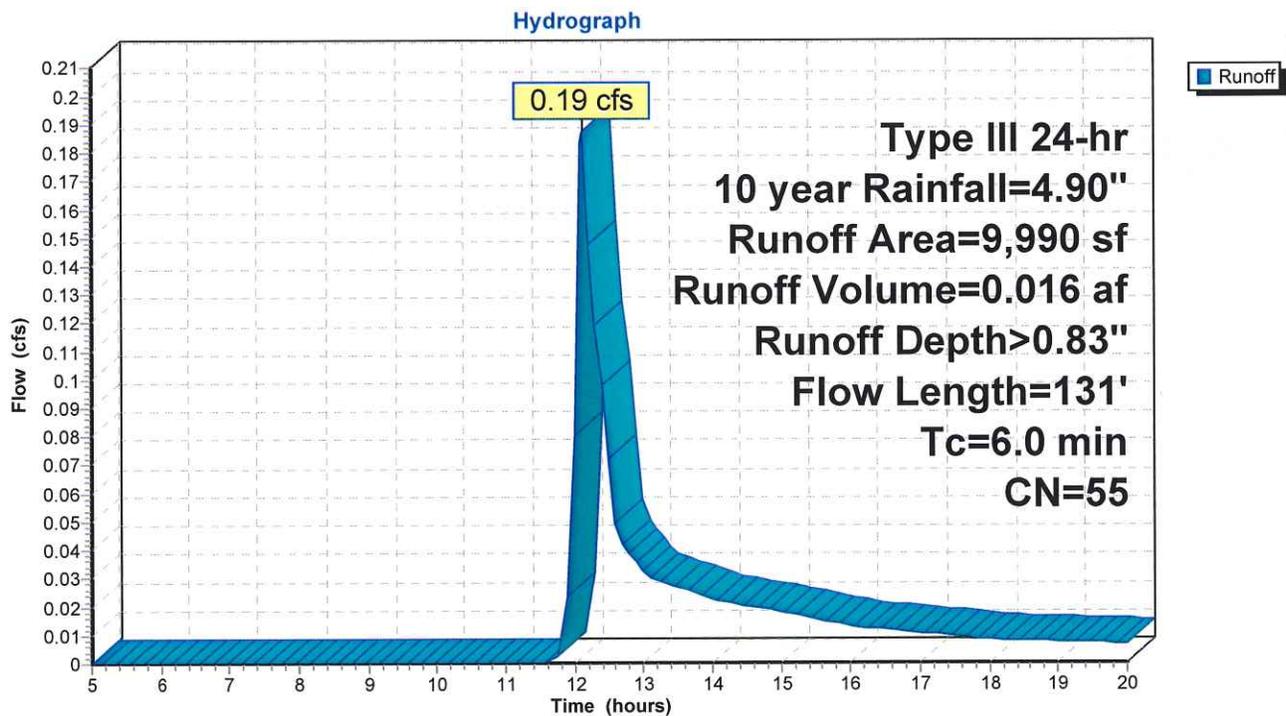
Runoff = 0.19 cfs @ 12.12 hrs, Volume= 0.016 af, Depth> 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt= 0.10$ hrs
 Type III 24-hr 10 year Rainfall=4.90"

Area (sf)	CN	Description
7,774	43	Woods/grass comb., Fair, HSG A
2,216	98	Paved parking, HSG A
9,990	55	Weighted Average
7,774		77.82% Pervious Area
2,216		22.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	131		0.36		Direct Entry, Over pavement

Subcatchment 2S: Post-Development



Summary for Reach 4R: MANIFOLD 1B

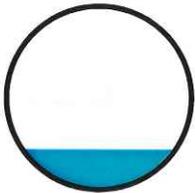
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 0.83" for 10 year event
Inflow = 0.19 cfs @ 12.12 hrs, Volume= 0.016 af
Outflow = 0.19 cfs @ 12.13 hrs, Volume= 0.016 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.16 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.06 fps, Avg. Travel Time= 0.2 min

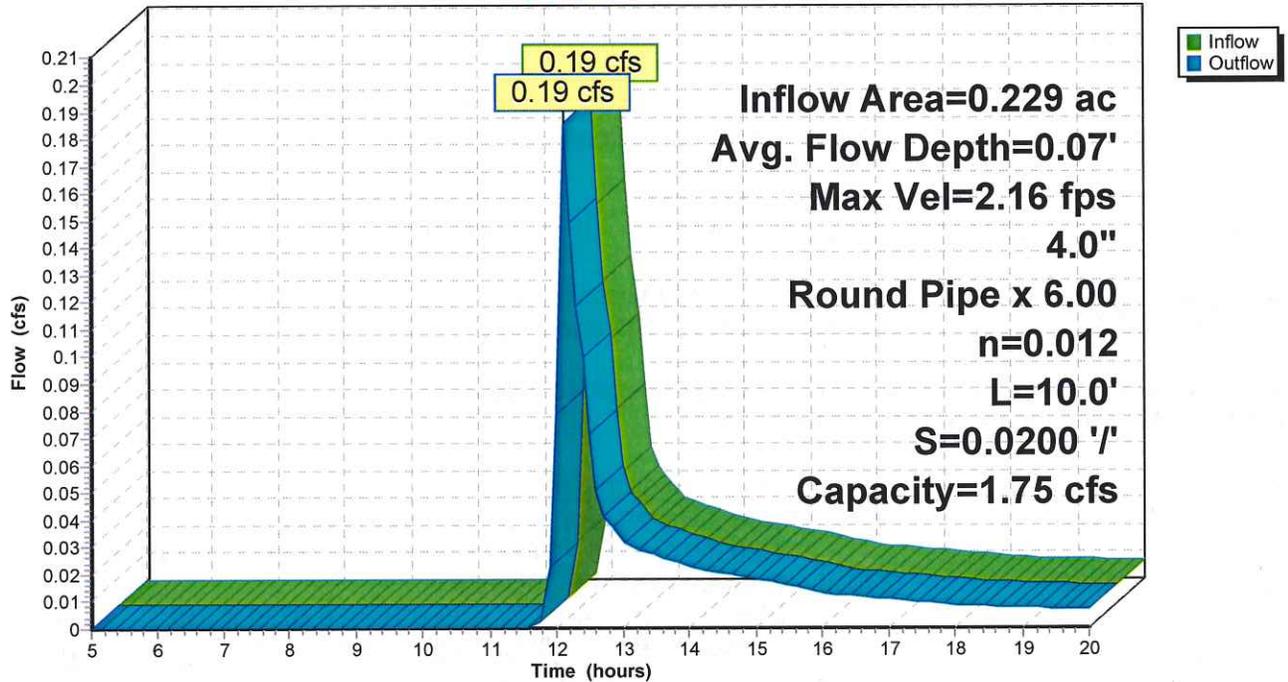
Peak Storage= 1 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 0.33' Flow Area= 0.5 sf, Capacity= 1.75 cfs

A factor of 6.00 has been applied to the storage and discharge capacity
4.0" Round Pipe
n= 0.012
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 9.49', Outlet Invert= 9.29'



Reach 4R: MANIFOLD 1B

Hydrograph



Summary for Pond 3P: RECHARGE SYSTEM 1

Volume above grates of SC1 and SC2 between elevations 9.75 (grate elevs) and 10.2 or (max. elevation around impounded area) is shown for Custom Stage Data and is used for attenuation of 100-year event.

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 0.83" for 10 year event
 Inflow = 0.19 cfs @ 12.13 hrs, Volume= 0.016 af
 Outflow = 0.08 cfs @ 12.10 hrs, Volume= 0.016 af, Atten= 60%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 12.10 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Peak Elev= 6.36' @ 12.49 hrs Surf.Area= 392 sf Storage= 96 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 6.6 min (849.2 - 842.6)

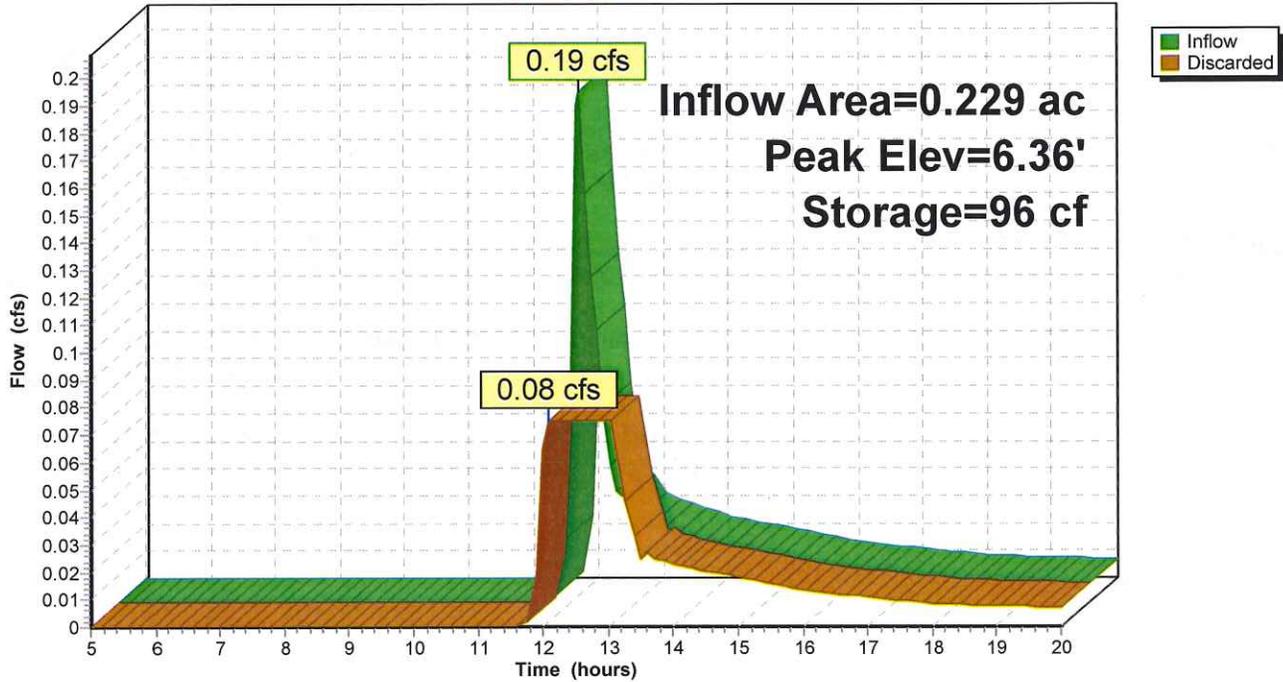
Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	367 cf	14.00'W x 28.00'L x 3.21'H Excavation 1,258 cf Overall - 340 cf Embedded = 918 cf x 40.0% Voids
#2	6.30'	340 cf	Cultec R-280 x 8 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
		707 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 12.10 hrs HW=5.96' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 3P: RECHARGE SYSTEM 1

Hydrograph



Time span=5.00-20.00 hrs, dt=0.10 hrs, 151 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Development

Runoff Area=9,409 sf 0.00% Impervious Runoff Depth>0.55"
Flow Length=131' Tc=6.0 min CN=43 Runoff=0.07 cfs 0.010 af

Subcatchment 2S: Post-Development

Runoff Area=9,990 sf 22.18% Impervious Runoff Depth>1.32"
Flow Length=131' Tc=6.0 min CN=55 Runoff=0.33 cfs 0.025 af

Reach 4R: MANIFOLD 1B

Avg. Flow Depth=0.10' Max Vel=2.55 fps Inflow=0.33 cfs 0.025 af
4.0" Round Pipe x 6.00 n=0.012 L=10.0' S=0.0200 '/' Capacity=1.75 cfs Outflow=0.33 cfs 0.025 af

Pond 3P: RECHARGE SYSTEM 1

Peak Elev=6.99' Storage=271 cf Inflow=0.33 cfs 0.025 af
Outflow=0.08 cfs 0.025 af

Total Runoff Area = 0.445 ac Runoff Volume = 0.035 af Average Runoff Depth = 0.95"
88.58% Pervious = 0.394 ac 11.42% Impervious = 0.051 ac

Summary for Subcatchment 1S: Pre-Development

[49] Hint: $T_c < 2dt$ may require smaller dt

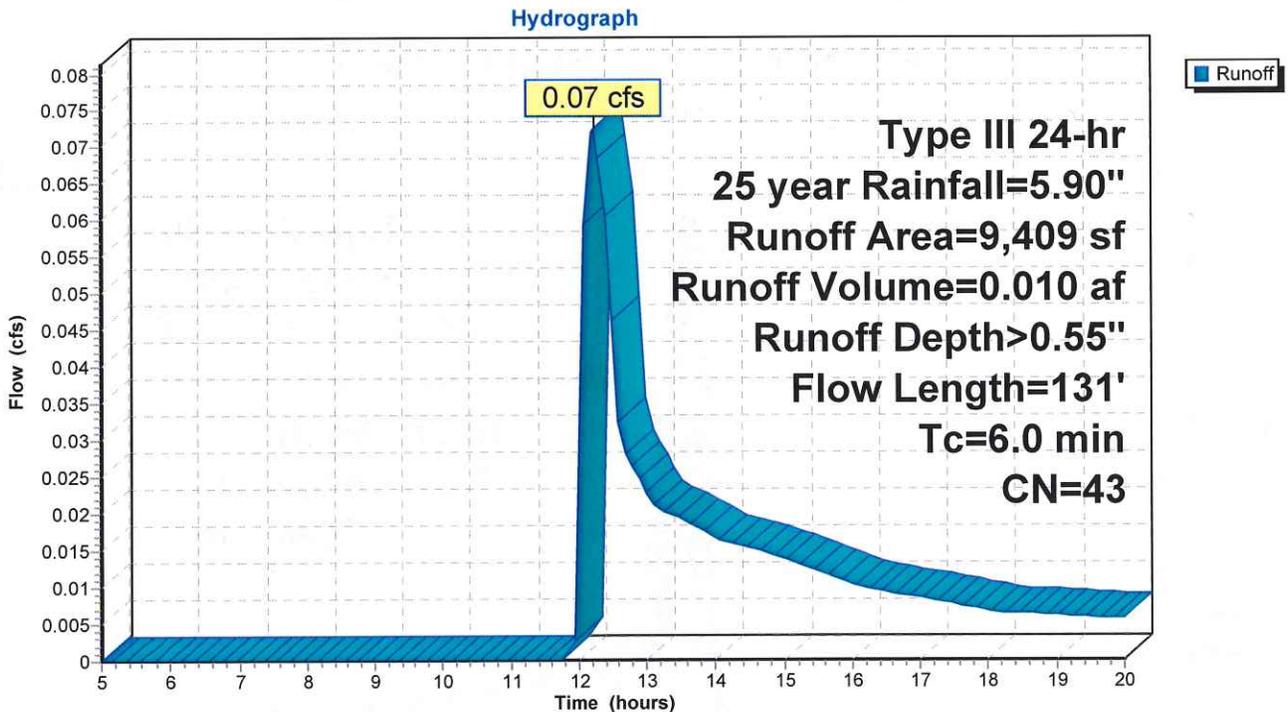
Runoff = 0.07 cfs @ 12.23 hrs, Volume= 0.010 af, Depth> 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Type III 24-hr 25 year Rainfall=5.90"

Area (sf)	CN	Description
9,409	43	Woods/grass comb., Fair, HSG A
9,409		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	131		0.36		Direct Entry, Over pavement

Subcatchment 1S: Pre-Development



Summary for Subcatchment 2S: Post-Development

[49] Hint: $T_c < 2dt$ may require smaller dt

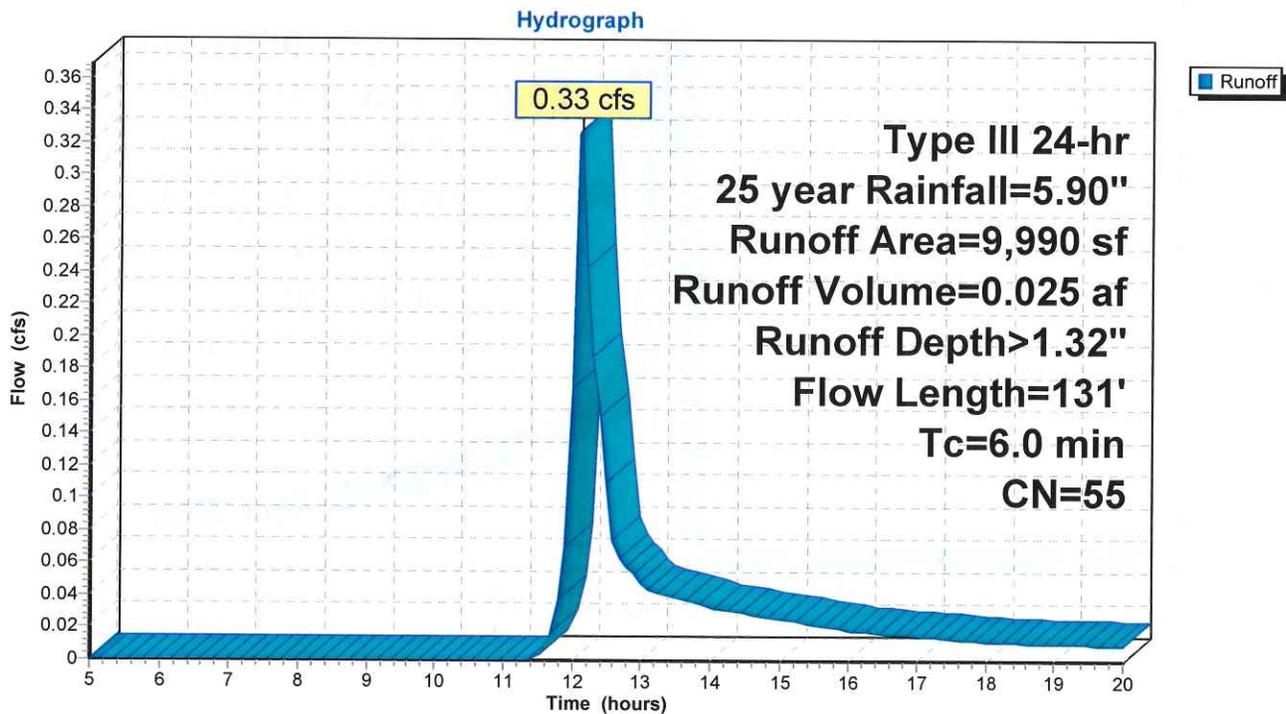
Runoff = 0.33 cfs @ 12.12 hrs, Volume= 0.025 af, Depth> 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Type III 24-hr 25 year Rainfall=5.90"

Area (sf)	CN	Description
7,774	43	Woods/grass comb., Fair, HSG A
2,216	98	Paved parking, HSG A
9,990	55	Weighted Average
7,774		77.82% Pervious Area
2,216		22.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	131		0.36		Direct Entry, Over pavement

Subcatchment 2S: Post-Development



Summary for Reach 4R: MANIFOLD 1B

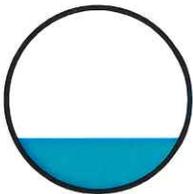
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 1.32" for 25 year event
Inflow = 0.33 cfs @ 12.12 hrs, Volume= 0.025 af
Outflow = 0.33 cfs @ 12.12 hrs, Volume= 0.025 af, Atten= 1%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
Max. Velocity= 2.55 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 0.1 min

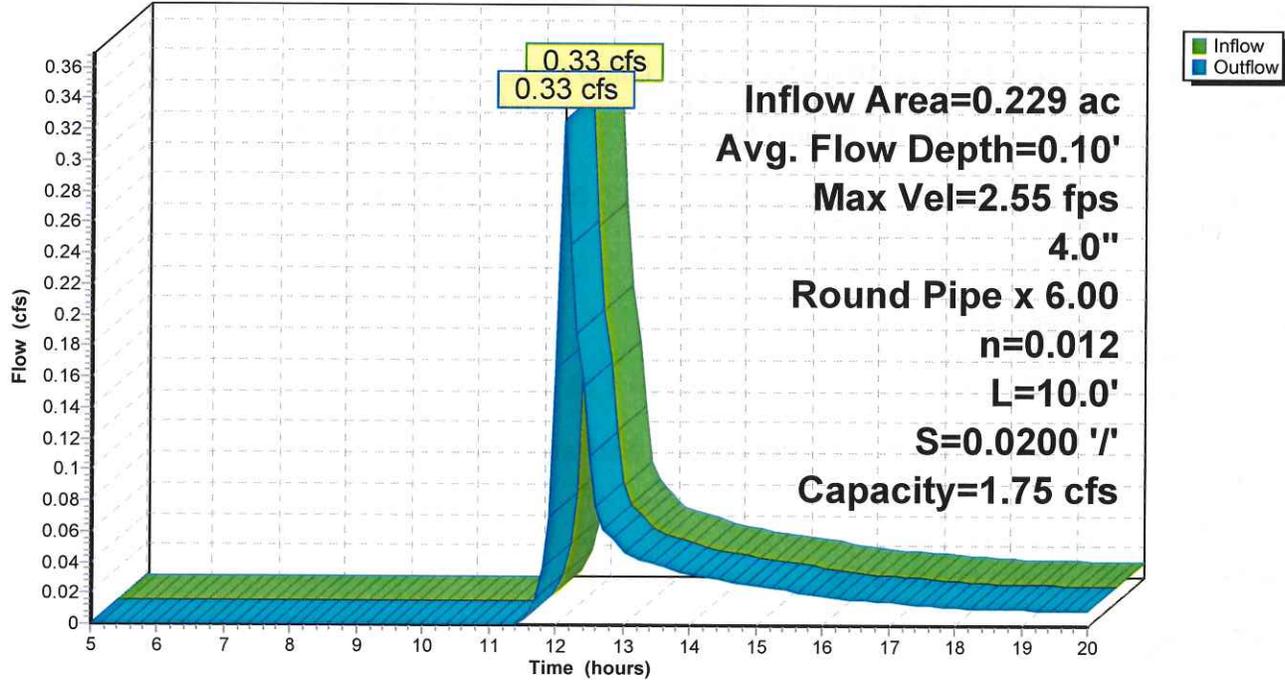
Peak Storage= 1 cf @ 12.12 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 0.33' Flow Area= 0.5 sf, Capacity= 1.75 cfs

A factor of 6.00 has been applied to the storage and discharge capacity
4.0" Round Pipe
n= 0.012
Length= 10.0' Slope= 0.0200 '/'
Inlet Invert= 9.49', Outlet Invert= 9.29'



Reach 4R: MANIFOLD 1B

Hydrograph



Summary for Pond 3P: RECHARGE SYSTEM 1

Volume above grates of SC1 and SC2 between elevations 9.75 (grate elevs) and 10.2 or (max. elevation around impounded area) is shown for Custom Stage Data and is used for attenuation of 100-year event.

Inflow Area = 0.229 ac, 22.18% Impervious, Inflow Depth > 1.32" for 25 year event
 Inflow = 0.33 cfs @ 12.12 hrs, Volume= 0.025 af
 Outflow = 0.08 cfs @ 12.00 hrs, Volume= 0.025 af, Atten= 77%, Lag= 0.0 min
 Discarded = 0.08 cfs @ 12.00 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.10 hrs
 Peak Elev= 6.99' @ 12.63 hrs Surf.Area= 392 sf Storage= 271 cf

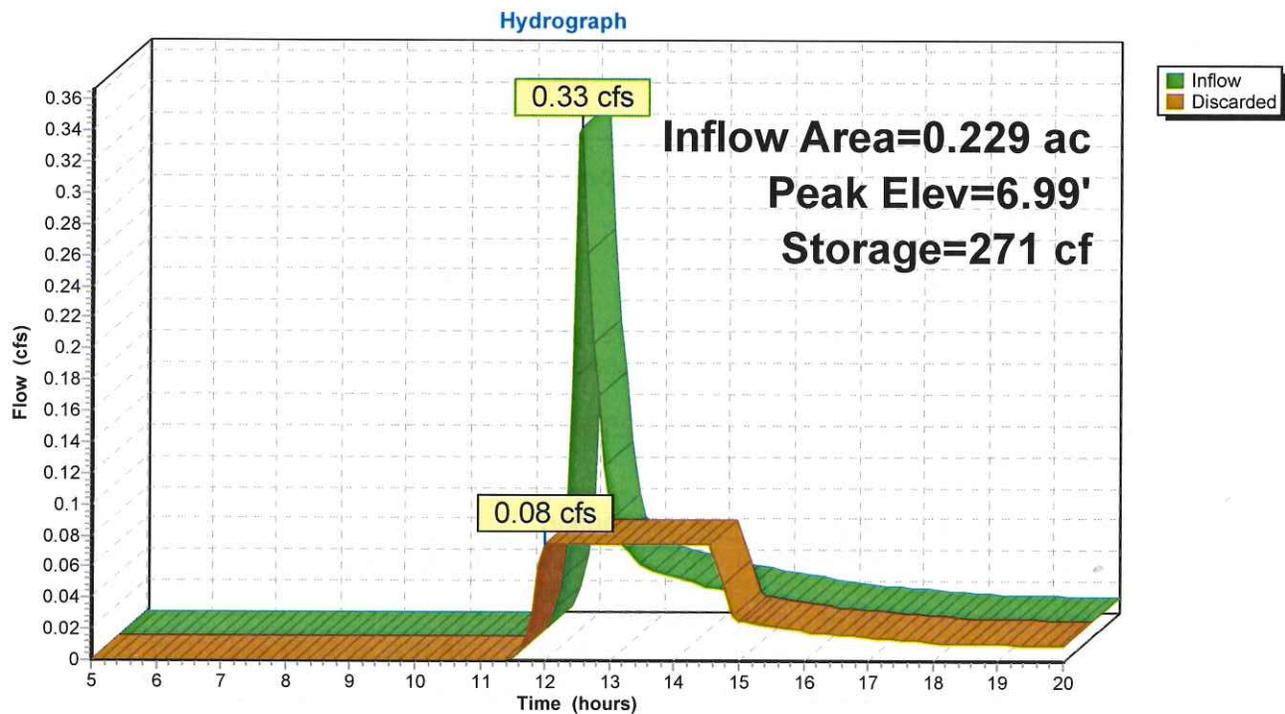
Plug-Flow detention time= 25.2 min calculated for 0.025 af (99% of inflow)
 Center-of-Mass det. time= 24.9 min (855.6 - 830.8)

Volume	Invert	Avail.Storage	Storage Description
#1	5.80'	367 cf	14.00'W x 28.00'L x 3.21'H Excavation 1,258 cf Overall - 340 cf Embedded = 918 cf x 40.0% Voids
#2	6.30'	340 cf	Cultec R-280 x 8 Inside #1 Effective Size= 46.9"W x 26.0"H => 6.07 sf x 7.00'L = 42.5 cf Overall Size= 47.0"W x 26.5"H x 8.00'L with 1.00' Overlap
		707 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.80'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.08 cfs @ 12.00 hrs HW=5.94' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 3P: RECHARGE SYSTEM 1



September 27, 2018



Coastal Engineering Company, Inc.
260 Cranberry Highway
Orleans, MA 02653

Attn: Mr. John Bologna, P.E.
P: (508) 255 6511 (ext. 565)
E: jbologna@coastalengineeringcompany.com

Re: Geotechnical Engineering Services
Provincetown Monument
Provincetown, Massachusetts
Terracon Project No: J1155151

Dear Mr. Bologna:

This letter provides our comments regarding stability of the existing slope for the subject project. At the request of Mr. Jay Norton (Coastal Engineering Company) on September 17, 2018, we have re-evaluated global slope stability due to realigning the access ramp (funicular) for the Provincetown Monument in Provincetown, Massachusetts. A description of soil conditions and our recommendations for foundation design slope stability due to re-grading and retaining wall construction were provided in our geotechnical report dated October 19, 2015.

Proposed Ramp Configuration: The project is located on a slope at the southeast side of the Provincetown Monument. An approximate 130 feet long ADA compliant funicular is planned to connect the monument with Bradford Street to the southeast. As a change to the prior project, the funicular is located slightly east of the monument and will be aligned straight up the slope without the need to regrade. The funicular will be supported on helical pile foundations installed on the order of 25 feet below ground surface. The slope between the monument and Bradford Street is inclined at about 1.5 horizontal:1 vertical (1.5H:1V) and is lightly vegetated.

Global Stability Analyses: Since the existing slope will not be regraded, we re-evaluated slope stability where the proposed funicular is aligned. Seismic loading was also analyzed for the existing conditions. A surcharge pressure, estimated from the tower foundation plans and information provided by Coastal Engineering Company (CEC), was included in our analyses. Our stability analyses were performed using geometry developed from site contours depicted on the drawing entitled "*Plan Showing Proposed Site Improvements, Cape Cod Pilgrim Memorial Association*" dated September 17, 2018 and prepared by CEC.

Terracon Consultants, Inc. 77 Sundial Avenue, Suite 401W Manchester, New Hampshire 03103
P (603) 647 9700 F (603) 647 4432 terracon.com

Environmental

Facilities

Geotechnical

Materials

Geotechnical Engineering Services

Provincetown Monument ■ Provincetown, Massachusetts

September 27, 2018 ■ Terracon Project No. J1155151

Terracon

The existing conditions were modeled using the *Slide Version 5.043* computer program. The computer program analyzes the stability of a slope using a two-dimensional, limit-equilibrium method. Limit-equilibrium method of slices is used to compute the Factor of Safety (FS) against slope failure under normal and seismic loading conditions.

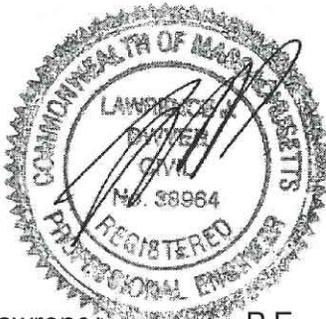
Seismic analyses were performed using a pseudo-static method with an earthquake coefficient for horizontal acceleration of 0.0652 (peak ground acceleration), based on the Massachusetts Building Code, 8th Edition, and ASCE 7.

Conclusions: Our global stability analyses indicated a primary mode of failure for the existing slope consisting of a circular failure surface extending from near the top of the slope to the toe of the natural earth slope. Our analyses indicate the FS against slope failure under normal and seismic loads for the existing slope at the funicular alignment is acceptable at 1.28 and 1.12, respectively. Note that during permanent installation of the funicular, the helical piers are expected to bear 25 feet or more below ground surface and essentially act as reinforcing elements. Based on our analysis using *Slide Version 5.043*, the helical piers may improve slope stability on the order of 20 percent, thereby achieving a FS near 1.5 for normal loading conditions.

Thank-you for asking our assistance in re-evaluating slope stability of the reconfigured site plans. Please contact us if you have questions.

Sincerely,

Terracon Consultants, Inc.



Lawrence J. Dwyer, P.E.
Principal



McMAHON ASSOCIATES
350 Myles Standish Boulevard, Suite 103
Taunton, MA 02780
p 508-823-2245 | f 508-823-2246

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Matthew M. Kozsuch, P.E.
Maureen Chlebek, P.E., PTOE
Dean A. Carr, P.E.

October 12, 2018

K. David Weidner, Ph.D.
Executive Director
The Pilgrim Monument and Provincetown Museum
1 High Pole Hill Road
Provincetown, MA 02657

RE: Pilgrim Monument Funicular
Traffic Evaluation

Dear Dr. Weidner:

McMahon Associates has conducted a comprehensive assessment of the potential traffic impacts associated with the proposed Pilgrim Monument and Provincetown Museum (PMPM) Funicular project located on Bradford Street in Provincetown, Massachusetts, as shown in Figure 1. The traffic assessment evaluates the existing study area intersection of Bradford Street and Ryder Street from a vehicular and pedestrian traffic perspective and provides recommendations to improve and manage the pedestrian environment at the existing study area intersection in relation to the proposed funicular project. This report documents the analysis and recommendations for improving the existing crosswalks with the proposed sidewalk bumpouts.

Existing Conditions

The proposed project includes the construction of a funicular adjacent to Bas Relief Park on Bradford Street to connect the downtown commercial area up to the PMPM. The funicular will provide an improved pedestrian link to the PMPM from the downtown area. Currently, to access the Pilgrim Monument from downtown, visitors can either drive or walk via Winslow Street and High Pole Hill Road. However, the existing walking environment to the PMPM is considered to be inaccessible due to the steep grades and the lack of a continuous sidewalk.

One of the key intersection crossings to access the funicular will be at Bradford Street at Ryder Street. This intersection currently provides marked crossings on each leg of the intersection; however, the crossings contain limited pedestrian waiting space at all four corners. Additionally, on-street parking on both Bradford Street and Ryder Street obstruct sight lines to the pedestrian waiting space on the southwest corner of the crossing. The crosswalks at the Bradford Street and Ryder Street intersection are heavily used by pedestrians in the area, particularly during the high season. These pedestrians have a range of destinations, a portion of which are destined to the PMPM.

Bradford Street

Bradford Street (MA-6A) generally runs in the southwest-northeast direction through the Town of Provincetown, Massachusetts. Bradford Street is classified as an urban minor arterial under town jurisdiction and generally provides one-lane of travel in each direction. Near the intersection with Ryder Street, Bradford Street provides approximately a 17.5-foot westbound lane and an 11-foot eastbound lane. There are sidewalks on both sides, approximately 5-feet wide, although the sidewalk on the northeast side of the intersection extends only approximately 40 feet past the eastern crosswalk and then there is no sidewalk. There is a posted speed limit of 25 miles per hour in the westbound direction and 20 miles per hour in the eastbound direction.

Ryder Street

Ryder Street is classified as a local road under town jurisdiction, and provides one lane of travel in each direction. At its intersection with Bradford Street, Ryder Street is approximately 20 feet wide, providing 10-foot wide travel lanes in each direction. Angled parking is provided on the west side of Ryder Street. There is an approximately 7-foot sidewalk on the west side of the street behind the angled parking. There is no posted speed limit on Ryder Street, however due to its short length and within a commercialized area with on-street parking, it is assumed 20 mph.

Speed

A speed study was performed on Bradford Street by McMahon Associates in March 2017 as part of the proposed CVS Pharmacy project at the Bradford Street and Standish Street intersection. Based on that study, average vehicle speeds of 21 mph in the eastbound direction and 22 mph in the west bound direction were recorded.

Traffic Counts

To assess peak hour traffic conditions, a Manual Turning Movement (MTM) count was performed at the intersection of Bradford Street and Ryder Street. A three-hour count of pedestrians, bicycles, and vehicles was performed on Saturday, September 29 2018 from 11:00 AM to 2:00 PM. Based on our prior knowledge from the CVS Pharmacy Traffic Impact Study, Saturday was found to have the highest vehicular volumes on Bradford Street and therefore was selected to be reviewed as part of the funicular project as Saturday is also likely a heavy visitation day at the Pilgrim Monument. The results of the counts are tabulated by 15-minute periods. The four highest consecutive 15-minute intervals during the Saturday midday count period constitute the peak hour of the intersection. Based on a review of the traffic count data, the Saturday midday peak hour for the study area intersection is between 12:45 PM and 1:45 PM for vehicles as well as for pedestrians. During the September Saturday midday peak hour, approximately 60 pedestrians were observed crossing each of the two Bradford Street crosswalks, while 132 pedestrians used the Ryder Street crosswalk. Additionally, previous high season weekday observations were conducted on August 10, 2018 from 11:45 AM to 12:15 PM. During the August observations, approximately 33 pedestrians and 11 pedestrians were observed crossing the

southernmost and northernmost Bradford Street crosswalks respectively, which represent peak hourly volumes of 66 and 22 pedestrians.

Seasonal Adjustment

In order to estimate vehicular and pedestrian traffic at the study area intersection during the high season period, the results of the MTM counts were compared to data collected as part of the CVS Pharmacy Traffic Impact Study and to Cape Cod Commission (CCC) count data on Bradford Street. The CVS Pharmacy study data was used to estimate weekday afternoon peak hour vehicle volumes on Bradford Street based on the counted Saturday midday volumes. The CCC count station data was then used to estimate an equivalent Average Daily Traffic (ADT) by comparing the estimated weekday afternoon peak hour volumes to peak hour and ADT volumes on Bradford Street collected during the months of July and August. This analysis found a seasonal adjustment factor of approximately 1.5 to adjust from the September 29th Saturday volumes to a typical peak high season period Saturday. The same adjustment factor was used to estimate the number of high season pedestrians.

Figure 2 provides a summary of the Saturday midday peak hour vehicular and pedestrian volumes for both a high season peak and off-season condition.

In comparison, the intersection of Bradford Street and Standish Street shows slightly higher pedestrian crossing volumes on Bradford Street based on the CVS Pharmacy Traffic Impact Study.

Crash Data

Recent MassDOT crash data was reviewed for the five-year period (2011 to 2015) and most crashes that occurred at the Bradford Street and Ryder Street intersection were noted to involve a parked car, most notably the angled spaces with vehicles backing onto Ryder Street. No bicycle crashes were reported and one crash involving a pedestrian was reported but did not result in an injury. Based on our review, pedestrian safety issues are not evident at this intersection. A detailed crash summary is shown below in Table 1.

Table 1
Crash Summary

	Bradford Street at Ryder Street
Year	
2011	2
2012	2
2013	1
2014	1
2015	<u>0</u>
Total	6
Type	
Angle	1
Rear-end	2
Sideswipe	1
Head-on	0
Other	<u>2</u>
Total	6
Severity	
Property Damage	5
Personal Injury	1
Fatality	0
Unknown	<u>0</u>
Total	6
Weather	
Clear	3
Cloudy	0
Rain	2
Snow	0
Ice	0
Sleet	0
Fog	0
Unknown	<u>1</u>
Total	6
Time	
7:00 AM to 9:00 AM	0
9:00 AM to 4:00 PM	6
4:00 PM to 6:00 PM	0
6:00 PM to 7:00 AM	<u>0</u>
Total	6

Source: MassDOT

Trip Generation

The trip generation of the PMPM was estimated in terms of vehicular traffic and pedestrian traffic, since these are the two most predominant modes of transportation accessing the site. Conventional methodologies to estimate trip generation are not conducive to this site for the following reasons:

- The land use of the site as a museum and monument is somewhat unique and the proposed addition of the funicular elevates the site's uniqueness. Typically, traffic trip generation rates are based upon data collected at similar sites or using trip generation estimates provided by the Institute of Transportation Engineers (ITE). However, in this case, there is no applicable ITE data nor are there comparable sites nearby for the funicular.
- The proposed build condition involves the addition of a funicular. The museum and monument are already existing on the site. The funicular is being constructed to improve pedestrian access to the site. Currently when pedestrians reach the site via Bradford Street, they encounter a fairly steep upgrade from Bradford Street to the monument and museum via Winslow Street or High Pole Hill Road. The funicular will carry these pedestrians up and down the hill between the site buildings and Bradford Street. However, the uniqueness of the funicular, particularly at the onset, may draw additional pedestrian traffic, as people may want to experience the funicular. Also, the funicular presents the opportunity for patrons who arrived at the site by vehicle to explore the surrounding area as a pedestrian without having to move their vehicles. As such, we have accounted for an increase in pedestrian traffic to and from the site.

The funicular trip generation has been developed using historical admission and parking lot data from the PMPM. Annual admissions to the PMPM have remained fairly steady in the past three years, with annual differences of less than two percent. The 2017 annual total admission of 102,716 patrons was used for the trip generation. Acknowledging the seasonal nature of the area and accounting for the fluctuation in tourists by season, 75% of the admissions are assumed to occur between May and September, which is referred to as the "high season," and 25% is expected to occur between October and April, which is referred to as the "low season."

Interestingly, the number of vehicles parked at the PMPM has declined over the past three years. The annual parking lot data for 2017 shows that 20,371 vehicles parked at the site. This is a 19% decrease from the 2015 data. The trend of steady admissions with a declining number of parked cars indicates that the site is experiencing a change in the mode split of arriving users and that more users are arriving as pedestrians than as motorists on site. The same logic of seasonal fluctuation was applied to the vehicular trips as was described above for the pedestrian trips. Also, based upon the type of land use, an average vehicle occupancy rate of 1.5 persons per vehicle was applied to the vehicular site trips. Using the logic described, the daily admission data for the high and low seasons was then estimated by mode of travel. The travel modes were limited to pedestrian and vehicular traffic. Although we acknowledge that some patrons are arriving at the site via bicycle, for the purpose of this study, the

bicycle traffic is assumed to reach the site similar to a vehicle, using the travel lanes of the existing street system and the site parking lot access.

To understand the traffic operations in the peak periods of the day, the admission rates were next converted to hourly volumes. The daily and hourly volumes are shown in Table 2. The site is open from 9AM to 5PM. The "Hourly Average" rate represents an even influx of patrons at the site over the eight-hours of daily operation. Recognizing that more patrons are likely to arrive and depart in the middle of the day, we have assumed that 80% of the traffic arrives and departs in the prime "high hours" (likely 10 AM to 3PM) and 20% arrives and departs in the "low" hours (likely 9-10 AM and 3-5 PM). Lastly, the admission data for patrons arriving by vehicle was converted to vehicular trips by applying the vehicle occupancy rate of 1.5 persons per vehicle.

Table 2
Trip Generation Data Summary

Provincetown Funicular		
Pedestrian and Vehicle Trip Generation		
<u>Admissions</u>	<u>High Season</u>	<u>Low Season</u>
Total Admissions:		
Daily	507	121
Hourly average	63	15
Hourly- High hours	81	19
Hourly- Low Hours	34	8
Admissions arriving as Peds:		
Daily	356	85
Hourly average	44	11
Hourly- High hours	57	14
Hourly- Low Hours	24	6
Admissions arriving in Vehicles:		
Daily	151	36
Hourly average	19	4
Hourly- High hours	24	6
Hourly- Low Hours	10	2
Vehicle Trips Based on 1.5 persons per vehicle)		
Daily	100	24
Hourly average	13	3
Hourly- High hours	16	4
Hourly- Low Hours	7	2

In a conservative measure, we have applied a 20% growth to the pedestrian traffic accessing the site for the "Build" peak hour condition traffic analysis. Figure 3 summarizes the Saturday midday peak hour Build condition volumes during both the high and low seasons. No additional vehicles are expected to arrive at the site due to the funicular. The parking lot data by year reveals a trend of declining vehicles at the site. However, to remain conservative in the traffic analysis, we have not taken additional credit for declining vehicular trips to and from the site. Also, the funicular presents the opportunity to remove vehicle trips from the study area by allowing patrons to visit the downtown Commercial Street area and the PMPM without requiring to move their vehicle.

Traffic Operations

In previous sections of this report, the quantity of traffic on the study area roadways was described. The following section describes the quality of traffic flow at the study area intersections for the given travel demands. As a basis for this assessment, intersection capacity analyses were conducted using Synchro capacity analysis software for the study area intersection under the 2018 Existing and 2018 Build peak hour traffic conditions for each the Low Season and High Season volumes. This analysis is based on procedures contained in the 2010 Highway Capacity Manual (HCM). Based on the traffic counts, the Saturday midday peak hour of the adjacent street traffic occurs between 12:45 PM and 1:45 PM. The overall results of the intersection capacity analysis for the study area intersections are presented in Table 3 below and the detailed capacity analysis is attached.

Table 3: Saturday Midday Capacity Analysis Summary

Intersection	Movement	Low Season						High Season					
		2018 Existing			2018 Build			2018 Existing			2018 Build		
		LOS ¹	Delay ²	V/C ³	LOS	Delay	V/C	LOS	Delay	V/C	LOS	Delay	V/C
Bradford Street (Route 6A) at Ryder Street	WB LR	D	28.9	0.55	D	29.5	0.56	F	399.2	1.72	F	447.0	1.82
	NB TR	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00
	SB LT	A	1.5	0.07	A	1.5	0.07	A	1.8	0.13	A	1.8	0.13

1 Level-of-Service

2 Average vehicle delay in seconds

3 Volume to capacity ratio

Existing

The capacity analysis shows the stop-controlled westbound Ryder Street approach as currently operating at LOS D under Low Season conditions, and as operating at LOS F and over capacity under High Season conditions. During either season, existing vehicle delays on Bradford Street in both directions on Bradford Street are shown to be minimal with the presence of pedestrians in the crosswalks. As expected, longer vehicle delays exist on the stop controlled Ryder Street approach at its intersection with Bradford Street, however, this condition is a typical scenario for many of the other stop controlled approaches in Provincetown during the high season. In reality, traffic operations may be overstated with our capacity analysis software as courtesy gaps are a likely occurrence and are not reflected in the traffic model.

Proposed

With the proposed funicular in place and an estimated 20% increase in pedestrians at this intersection, the stop-controlled Ryder Street approach is expected to continue to operate at LOS D under Low Season conditions for the majority of the year and continue to operate at LOS F under High Season conditions. During the Build low season condition, the Ryder Street approach is expected to experience an approximately half second of additional delay or a two-percent increase. During the Build high

season condition, the approach is expected to experience approximately 50 seconds of additional average vehicle delay or a 12-percent increase. Operations along Bradford Street are not projected to drastically change due to the proposed funicular pedestrian demands during either season. In reality there is already moderate pedestrian traffic at this intersection during the high season, as is the case with many other intersections in town, including the nearby Bradford Street and Standish Street intersection which was identified in the CVS Pharmacy Traffic Impact Study. These existing pedestrians are already stopping traffic and additional pedestrians will likely utilize the same gaps in traffic to cross with the existing groups of pedestrians that exist today. You will likely see larger groups of pedestrians crossing together under a future scenario.

Crosswalk Analysis

Currently the intersection of Bradford Road and Ryder Street contains marked crosswalks across all three legs. To determine the appropriateness of this treatment, the intersection was evaluated based on the following publications:

- Table 11 of the Federal Highway Administration (FHWA) publication *Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations*. This publication uses speed limits and Average Daily Traffic (ADT) in order to determine appropriate recommendations for installing marked crosswalks at uncontrolled locations.
- Table 1 of the Federal Highway Administration (FHWA) publication *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*. This publication uses speed limits, ADT, and roadway configuration to determine appropriate recommendations for installing marked crosswalks at uncontrolled locations,

The Cape Cod Commission Traffic Counting Report provides weekday ADT data from August 2016 for Bradford Street in between Ryder Street and Alden Street. The recorded high season ADT is 9,700 vehicles while the Annual Average Daily Traffic (AADT) is estimated at 7,400 vehicles.¹ Bradford Street and Ryder Street are both two-lane roadways with speeds of less than 30 mph. Based on our recent traffic counts, we also confirmed that the existing crosswalks meet the minimum recommended FHWA crosswalk utilization guideline of 20 pedestrian crossings per peak hour.

Based on these factors, the FHWA Table 11 recommends this intersection is a candidate site for marked crosswalks. In addition, based on these factors, the recommended pedestrian crash counter measures according to the FHWA Table 1: Application of pedestrian crash countermeasures by roadway feature include:

- Highly visible crosswalk markings
- Parking restriction on crosswalk approach
- Adequate nighttime lighting levels

Recommendations

¹ http://www.capecodcommission.org/resources/transportation/counts/pdf_count/procount.pdf

Based on a review of the FHWA guidelines, the existing crosswalks are adequately located at this existing intersection, however, there is an opportunity to improve the crossings to provide a more comfortable and safer experience. Similar to the proposed pedestrian improvements associated with the CVS Pharmacy development at the intersection of Bradford Street and Standish Street, sidewalk extensions and a bumpout are an appropriate mitigation for this intersection in conjunction with the funicular project, as seen in the enclosed conceptual graphic. The proposed sidewalk extension and the bumpout will provide greater visibility and shorten the crossing length and exposure time for pedestrians on Bradford Street. They will also allow for improved sight lines for pedestrians and vehicles to be aware of each other at the crosswalks. The sidewalk extension will also narrow the Bradford Street southbound travel lane from 17.5 feet to an 11 foot lane which will help reduce speeds and also deter parking or vehicle drop-off or stopping in the area. The sidewalks along the northern side of Bradford Street along the frontage of Bas Relief Park can be widen from 5 feet to 12 feet to provide a more comfortable experience for users of both the park and the funicular. Curb extensions or bumpouts are a FHWA recommended countermeasure for pedestrian enhancement. However, these proposed improvements will need to be coordinated and vetted with town officials as they occur with the existing Bradford Street right-of-way.

It is also recommended that pedestrian warning signage and additional "No Parking" or "No Stopping" signage be installed along the northern side of Bradford Street to deter this activity. It is recommended that the crosswalks also be restriped to a high visibility layout. Also, to address concerns with the visibility of the northernmost crosswalk on Bradford Street with right turning vehicles from Ryder Street, vegetation trimming is recommended. The existing hedge, which is partially located on town property, should be trimmed to a lower height and/or removed to improve visibility at this corner.

Mitigation items such as rectangular rapid flashing beacons (RRFB) or pedestrian traffic signals were considered and are not recommended because they are intended to provide protection for pedestrians in situations where the pedestrian demand is low and a vehicle does not typically encounter a pedestrian on a routine basis, such as high speed or high-volume roadways. There are warrants for pedestrian signals mandated by the FHWA. The pedestrian warrant is based upon the volume of vehicular and pedestrian traffic and the analysis is based upon the typical peak hour period and the typical 4-hour peak period. Based upon the available traffic count data cited above, the traffic volumes at the Bradford Street/Ryder Street intersection may meet the four-hour volume requirements on a high season weekend but not on a high season weekday. This is also likely true for other intersections in town, such as the Bradford Street and Standish Street intersection. The FHWA peak hour volume warrant is not met on a high season weekday or high season weekend day. During the low season, none of the volume requirements for the pedestrian signal warrant are met. As such, the intersection does not meet the volume requirements of the pedestrian signal warrant.

Additional pedestrian amenities were considered at the Bradford Street/Ryder Street intersection. Raised crosswalks are sometimes implemented to calm traffic and to bring motor vehicles to the

pedestrian level. In this situation, the vehicular travel speeds are not excessive and adequate sight lines can be achieved for the crosswalks by removing vegetation and providing the curb extensions. In addition, based on discussions with the Town of Provincetown Public Works Department, raised crosswalks may present issues with snow plowing operations and were not considered. The benefits of a raised crosswalk at this location are minimized and therefore, the implementation of a raised crosswalk is not warranted or recommended.

In addition, it is in the best interest of the PMPM to ensure adequate and safe pedestrian access will be provided to the funicular and not adversely impact Bradford Street. As such, staff will be positioned at the funicular and will be trained to monitor traffic at the study area intersection to deter drop-off activity and ensure pedestrian traffic can be accommodated. The PMPM will continue to be a good community partner and when warranted, will coordinate police traffic detail in conjunction with high season events at Bas Relief Park, such as Portuguese Festival. The PMPM will also coordinate with the Town on additional wayfinding and signage improvements for their existing parking lot and proposed funicular.

Conclusions

The proposed funicular project is focused on improving pedestrian access to an existing cultural site in Provincetown. Currently, pedestrians accessing the site from Bradford Street encounter a steep incline to reach the monument and museum portion of the site and must choose to walk up steep inclines on Winslow Street or High Pole Hill Road. Pedestrian access to the PMPM has been identified as an area of concern for future improvement by the Cape Cod Commission, with one of their recommendations including a direct access from Bas Relief Park. This project provides a rare opportunity to elevate the pedestrians over vehicles in Provincetown. Similarly, other towns, such as Somerville and Cambridge, Massachusetts are taking the steps to improve accommodations for pedestrian and bicycle traffic over vehicular traffic. The funicular will provide an accessible and direct route to the visit the Pilgrim Monument and Provincetown Museum, which is an important and valuable site for the Provincetown community.

The project will not result in additional vehicular traffic to the site and vehicular drop-off activity will be managed by PMPM funicular staff and discouraged with proposed "No Stopping" and "No Parking" signage on Bradford Street. To account for a possible increase in PMPM admissions via the funicular, the traffic analysis accounts for a 20% increase in pedestrian patrons to the site, recognizing that additional pedestrians may now visit the site to ride the funicular. Also, patrons arriving by vehicle can utilize the funicular to visit the downtown as a pedestrians, without having to move their vehicle and thereby reducing vehicular traffic. Using admission data to calculate the added pedestrian trips, and adding this pedestrian traffic to the Bradford Street/Ryder Street intersection, traffic analyses were conducted based upon the midday peak hour on a high season Saturday, which represents the highest traffic conditions of the year. The analysis revealed that even if there were to be a 20% increase in admissions by pedestrians using the funicular, this increase would not significantly affect the overall

intersection operations at the Bradford Street and Ryder Street intersection. As seen from the existing traffic counts, a moderate number of pedestrians already use this intersection during the peak high season periods, as is the case with many other intersections in town. These existing pedestrians are already interrupting vehicular traffic flow, as is common in a downtown tourist area such as this. The additional pedestrians will primarily utilize the same gaps in traffic to cross the roadways with the existing groups of pedestrians that exist today. Larger groups of pedestrians will cross the intersection together under the future scenario. From a traffic operations perspective, delays at stopped controlled intersections are a typical scenario in town during the high season, match the expectations of motorists, and this situation will be continued with the proposed project.

The proposed funicular crosswalk improvements at the Bradford Street and Ryder Street intersection are appropriate traffic mitigation based on a review of FHWA guidance and will greatly improve the pedestrian environmental and safety of the crosswalks. These improvements would have to be vetted with town officials as they are proposed within the existing town right-of-way. Proposed improvements include:

- Curb bump-outs in the southeast corner of the Bradford Street/Ryder Street intersection to shorten pedestrian crossing distances, increase visibility of pedestrians, and provide traffic calming
- Highly visible crosswalk markings
- Parking restriction on crosswalk approach
- Pedestrian crossing signage to inform motorists of the pedestrian presence
- Widening of the sidewalk along the north side of Bradford Street along the site increasing the sidewalk width by as much as seven feet to provide a 12-foot sidewalk
- Curb ramps with detectable warning panels at crosswalks on Bradford Street at the project site
- "No stopping" signs along Bradford Street in front of the funicular site
- Vegetation trimming to improve sight lines at the Ryder Street approach to Bradford Street
- Future monitoring of traffic and pedestrian activity at the site

The proposed improvements are appropriate for the traffic flows in this area, are context sensitive to the surrounding area, provide safety enhancements to the study area, and elevate the presence of pedestrians.

Please do not hesitate to contact me with any questions.

Sincerely,

Colleen Medeiros

Colleen Medeiros, P.E.
Project Manager

Attachment

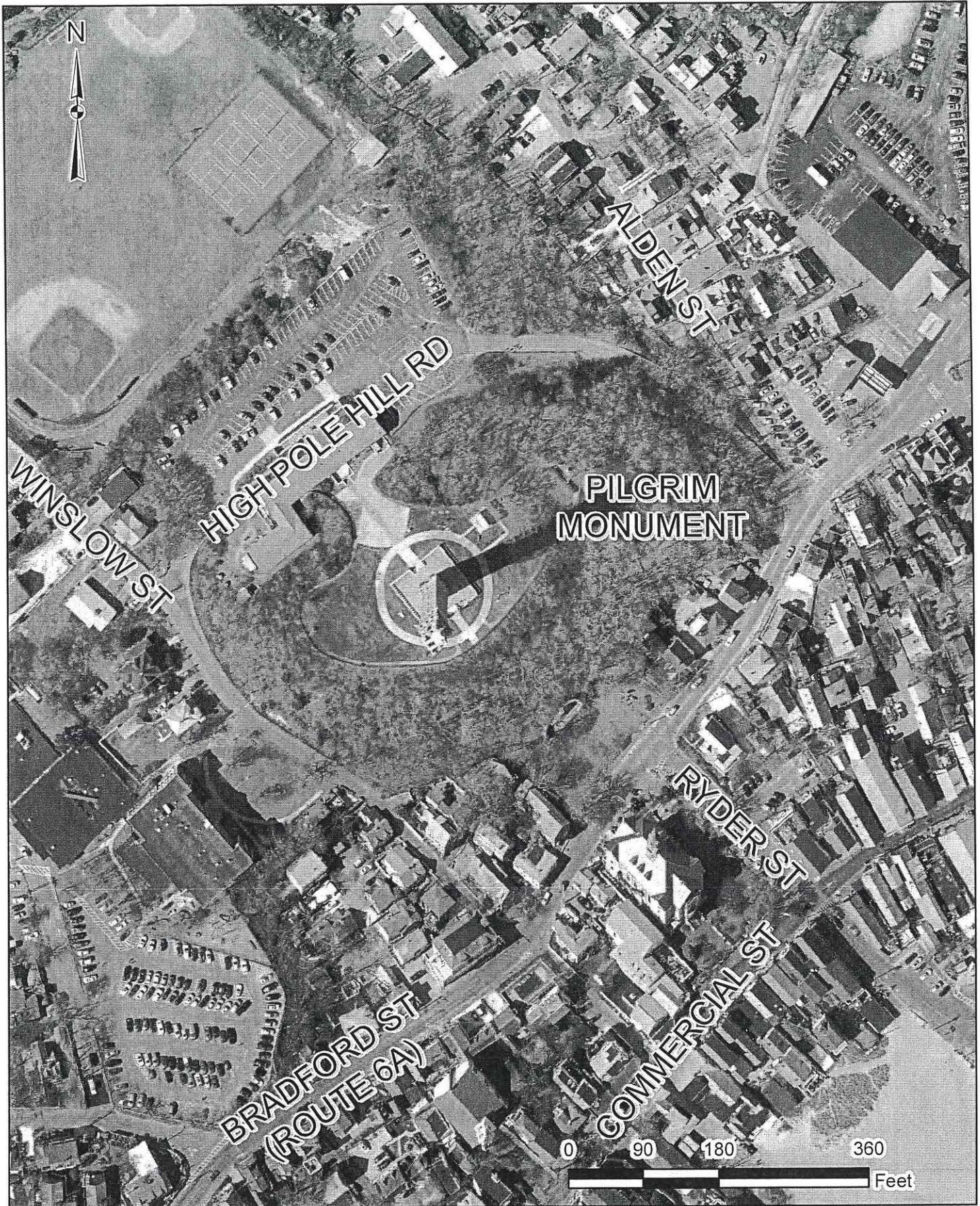


Figure 1
 Site Location Map
 Provincetown Funicular
 Provincetown, MA



SCHEMATIC-
NOT TO SCALE

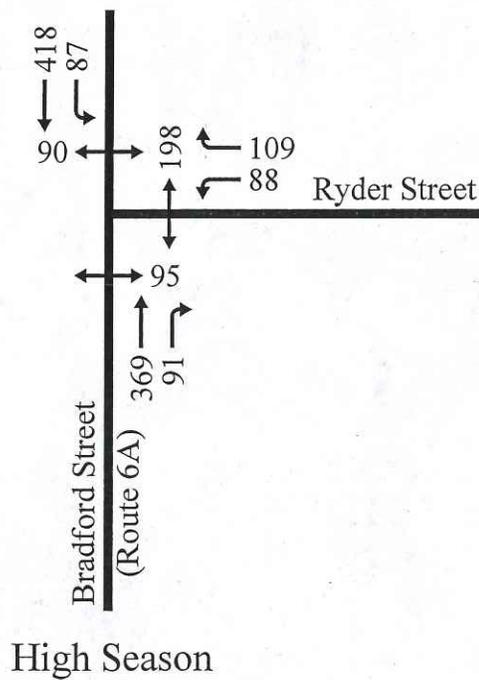
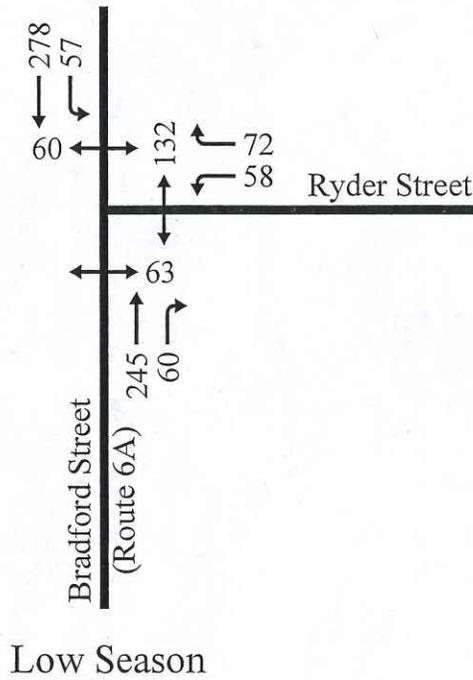


Figure 2
2018 Existing Saturday Midday
Peak Hour Traffic Volumes
Pilgrim Monument Funicular
Provincetown, Massachusetts



SCHEMATIC-
NOT TO SCALE

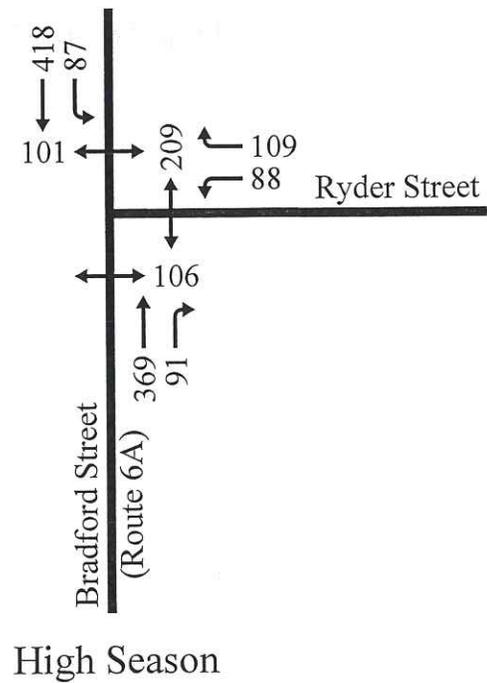
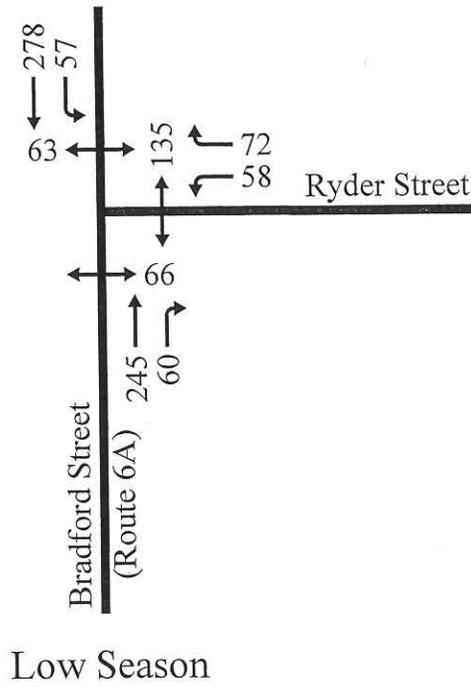


Figure 3
2018 Build Saturday Midday
Peak Hour Traffic Volumes
Pilgrim Monument Funicular
Provincetown, Massachusetts

Attachments



350 Myles Standish Boulevard, Suite 103
 Taunton, MA 02780
 508-823-2245

N/S: Bradford Street (Route 6A)
 E/W: Ryder Street
 Provincetown, MA
 Saturday Middy

File Name : tmc_2018-09-29
 Site Code : 09291801
 Start Date : 9/29/2018
 Page No : 1

Groups Printed- Cars & Peds - Heavy Vehicles

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
11:00 AM	65	23	4	92	19	14	23	56	8	64	8	80	228
11:15 AM	71	13	3	87	15	15	28	58	9	57	16	82	227
11:30 AM	74	22	6	102	13	12	40	65	18	53	13	84	251
11:45 AM	43	14	6	63	17	11	37	65	16	62	12	90	218
Total	253	72	19	344	64	52	128	244	51	236	49	336	924
12:00 PM	67	12	10	89	16	18	34	68	14	56	10	80	237
12:15 PM	65	17	4	86	20	17	20	57	11	69	5	85	228
12:30 PM	62	20	2	84	13	18	35	66	10	64	19	93	243
12:45 PM	60	22	23	105	24	15	20	59	13	63	13	89	253
Total	254	71	39	364	73	68	109	250	48	252	47	347	961
01:00 PM	73	11	4	88	14	8	26	48	15	55	9	79	215
01:15 PM	70	5	17	92	15	9	36	60	14	64	15	93	245
01:30 PM	75	19	16	110	19	26	50	95	18	63	26	107	312
01:45 PM	76	8	1	85	18	17	25	60	13	63	24	100	245
Total	294	43	38	375	66	60	137	263	60	245	74	379	1017
Grand Total	801	186	96	1083	203	180	374	757	159	733	170	1062	2902
Apprch %	74	17.2	8.9		26.8	23.8	49.4		15	69	16		
Total %	27.6	6.4	3.3	37.3	7	6.2	12.9	26.1	5.5	25.3	5.9	36.6	
Cars & Peds	799	182	96	1077	193	173	374	740	159	727	170	1056	2873
% Cars & Peds	99.8	97.8	100	99.4	95.1	96.1	100	97.8	100	99.2	100	99.4	99
Heavy Vehicles	2	4	0	6	10	7	0	17	0	6	0	6	29
% Heavy Vehicles	0.2	2.2	0	0.6	4.9	3.9	0	2.2	0	0.8	0	0.6	1

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 12:45 PM													
12:45 PM	60	22	23	105	24	15	20	59	13	63	13	89	253
01:00 PM	73	11	4	88	14	8	26	48	15	55	9	79	215
01:15 PM	70	5	17	92	15	9	36	60	14	64	15	93	245
01:30 PM	75	19	16	110	19	26	50	95	18	63	26	107	312
Total Volume	278	57	60	395	72	58	132	262	60	245	63	368	1025
% App. Total	70.4	14.4	15.2		27.5	22.1	50.4		16.3	66.6	17.1		
PHF	.927	.648	.652	.898	.750	.558	.660	.689	.833	.957	.606	.860	.821
Cars & Peds	278	55	60	393	70	56	132	258	60	244	63	367	1018
% Cars & Peds	100	96.5	100	99.5	97.2	96.6	100	98.5	100	99.6	100	99.7	99.3
Heavy Vehicles	0	2	0	2	2	2	0	4	0	1	0	1	7
% Heavy Vehicles	0	3.5	0	0.5	2.8	3.4	0	1.5	0	0.4	0	0.3	0.7



350 Myles Standish Boulevard, Suite 103
 Taunton, MA 02780
 508-823-2245

N/S: Bradford Street (Route 6A)
 E/W: Ryder Street
 Provincetown, MA
 Saturday Middyay

File Name : tmc_2018-09-29
 Site Code : 09291801
 Start Date : 9/29/2018
 Page No : 1

Groups Printed- Heavy Vehicles

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
11:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	2
11:15 AM	0	0	0	0	1	1	0	2	0	1	0	1	3
11:30 AM	1	1	0	2	1	0	0	1	0	0	0	0	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	3	2	0	5	0	1	0	1	8
12:00 PM	1	0	0	1	2	1	0	3	0	0	0	0	4
12:15 PM	0	0	0	0	1	0	0	1	0	3	0	3	4
12:30 PM	0	1	0	1	1	1	0	2	0	1	0	1	4
12:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	1	2	0	3	4	2	0	6	0	5	0	5	14
01:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	2
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	1	0	1	1	1	0	2	0	0	0	0	3
01:45 PM	0	0	0	0	1	1	0	2	0	0	0	0	2
Total	0	1	0	1	3	3	0	6	0	0	0	0	7
Grand Total	2	4	0	6	10	7	0	17	0	6	0	6	29
Apprch %	33.3	66.7	0		58.8	41.2	0		0	100	0		
Total %	6.9	13.8	0	20.7	34.5	24.1	0	58.6	0	20.7	0	20.7	

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
12:00 PM	1	0	0	1	2	1	0	3	0	0	0	0	4
12:15 PM	0	0	0	0	1	0	0	1	0	3	0	3	4
12:30 PM	0	1	0	1	1	1	0	2	0	1	0	1	4
12:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	1	2	0	3	4	2	0	6	0	5	0	5	14
% App. Total	33.3	66.7	0		66.7	33.3	0		0	100	0		
PHF	.250	.500	.000	.750	.500	.500	.000	.500	.000	.417	.000	.417	.875

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 12:00 PM



350 Myles Standish Boulevard, Suite 103
 Taunton, MA 02780
 508-823-2245

N/S: Bradford Street (Route 6A)
 E/W: Ryder Street
 Provincetown, MA
 Saturday MIDDAY

File Name : tmc_2018-09-29
 Site Code : 09291801
 Start Date : 9/29/2018
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
11:00 AM	4	1	0	5	1	1	0	2	1	0	0	1	8
11:15 AM	3	0	0	3	3	1	0	4	5	1	0	6	13
11:30 AM	3	1	0	4	0	1	0	1	1	3	0	4	9
11:45 AM	4	10	0	14	3	0	0	3	2	2	0	4	21
Total	14	12	0	26	7	3	0	10	9	6	0	15	51
12:00 PM	9	1	0	10	1	0	0	1	1	4	0	5	16
12:15 PM	6	1	0	7	1	0	0	1	0	7	0	7	15
12:30 PM	3	0	0	3	3	2	0	5	3	5	0	8	16
12:45 PM	3	2	0	5	3	1	0	4	0	14	0	14	23
Total	21	4	0	25	8	3	0	11	4	30	0	34	70
01:00 PM	10	2	0	12	4	0	0	4	1	8	0	9	25
01:15 PM	9	4	0	13	0	0	0	0	2	5	0	7	20
01:30 PM	5	0	0	5	2	3	0	5	1	12	0	13	23
01:45 PM	4	1	0	5	1	0	0	1	2	4	0	6	12
Total	28	7	0	35	7	3	0	10	6	29	0	35	80
Grand Total	63	23	0	86	22	9	0	31	19	65	0	84	201
Apprch %	73.3	26.7	0		71	29	0		22.6	77.4	0		
Total %	31.3	11.4	0	42.8	10.9	4.5	0	15.4	9.5	32.3	0	41.8	

Start Time	Bradford Street (Route 6A) From North				Ryder Street From East				Bradford Street (Route 6A) From South				Int. Total
	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	
12:45 PM	3	2	0	5	3	1	0	4	0	14	0	14	23
01:00 PM	10	2	0	12	4	0	0	4	1	8	0	9	25
01:15 PM	9	4	0	13	0	0	0	0	2	5	0	7	20
01:30 PM	5	0	0	5	2	3	0	5	1	12	0	13	23
Total Volume	27	8	0	35	9	4	0	13	4	39	0	43	91
% App. Total	77.1	22.9	0		69.2	30.8	0		9.3	90.7	0		
PHF	.675	.500	.000	.673	.563	.333	.000	.650	.500	.696	.000	.768	.910

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 12:45 PM

Intersection						
Int Delay, s/veh	6.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	58	72	245	60	57	278
Future Vol, veh/h	58	72	245	60	57	278
Conflicting Peds, #/hr	63	60	0	132	132	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	94	94	89	89
Heavy Vehicles, %	3	3	1	0	4	0
Mvmt Flow	81	100	261	64	64	312

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	928	485	0	0	457	0
Stage 1	425	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.14	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.236	-
Pot Cap-1 Maneuver	296	580	-	-	1093	-
Stage 1	657	-	-	-	-	-
Stage 2	605	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	230	490	-	-	973	-
Mov Cap-2 Maneuver	230	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.9	0	1.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	326	973
HCM Lane V/C Ratio	-	-	0.554	0.066
HCM Control Delay (s)	-	-	28.9	9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	3.2	0.2

Pilgrim Monument Funicular
4: Bradford St & Ryder St

Saturday Midday Peak Hour
Existing High

Intersection						
Int Delay, s/veh	82.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		T			T
Traffic Vol, veh/h	88	109	369	91	87	418
Future Vol, veh/h	88	109	369	91	87	418
Conflicting Peds, #/hr	95	90	0	198	198	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	94	94	89	89
Heavy Vehicles, %	3	3	1	0	4	0
Mvmt Flow	122	151	393	97	98	470

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1401	730	0	0	688	0
Stage 1	640	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.14	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.236	-
Pot Cap-1 Maneuver	154	421	-	-	897	-
Stage 1	523	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 97	325	-	-	749	-
Mov Cap-2 Maneuver	~ 97	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	348	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 399.2	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	159	749
HCM Lane V/C Ratio	-	-	1.721	0.131
HCM Control Delay (s)	-	-	\$ 399.2	10.5
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	19.6	0.4

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Pilgrim Monument Funicular
4: Bradford St & Ryder St

Saturday Midday Peak Hour
Build Low

Intersection						
Int Delay, s/veh	6.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↕	
Traffic Vol, veh/h	58	72	245	60	57	278
Future Vol, veh/h	58	72	245	60	57	278
Conflicting Peds, #/hr	66	63	0	135	135	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	94	94	89	89
Heavy Vehicles, %	3	3	1	0	4	0
Mvmt Flow	81	100	261	64	64	312

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	934	491	0	0	460
Stage 1	428	-	-	-	-
Stage 2	506	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.14
Critical Hdwy Stg 1	5.43	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.236
Pot Cap-1 Maneuver	294	575	-	-	1091
Stage 1	655	-	-	-	-
Stage 2	603	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	227	484	-	-	968
Mov Cap-2 Maneuver	227	-	-	-	-
Stage 1	582	-	-	-	-
Stage 2	524	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.5	0	1.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	322	968
HCM Lane V/C Ratio	-	-	0.561	0.066
HCM Control Delay (s)	-	-	29.5	9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	3.2	0.2

Pilgrim Monument Funicular
4: Bradford St & Ryder St

Saturday Midday Peak Hour
Build High

Intersection						
Int Delay, s/veh	92.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	88	109	369	91	87	418
Future Vol, veh/h	88	109	369	91	87	418
Conflicting Peds, #/hr	106	101	0	209	209	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	72	72	94	94	89	89
Heavy Vehicles, %	3	3	1	0	4	0
Mvmt Flow	122	151	393	97	98	470

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1423	752	0	0	699	0
Stage 1	651	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.14	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.236	-
Pot Cap-1 Maneuver	149	409	-	-	888	-
Stage 1	517	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 92	309	-	-	733	-
Mov Cap-2 Maneuver	~ 92	-	-	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	339	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	\$ 447	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	733
HCM Lane V/C Ratio	-	-	1.824	0.133
HCM Control Delay (s)	-	-	\$ 447	10.7
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	20.5	0.5

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Speed Limit								
	≤30 mph			35 mph			≥40 mph		
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
2 lanes*	1 2 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
3 lanes with raised median*	1 2 3 4 5	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7
3 lanes w/o raised median†	1 2 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
4+ lanes with raised median‡	1 3 5	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7
4+ lanes w/o raised median‡	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8

*One lane in each direction

†One lane in each direction with two-way left-turn lane

‡Two or more lanes in each direction

Given the set of conditions in a cell,

Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.

Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Pedestrian Hybrid Beacon
- 8 Road Diet

This table was developed using information from: Zegeer, C. V., Stewart, J. R., Huang, H. H., Lagerwey, P. A., Feaganes, J., & Campbell, B. J. (2005), *Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines* (No. FHWA-HRT-04-100); *Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4F. Pedestrian Hybrid Beacons; the Crash Modification Factors (CMF) Clearinghouse website* (<http://www.cmfclearinghouse.org/>); and the *Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) website* (<http://www.pedbikesafe.org/PEDSAFE/>).

Table 11. Recommendations for installing marked crosswalks and other needed pedestrian improvements at uncontrolled locations.*

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000		Vehicle ADT >9,000 to 12,000		Vehicle ADT >12,000–15,000		Vehicle ADT > 15,000	
	Speed Limit**							
	≤ 48.3 km/h (30 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	64.4 km/h (40 mi/h)	≤ 48.3 km/h (30 mi/h)	64.4 km/h (40 mi/h)
Two lanes	C	P	C	P	C	N	C	P
Three lanes	C	P	C	P	P	N	P	N
Multilane (four or more lanes) with raised median***	C	P	C	P	P	N	N	N
Multilane (four or more lanes) without raised median	C	P	P	P	N	N	N	N

* These guidelines include intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations that could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.

** Where the speed limit exceeds 64.4 km/h (40 mi/h), marked crosswalks alone should not be used at unsignalized locations.

*** The raised median or crossing island must be at least 1.2 m (4 ft) wide and 1.8 m (6 ft) long to serve adequately as a refuge area for pedestrians, in accordance with MUTCD and American Association of State Highway and Transportation Officials (AASHTO) guidelines.

C = **Candidate sites for marked crosswalks.** Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to determine whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a marked crosswalk alone.

P = **Possible increase in pedestrian crash risk may occur if crosswalks are added without other pedestrian facility enhancements.** These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

N = **Marked crosswalks alone are insufficient, since pedestrian crash risk may be increased by providing marked crosswalks alone.** Consider using other treatments, such as traffic-calming treatments, traffic signals with pedestrian signals where warranted, or other substantial crossing improvement to improve crossing safety for pedestrians.

PMPM Total Admissions

2015 = 102,408

2016 = 103,125

2017 = 102,716

2018 to date = 83,828
(10/10/2018)

PMPM Total Cars Parked

2015 = 25,245

2016 = 19,811

2017 = 20,371

2018 to date = 18,105
(10/10/2018)