



URBAN DESIGN COMMISSION APPLICATION CITY OF MADISON

This form may also be completed online at:
<http://www.cityofmadison.com/planning/documents/UDCApplication.pdf>

215 Martin Luther King Jr. Blvd; Room LL-100
PO Box 2985; Madison, Wisconsin 53701-2985
Phone: 608.266.4635 | Facsimile: 608.267.8739

Please complete all sections of the application, including the desired meeting date and the type of action requested.

Date Submitted: <u>6/13/16</u>	<input type="checkbox"/> Informational Presentation
UDC Meeting Date: <u>6/27/16</u>	<input type="checkbox"/> Initial Approval
Combined Schedule Plan Commission Date (if applicable): _____	<input checked="" type="checkbox"/> Final Approval

1. Project Address: 115 S. Paterson Street
Project Title (if any): Madison Water Utility - Material & Vehicle Storage Project

2. This is an application for (Check all that apply to this UDC application):

New Development Alteration to an Existing or Previously-Approved Development

A. Project Type:

- Project in an Urban Design District* (public hearing-\$300 fee)
- Project in the Downtown Core District (DC) or Urban Mixed-Use District (UMX) (\$150 fee, Minor Exterior Alterations)
- Suburban Employment Center (SEC) or Campus Institutional District (CI) or Employment Campus District (EC)
- Planned Development (PD)
 - General Development Plan (GDP)
 - Specific Implementation Plan (SIP)
- Planned Multi-Use Site or Planned Residential Complex

B. Signage:

- Comprehensive Design Review* (public hearing-\$300 fee) Street Graphics Variance* (public hearing-\$300 fee)
- Signage Exception(s) in an Urban Design District (public hearing-\$300 fee)

C. Other:

Please specify: Public Project

3. Applicant, Agent & Property Owner Information:

Applicant Name: Madison Water Utility
Street Address: 119 East Olin Avenue
Telephone: (608) 266-4651 Fax: (608) 266-4426

Company: _____
City/State: Madison, WI Zip: 53713
Email: _____

Project Contact Person: Al Larson
Street Address: See Above
Telephone: () Fax: ()

Company: Madison Water Utility
City/State: _____ Zip: _____
Email: ALarson@madisonwater.org

Project Owner (if not applicant): _____
Street Address: _____
Telephone: () Fax: ()

City/State: _____ Zip: _____
Email: _____

4. Applicant Declarations:

A. Prior to submitting this application, the applicant is required to discuss the proposed project with Urban Design Commission staff. This application was discussed with _____ on _____.

(name of staff person) (date of meeting)

B. The applicant attests that all required materials are included in this submittal and understands that if any required information is not provided by the application deadline, the application will not be placed on an Urban Design Commission agenda for consideration.

Name of Applicant: Madison Water Utility Relationship to Property: Owner
Authorized Signature: [Signature] Date: 7-12-16

Madison Water Utility – New Material Storage Building & Vehicle Storage Building Site Redevelopment at 115 South Paterson Street

Project Narrative

The proposed project development is to provide a more respectful and efficient use of the existing Madison Water Utility Vehicle Storage Building Site. Currently the site area north and east of the Vehicle Storage Building is used as yard space for the storage of materials used in repairing of water mains., which includes sand, gravel and spoil from construction sites along with pipes and valves and miscellaneous equipment used to support construction. Also, the existing yard space is now a gravel lot surrounded by chain link fencing.

The new building and site development proposes to construct an enclosed materials storage building of 5,380 square feet to house materials of construction, paving of the yard space, a new fence line and site lighting.

To develop the vocabulary for the materials storage building and site development the design team has inspiration from the surrounding area, as depicted in the Context Board and Inspiration Board. The vocabulary for construction on the near east side of the Madison Isthmus is evolving from a predominantly industrial activity to a mixed use of residential, commercial, recreational and industrial. The Madison Water Utilities continuing activities at this site must now reflect development more sympathetic to surrounding activities while maintaining work functions.

The design solution as proposed encloses the less desirable visual elements of the site into a materials storage building constructed of board formed concrete exterior walls, sloped steel framed roof structure and metal roofing and polycarbonate panels, used for infill and daylight integration and visual interest. The yard will be paved with concrete and the lot will be surrounded by new fencing, similar to Central Park, and a new landscaped terrace that integrates plant materials with concrete site knee walls that border the property and will also provide points of interest by containing elements of the Water Utilities work product, such as pipes and valves. The site will be lighted by new LED fixtures, designed for night sky and light penetration cut off. Also, included is a rain water harvesting system to capture roof water from the Vehicle Storage building in a 30,000 gallon holding tank and using that water as vehicle wash water.

The Proposed design solution is based on a functional and aesthetic integration that starts the discussion on the maintenance of industrial activities into an evolving neighborhood dynamic.

Luminaire Schedule Cut Sheets

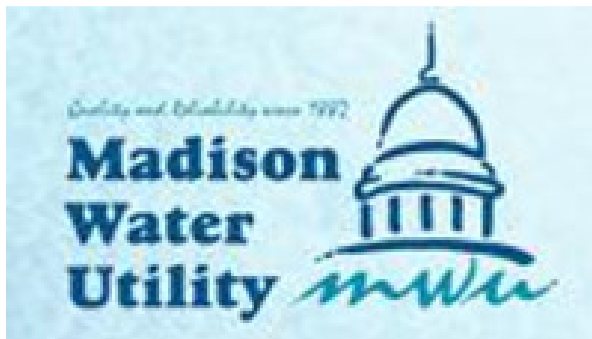
For

Madison Water Utility

**Vehicle Storage Renovation and
Material Storage Building –
Urban Design Commission**

13 July 2016

Prepared by:



**Mead
& Hunt**



D-Series LED Surface Canopy



Catalog
Number

Notes

Type **M1**

Hit the Tab key or mouse over the page to see all interactive elements.

d-series

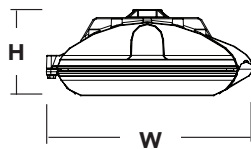
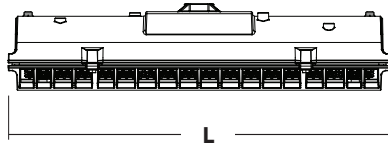
Specifications

Length: 17-3/4"
(45.1 cm)

Width: 8-1/2"
(21.6 cm)

Height: 3-7/16"
(8.7 cm)

Weight (max): 16 lbs
(7.3 kg)



Introduction

The D-Series LED Surface Canopy luminaire is ideal for covered walkways or drive-thrus, semi-covered outdoor aisles, and walk-in coolers and freezers. Its five optical choices provide the design flexibility to potentially reduce luminaire counts while still meeting IES criteria, lowering overall energy consumption.

Its expected service life of over 100,000 hours (20 years of nighttime operation) combined with the available motion/ambient sensor offers an extremely low maintenance solution that yields quick payback.

Ordering Information

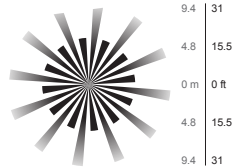
EXAMPLE: DSXSC LED 20C 700 40K T5M MVOLT SRM DWHXD

DSXSC LED	Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting	Options	Finish (required)
DSXSC LED	10C	10 LEDs (one engine) ^{1,2}	350 350 mA 530 530 mA	30K 3000 K 40K 4000 K	TSE Type V, entryway ⁴ TSM Type V, medium	MVOLT⁵ 120 ⁵ 208 ⁵ 240 ⁵ 277 ⁵ 347 ⁶ 480 ⁶	Shipped included SRM Surface mount	Shipped installed DMG 0-10V dimming driver (no controls) HS House-side shield (housing visor) ⁷ SF Single fuse (120, 277, 347V) ^{8,9} DF Double fuse (208, 240, 480V) ^{8,9} PIR360SS Motion/ambient sensor, 8-15' mounting height ^{9,10} PIRH360SS Motion/ambient sensor, 15-30' mounting height^{9,10} SPD Separate surge protection ¹¹ XAD XPoint Wireless enabled ¹² CFMH Cover finish matches housing ¹³	DWXXD White DNAXD Natural aluminum DDBXD Dark bronze
	20C	20 LEDs (two engines)	700 700 mA 1000 1000 mA (1 A)	50K 5000 K AMBPC Amber phosphor converted ³	T5W Type V, wide TSR Type V, rectangular ASY Asymmetric				
	30C	30 LEDs (three engines)						Shipped separately BDS Bird shroud ⁷	

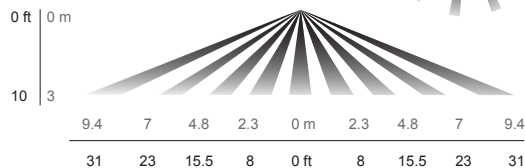
Motion Sensing

The motion/ambient sensor options (PIR360SS or PIRH360SS) have 360° of passive infrared sensing and adjustable bi-level dimming to save energy when there are no occupants.

TOP VIEW

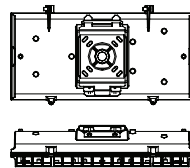


SIDE VIEW



Mounting Options

Surface Mounting



Accessories

Ordered and shipped separately.

DSXSCHS U House-side shield (1 per light engine)
DSXSCBDSJ DWHXD U Bird shroud for SRM on surface J-box only, white (specify finish)

NOTES

- Available with 700mA or 1000mA option only.
- Not available with 347 or 480V.
- AMBPC only available with 530mA or 700mA.
- DesignLights Consortium qualified.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options).
- N/A with one light engine (10C). Only available with 700mA or 1000mA.
- Also available as a separate accessory; see Accessories information at left.
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- Not available with XAD.
- PIR360SS specifies the [SensorSwitch SBOR-10-ODP](#) control; PIRH360SS specifies the [SensorSwitch SBOR-6-ODP](#) control; see [Motion Sensor Guide](#) for details. Dimming driver standard.
- See the electrical section on page 3 for more details.
- Dimming driver standard. Available 120v or 277v only. Not available with fusing, PIR360SS or PIRH360SS.
- Available with DNAXD or DDBXD only.



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%.

Light Engines	Drive Current (mA)	Performance Package	System Watts	Dist. Type	30K (3000 K, 80 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 65 CRI)				
					Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
					10C	700 mA	10C700--K	26W	ASY	1,792	0	0	1	69	2,253	1	0	1	87
(10 LEDs)	700 mA	10C700--K	26W	TSE	1,882	1	0	0	72	2,366	1	0	0	91	2,550	1	0	0	98
				TSM	1,889	1	0	0	73	2,375	2	0	0	91	2,560	2	0	0	98
				TSR	1,860	2	0	2	72	2,339	2	0	2	90	2,521	2	0	2	97
				TSW	1,771	2	0	1	68	2,226	2	0	1	86	2,399	2	0	1	92
				ASY	2,444	1	0	1	66	3,074	1	0	1	83	3,314	1	0	1	90
	1000 mA	10C1000--K	37W	TSE	2,566	1	0	0	69	3,227	2	0	0	87	3,479	2	0	0	94
				TSM	2,576	2	0	0	70	3,241	2	0	1	88	3,493	2	0	1	94
				TSR	2,537	2	0	2	69	3,191	2	0	2	86	3,440	3	0	3	93
				TSW	2,414	2	0	1	65	3,037	2	0	1	82	3,274	3	0	1	88
				ASY	1,995	1	0	1	80	2,511	1	0	1	100	2,705	1	0	1	108
20C	350 mA	20C350--K	25W	TSE	2,095	1	0	0	84	2,637	1	0	0	105	2,840	2	0	0	114
				TSM	2,103	2	0	0	84	2,647	2	0	0	106	2,851	2	0	1	114
				TSR	2,071	2	0	2	83	2,607	2	0	2	104	2,808	2	0	2	112
				TSW	1,971	2	0	1	79	2,481	2	0	1	99	2,672	2	0	1	107
				ASY	2,803	1	0	1	76	3,526	1	0	1	95	3,799	1	0	1	103
	530 mA	20C530--K	37W	TSE	2,943	2	0	0	80	3,702	2	0	0	100	3,989	2	0	0	108
				TSM	2,955	2	0	1	80	3,717	2	0	1	100	4,005	2	0	1	108
				TSR	2,910	2	0	2	79	3,660	3	0	3	99	3,944	3	0	3	107
				TSW	2,770	2	0	1	75	3,483	3	0	1	94	3,754	3	0	1	101
				ASY	3,449	1	0	1	75	4,337	1	0	1	94	4,675	1	0	1	102
700 mA	20C700--K	46W	TSE	3,621	2	0	0	79	4,554	2	0	0	99	4,909	2	0	0	107	
			TSM	3,636	2	0	1	79	4,572	3	0	1	99	4,928	3	0	1	107	
			TSR	3,580	3	0	3	78	4,502	3	0	3	98	4,853	3	0	3	106	
			TSW	3,407	3	0	1	74	4,285	3	0	1	93	4,619	3	0	1	100	
			ASY	4,632	1	0	1	63	5,828	1	0	1	79	6,283	1	0	2	85	
1000 mA	20C1000--K	74W	TSE	4,864	2	0	0	66	6,119	2	0	0	83	6,597	2	0	1	89	
			TSM	4,883	3	0	1	66	6,143	3	1	1	83	6,623	3	0	1	90	
			TSR	4,808	3	0	3	65	6,050	3	0	3	82	6,522	3	0	3	88	
			TSW	4,577	3	0	1	62	5,758	3	0	2	78	6,207	3	0	2	84	
			ASY	3,022	1	0	1	86	3,799	1	0	1	109	4,097	1	0	1	117	
30C	350 mA	30C350--K	35W	TSE	3,172	2	0	0	91	3,989	2	0	0	114	4,302	2	0	0	123
				TSM	3,185	2	0	1	91	4,005	2	0	1	114	4,319	3	0	1	123
				TSR	3,137	2	0	2	90	3,944	3	0	3	113	4,253	3	0	3	122
				TSW	2,985	2	0	1	85	3,754	3	0	1	107	4,048	3	0	1	116
				ASY	4,239	1	0	1	80	5,333	1	0	1	101	5,748	1	0	1	108
	530 mA	30C530--K	53W	TSE	4,451	2	0	0	84	5,599	2	0	0	106	6,035	2	0	0	114
				TSM	4,468	3	0	1	84	5,622	3	0	1	106	6,059	3	0	1	114
				TSR	4,400	3	0	3	83	5,536	3	0	3	104	5,967	3	0	3	113
				TSW	4,188	3	0	1	79	5,269	3	0	1	99	5,679	3	0	1	107
				ASY	5,170	1	0	1	77	6,504	1	0	2	97	7,011	1	0	2	105
700 mA	30C700--K	67W	TSE	5,428	2	0	0	81	6,829	3	0	1	102	7,362	3	0	1	110	
			TSM	5,450	3	0	1	81	6,856	3	0	1	102	7,391	3	0	2	110	
			TSR	5,367	3	0	3	80	6,752	3	0	3	101	7,278	3	0	3	109	
			TSW	5,108	3	0	1	76	6,426	3	0	2	96	6,927	3	0	2	103	
			ASY	6,775	1	0	2	63	8,520	2	0	2	80	9,187	2	0	2	86	
1000 mA	30C1000--K	107W	TSE	7,113	3	0	1	66	8,946	3	0	1	84	9,646	3	0	1	90	
			TSM	7,141	3	0	1	67	8,982	3	0	2	84	9,685	3	0	2	91	
			TSR	7,032	3	0	3	66	8,845	4	0	4	83	9,537	4	0	4	89	
			TSW	6,693	3	0	2	63	8,418	4	0	2	79	9,077	4	0	2	85	

Note: Available with phosphor-converted amber LEDs (nomenclature AMBPC). These LEDs produce light with 97+% >530 nm. Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files (for 530mA and 700mA drive currents only).

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.98

Electrical Load

LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
10C	700	26W	0.25	0.15	0.13	0.11	—	—
	1000	37W	0.37	0.21	0.18	0.16	—	—
20C	350	25W	0.23	0.13	0.12	0.10	—	—
	530	37W	0.33	0.19	0.17	0.14	—	—
	700	46W	0.43	0.25	0.22	0.19	0.15	0.11
	1000	74W	0.68	0.39	0.34	0.29	—	—
30C	350	35W	0.33	0.19	0.16	0.14	—	—
	530	53W	0.50	0.29	0.25	0.22	—	—
	700	67W	0.66	0.38	0.33	0.29	0.23	0.17
	1000	107W	1.01	0.58	0.50	0.44	—	—

Projected LED Lumen Maintenance

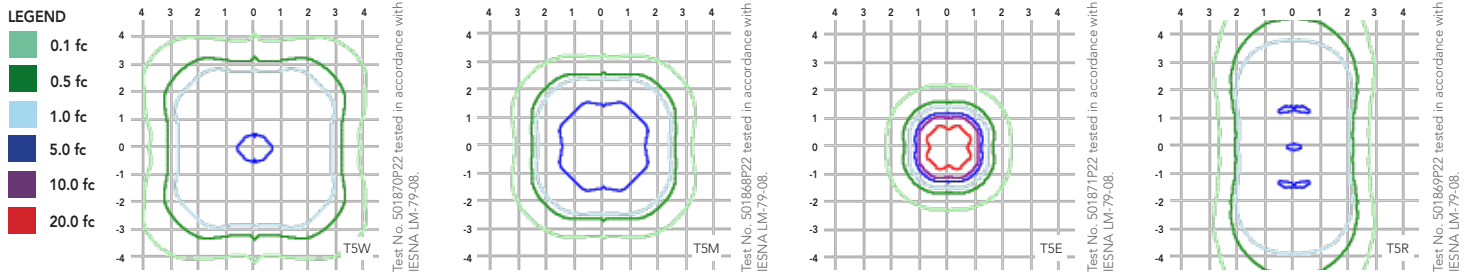
Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSXSC LED 10C 1000			
	1.0	0.97	0.94	0.90
	DSXSC LED 30C 1000			
	1.0	0.93	0.89	0.80
DSXSC LED 30C 700				
1.0	0.98	0.97	0.95	



Isofootcandle plots for the DSXSC LED 30C 700 40K. Distances are in units of mounting height (8').



FEATURES & SPECIFICATIONS

INTENDED USE

The energy savings, long life, and easy-to-install design of the D-Series LED Surface Canopy luminaire make it the smart choice for canopy lighting in commercial, industrial and institutional applications with mounting heights of 8-15'.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS

Precision-molded proprietary acrylic lenses provide five different photometric distributions suited to a variety of canopy and walkway applications. Light engines are available in 3000 K (80 min. CRI), 4000 K (70 min. CRI) or 5000 K (65 min. CRI) configurations.

ELECTRICAL

Light engines consist of 10 high-efficacy LEDs mounted to a metal-core circuit board to maximize heat dissipation and promote long life. The electronic driver has a power factor of >90%, THD <20%, and a minimum 2.5 KV surge rating. When ordering the SPD option, a separate surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Mounts to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with captive screws. Supply leads are 12" in length as standard. For longer supply leads, please consult factory.

LISTINGS

CSA certified to U.S. and Canadian standards. Light engines and luminaire are IP66 rated. Rated for -40°C minimum ambient.

DesignLights Consortium® (DLC) qualified product — Fuel Pump Canopy Luminaires category. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY

Five-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx.

Note: Specifications subject to change without notice.



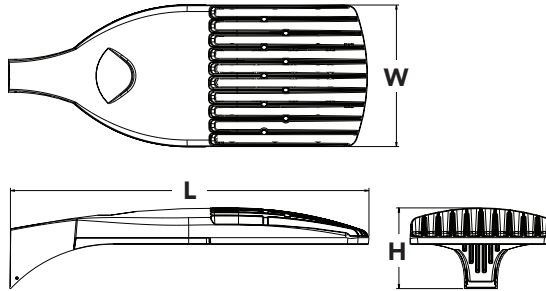
D-Series Size 1 LED Area Luminaire



d^{series}

Specifications

EPA:	1.2 ft ² (0.11 m ²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)



Catalog Number

Notes

Type **OA1**

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Introduction

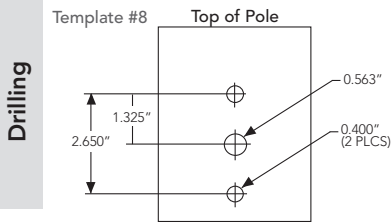
The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment.

The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing 100 – 400W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

Ordering Information

EXAMPLE: DSX1 LED 60C 1000 40K T3M MVOLT SPA DDBXD

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting	Control options	Other options	Finish (required)
DSX1 LED	Forward optics	530 530 mA	30K 3000 K (80 CRI min.)	T1S Type I short	MVOLT ³	Shipped included	Shipped installed	Shipped installed	DDBXD Dark bronze
	30C 30 LEDs (one engine)	700 700 mA	40K 4000 K (70 CRI min.)	T2S Type II short	120 ³	SPA Square pole mounting	PER NEMA twist-lock receptacle only (no controls) ⁷	HS House-side shield ¹⁴	DBLXD Black
	40C 40 LEDs (two engines)	1000 1000 mA (1 A)	50K 5000 K (70 CRI)	T2M Type II medium	208 ³	RPA Round pole mounting	DMG 0-10V dimming driver (no controls) ⁸	WTB Utility terminal block ¹⁵	DNAXD Natural aluminum
	60C 60 LEDs (two engines)		AMBPC Amber phosphor converted ²	T3S Type III short	240 ³	WBA Wall bracket	DCR Dimmable and controllable via ROAM ⁹ (no controls) ⁹	SF Single fuse (120, 277, 347V) ¹⁶	DWHXD White
	Rotated optics¹			T3M Type III medium	277 ³	SPUMBA Square pole universal mounting adaptor ⁵	DS Dual switching ^{10,11}	DF Double fuse (208, 240, 480V) ¹⁶	DDBTXD Textured dark bronze
	60C 60 LEDs (two engines)			T4M Type IV medium	347 ⁴	RPUMBA Round pole universal mounting adaptor ⁵	PIR Motion sensor, 8-15' mounting height ¹²	L90 Left rotated optics ¹⁷	DBLBXD Textured black
				TFTM Forward throw medium	480 ⁴	Shipped separately⁶	PIRH Motion sensor, 15-30' mounting height ¹²	R90 Right rotated optics ¹⁷	DNATXD Textured natural aluminum
				T5VS Type V very short		KMA8 Mast arm mounting bracket adaptor (specify finish)	BL30 Bi-level switched dimming, 30% ^{11,13}		DBLBXD Textured black
				T5S Type V short			BL50 Bi-level switched dimming, 50% ^{11,13}		DNATXD Textured natural aluminum
				T5M Type V medium					DBLBXD Textured black
				T5W Type V wide					DNATXD Textured natural aluminum



DSX1 shares a unique drilling pattern with the AERIS™ family. Specify this drilling pattern when specifying poles, per the table below.

DM19AS Single unit	DM29AS 2 at 90°*
DM28AS 2 at 180°	DM39AS 3 at 90°*
DM49AS 4 at 90°*	DM32AS 3 at 120°**

Example: SSA 20 4C DM19AS DDBXD

Visit Lithonia Lighting's **POLES CENTRAL** to see our wide selection of poles, accessories and educational tools.

*Round pole top must be 3.25" O.D. minimum.
**For round pole mounting (RPA) only.

Tenon Mounting Slipfitter**

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

NOTES

- Rotated optics only available with 60C.
- AMBPC only available with 530mA or 700mA.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options).
- Not available with single board, 530mA product (30C 530, or 60C 530 DS). Not available with DCR, BL30 or BL50.
- Available as a separate combination accessory: PUMBA (finish) U.
- Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
- Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Not available with DS option.
- DMG option for 347v or 480v requires 1000mA
- Specifies a ROAM⁹ enabled luminaire with 0-10V dimming capability; PER option required. Not available with 347 or 480V. Additional hardware and services required for ROAM⁹ deployment; must be purchased separately. Call 1-800-442-6745 or email: sales@roamservices.net. N/A with BL30, BL50, DS, PIR or PIRH.
- Requires 40C or 60C. Provides 50/50 luminaire operation via two independent drivers on two separate circuits. N/A with PER, DCR, WTB, PIR, or PIRH.
- Requires an additional switched circuit.
- PIR specifies the **SensorSwitch SBGR-10-ODP** control; PIRH specifies the **SensorSwitch SBGR-6-ODP** control; see **Motion Sensor Guide** for details. Dimming driver standard. Not available with DS or DCR.
- Dimming driver standard. MVOLT only. Not available with DCR.
- Also available as a separate accessory; see Accessories information.
- WTB not available with DS.
- Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
- Available with 60 LEDs (60C option) only.
- Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Control.

Drilling

Accessories

Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V) ¹⁸
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V) ¹⁸
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V) ¹⁸
SC U	Shorting cap ¹⁸
DSX1HS 30C U	House-side shield for 30 LED unit
DSX1HS 40C U	House-side shield for 40 LED unit
DSX1HS 60C U	House-side shield for 60 LED unit
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish)
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish) ⁶

For more control options, visit **DTL** and **ROAM** online.



Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/-10%. Contact factory for performance data on any configurations not shown here.

LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 80 minimum CRI)					40K (4000 K, 70 minimum CRI)					50K (5000 K, 70 CRI)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
				30C (30 LEDs)	700 mA	68 W	T1S	5,290	1	0	1	78	6,524	2	0	2	96	7,053
			T2S	5,540	1	0	1	81	6,833	2	0	2	100	7,387	2	0	2	109
			T2M	5,360	1	0	2	79	6,611	2	0	2	97	7,147	2	0	2	105
			T3S	5,479	1	0	1	81	6,757	1	0	2	99	7,305	2	0	2	107
			T3M	5,452	1	0	2	80	6,724	2	0	2	99	7,269	2	0	2	107
			T4M	5,461	1	0	2	80	6,736	2	0	2	99	7,282	2	0	2	107
			TFTM	5,378	1	0	2	79	6,633	1	0	2	98	7,171	1	0	2	105
			T5VS	5,708	2	0	0	84	7,040	3	0	0	104	7,611	3	0	1	112
			T5S	5,639	2	0	0	83	6,955	2	0	0	102	7,519	3	0	0	111
			T5M	5,710	3	0	1	84	7,042	3	0	1	104	7,613	3	0	2	112
			T5W	5,551	3	0	1	82	6,847	3	0	2	101	7,401	3	0	2	109
	1000 mA	105 W	T1S	7,229	2	0	2	69	9,168	2	0	2	87	9,874	2	0	2	94
			T2S	7,572	2	0	2	72	9,603	2	0	2	91	10,342	2	0	2	98
			T2M	7,325	2	0	2	70	9,291	2	0	2	88	10,005	2	0	3	95
			T3S	7,488	2	0	2	71	9,496	2	0	2	90	10,227	2	0	2	97
			T3M	7,451	2	0	2	71	9,450	2	0	2	90	10,177	2	0	2	97
			T4M	7,464	2	0	2	71	9,467	2	0	2	90	10,195	2	0	2	97
			TFTM	7,351	1	0	2	70	9,323	2	0	2	89	10,040	2	0	3	96
			T5VS	7,801	3	0	1	74	9,894	3	0	1	94	10,655	3	0	1	101
			T5S	7,803	3	0	2	74	9,774	3	0	1	93	10,526	3	0	1	100
			T5M	7,707	3	0	0	73	9,897	3	0	2	94	10,658	4	0	2	102
			T5W	7,586	3	0	2	72	9,621	4	0	2	92	10,363	4	0	2	99
40C (40 LEDs)	700 mA	89 W	T1S	6,876	2	0	2	77	8,639	2	0	2	97	9,345	2	0	2	105
			T2S	7,202	2	0	2	81	9,049	2	0	2	102	9,788	2	0	2	110
			T2M	6,968	2	0	2	78	8,755	2	0	2	98	9,469	2	0	3	106
			T3S	7,122	2	0	2	80	8,948	2	0	2	101	9,679	2	0	2	109
			T3M	7,088	2	0	2	80	8,905	2	0	2	100	9,632	2	0	2	108
			T4M	7,100	2	0	2	80	8,920	2	0	2	100	9,649	2	0	2	108
			TFTM	6,992	1	0	2	79	8,785	2	0	2	99	9,502	2	0	2	107
			T5VS	7,421	3	0	0	83	9,323	3	0	1	105	10,085	3	0	1	113
			T5S	7,331	2	0	0	82	9,210	3	0	1	103	9,962	3	0	1	112
			T5M	7,423	3	0	2	83	9,326	3	0	2	105	10,087	4	0	2	113
			T5W	7,216	3	0	2	81	9,066	4	0	2	102	9,807	4	0	2	110
	1000 mA	138 W	T1S	9,521	2	0	2	69	11,970	2	0	2	87	12,871	3	3	0	93
			T2S	9,972	2	0	2	72	12,558	3	0	3	91	13,481	3	0	3	98
			T2M	9,648	2	0	3	70	12,149	3	0	3	88	13,043	3	0	3	95
			T3S	9,862	2	0	2	71	12,418	2	0	2	90	13,331	2	0	2	97
			T3M	9,814	2	0	2	71	12,358	3	0	3	90	13,267	3	0	3	96
			T4M	9,831	2	0	2	71	12,379	2	0	3	90	13,290	2	0	3	96
			TFTM	9,681	2	0	2	70	12,191	2	0	3	88	13,087	2	0	3	95
			T5VS	10,275	3	0	1	74	12,937	3	0	1	94	13,890	4	0	1	101
			T5S	10,150	3	0	1	74	12,782	3	0	1	93	13,721	3	0	1	99
			T5M	10,278	4	0	2	74	12,942	4	0	2	94	13,894	4	0	2	101
			T5W	9,991	4	0	2	72	12,582	4	0	2	91	13,507	4	0	2	98
60C (60 LEDs)	700 mA	131 W	T1S	10,226	2	0	2	78	12,871	3	0	3	98	13,929	3	0	3	106
			T2S	10,711	2	0	2	82	13,481	3	0	3	103	14,589	3	0	3	111
			T2M	10,363	2	0	3	79	13,043	3	0	3	100	14,115	3	0	3	108
			T3S	10,592	2	0	2	81	13,331	2	0	2	102	14,427	3	0	3	110
			T3M	10,541	2	0	2	80	13,267	3	0	3	101	14,357	3	0	3	110
			T4M	10,559	2	0	2	81	13,290	2	0	3	101	14,382	3	0	3	110
			TFTM	10,398	2	0	3	79	13,087	2	0	3	100	14,163	2	0	3	108
			T5VS	11,036	3	0	1	84	13,890	4	0	4	106	15,032	4	0	1	115
			T5S	10,902	3	0	1	83	13,721	3	0	1	105	14,849	4	0	1	113
			T5M	11,039	4	0	2	84	13,894	4	0	2	106	15,036	4	0	2	115
			T5W	10,732	4	0	2	82	13,507	4	0	2	103	14,617	4	0	2	112
	1000 mA	209 W	T1S	14,017	3	0	3	67	17,632	3	0	3	84	19,007	3	0	3	91
			T2S	14,681	3	0	3	70	18,467	3	0	3	88	19,908	3	0	3	95
			T2M	14,204	3	0	3	68	17,867	3	0	3	85	19,260	3	0	3	92
			T3S	14,518	3	0	3	69	18,262	3	0	3	87	19,687	3	0	3	94
			T3M	14,448	3	0	3	69	18,173	3	0	4	87	19,591	3	0	4	94
			T4M	14,473	3	0	3	69	18,205	3	0	3	87	19,625	3	0	4	94
			TFTM	14,253	2	0	3	68	17,928	3	0	4	86	19,326	3	0	4	92
			T5VS	15,127	4	0	1	72	19,028	4	0	1	91	20,512	4	0	1	98
			T5S	14,943	4	0	1	71	18,797	4	0	1	90	20,263	4	0	1	97
			T5M	15,131	4	0	2	72	19,033	4	0	2	91	20,517	5	0	3	98
			T5W	14,710	4	0	2	70	18,503	5	0	3	89	19,946	5	0	3	95

Note: Available with phosphor-converted amber LED's (nomenclature AMBPC). These LED's produce light with 97+% >530 nm. Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files.



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	77°F	1.00
30°C	86°F	1.00
40°C	104°F	0.99

Electrical Load

Number of LEDs	Drive Current (mA)	System Watts	Current (A)					
			120	208	240	277	347	480
30	530	52	0.52	0.30	0.26	0.23	--	--
	700	68	0.68	0.39	0.34	0.30	0.24	0.17
	1000	105	1.03	0.59	0.51	0.45	0.36	0.26
40	530	68	0.67	0.39	0.34	0.29	0.23	0.17
	700	89	0.89	0.51	0.44	0.38	0.31	0.22
	1000	138	1.35	0.78	0.67	0.58	0.47	0.34
60	530	99	0.97	0.56	0.48	0.42	0.34	0.24
	700	131	1.29	0.74	0.65	0.56	0.45	0.32
	1000	209	1.98	1.14	0.99	0.86	0.69	0.50

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

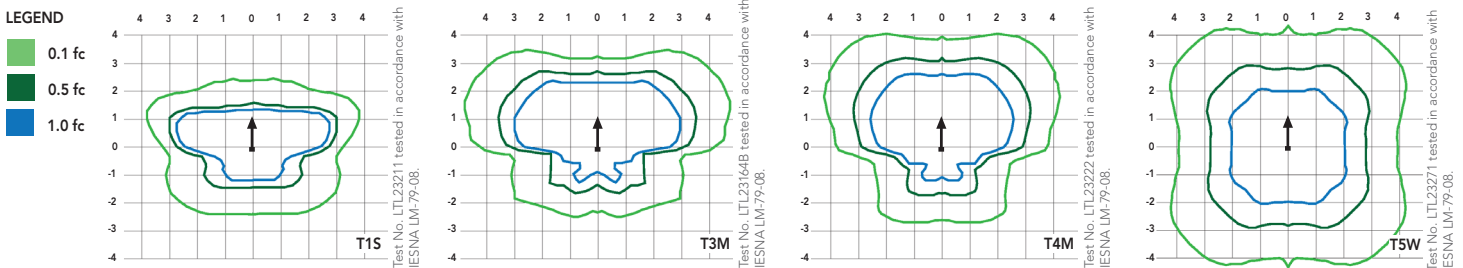
To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	DSX1 LED 60C 1000			
	1.0	0.95	0.93	0.88
	DSX1 LED 60C 700			
	1.0	0.99	0.98	0.96

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [D-Series Area Size 1 homepage](#).

Isofootcandle plots for the DSX1 LED 60C 1000 40K. Distances are in units of mounting height (20').



FEATURES & SPECIFICATIONS

INTENDED USE

The sleek design of the D-Series Size 1 reflects the embedded high performance LED technology. It is ideal for many commercial and municipal applications, such as parking lots, plazas, campuses, and streetscapes.

CONSTRUCTION

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (1.2 ft²) for optimized pole wind loading.

FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

OPTICS

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 4000 K (70 minimum CRI) or optional 3000 K (80 minimum CRI) or 5000 K (70 CRI) configurations. The D-Series Size 1 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

ELECTRICAL

Light engine configurations consist of 30, 40 or 60 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L96/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an

expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

INSTALLATION

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 1 utilizes the AERIS™ series pole drilling pattern. Optional terminal block, tool-less entry, and NEMA photocontrol receptacle are also available.

LISTINGS

UL Listed for wet locations. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

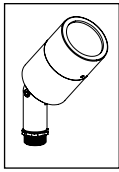
DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org to confirm which versions are qualified.

WARRANTY

Five-year limited warranty. Full warranty terms located at: www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Specifications subject to change without notice.





PROJECT:	
TYPE:	OF1
CATALOG NUMBER:	
SOURCE:	
NOTES:	

CATALOG NUMBER LOGIC

Example - NS - LED - e23 - SP - A5 - BZW - 12 - 11 - 360SL

Material: **Blank** - Aluminum, B - Brass, S - Stainless Steel

Series: **NS** - Nite Star™

Source: **LED** - 'e' Technology with Integral Dimming Driver (25W min. load when dimmed)
*Requires magnetic Low Voltage dimmer

LED Type: e36 - 8WLED/2.7K, e22 - 8WLED/3K, **e23** - 8WLED/4K, e27 - 8WLED/Amber

Optics*: NSP - Narrow Spot (Red Indicator), SP - Spot (Green Indicator), **MFL** - Medium Flood (Yellow Indicator), WFL - Wide Flood (Blue Indicator)

Adjust-e-Lume® Output Intensity** (Choose factory setting): A9 (Standard), A8, A7, A6, A5, A4, A3, A2, **A1**
**Please see Adjust-e-Lume® photometry to determine desired intensity.

Finish: Aluminum Finish, Brass Finish, Premium Finish

Aluminum Finish			Brass Finish		Premium Finish		
Powder Coat Color	Satin	Wrinkle	Machined	MAC	ABP	CMG	RMG
Bronze	BZP	BZW	Polished	POL	AMG Aleutian Mountain Granite	CRI Cracked Ice	SDS Sonoran Desert Sandstone
Black	BLP	BLW	Mitique™	MIT	AQW Antique White	CRM Cream	SMG Sierra Mountain Granite
White (Gloss)	WHP	WHW	Stainless Finish		BCM Black Chrome	HUG Hunter Green	TXF Textured Forest
Aluminum	SAP	—	Machined	MAC	BGE Beige	MDS Mojave Desert Sandstone	WCP Weathered Copper
Verde	—	VER	Polished	POL	BPP Brown Patina Powder	NBP Natural Brass Powder	WIR Weathered Iron
			Brushed	BRU <small>Interior use only.</small>	CAP Clear Anodized Powder	OCP Old Copper	<small>Also available in RAL Finishes See submittal SUB-1439-00</small>

Lens Type: **12** - Soft Focus Lens, **13** - Rectilinear Lens

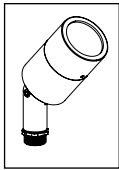
Shielding: **11** - Honeycomb Baffle

Option: **360SL** - 360SL™ Rotational Knuckle Mounting System

DRIVER DATA	Input Volts	InRush Current	Dimmable	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<1A (non-dimmed)	Magnetic Low Voltage Dimmer	-10°F-130°F

LM79 DATA				L70 DATA		*OPTICAL DATA		
BK No.	CCT (Typ.)	Input Watts (Typ.)	CRI (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L70)		Beam Type	Angle	Visual Indicator
e36	2700K	8.4	90	50,000		Narrow Spot	14°	Red Dot
e22	3100K	8.4	90	50,000		Spot	18°	Green Dot
e23	4100K	8.4	75	50,000		Medium Flood	25°	Yellow Dot
e27	Amber (590nm)	7.9	~	50,000		Wide Flood	36°	Blue Dot

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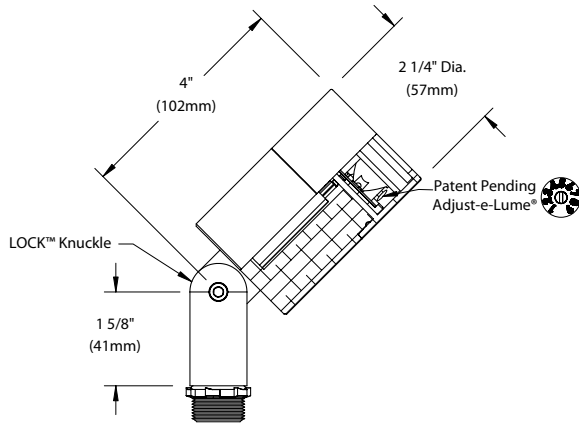
BKSSL
SOLID STATE LIGHTING

the power of
dimming with **adjust-e-lume®**
TECHNOLOGY

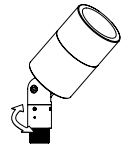
NITE STAR™

PROJECT:	
TYPE:	

SIDE VIEW



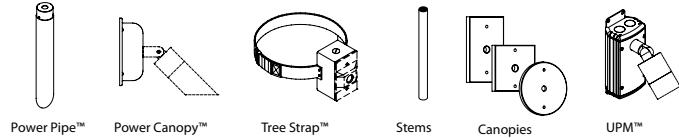
360 SL™



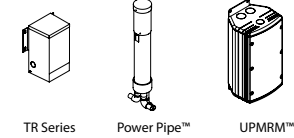
Accessories (Configure separately)

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

Mounting:



Remote Transformers:



Horizontal Rotation
(Optional 360SL™ Knuckle)

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.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. Integral knuckle for maximum mechanical strength. High temperature, silicone 'O' Ring provides water-tight seal.

Knuckle

The LOCK™ (Locking 'O' Ring Compression Knuckle) is comprised of two components. The first is integral to the body and features an interior, machined taper. The second is machined from solid billet and features a second, reverse angle taper. The resultant mechanical taper-lock allows a full 180° vertical adjustment without the use of serrated teeth, which inherently limit aiming. High temperature, silicone 'O' Ring provides water-tight seal and compressive resistance to maintain fixture position. Design withstands 73 lb. static load prior to movement to ensure decades of optical alignment. 1/2" pipe thread for mounting.

Optional 360SL™ additionally provides biaxial source control with 360° horizontal rotation in addition to vertical adjustment.

Cap

Fully machined. Accommodates [1] lens or louver media. Flush lens.

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 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 <1A (non-dimming). Conforms to Safety Std. C22.2 No. 250.13-12.

Line dimmable. For use with low voltage dimmer with dedicated neutral conductor. Minimum 25 watt load required for dimming.

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.

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.

Remote Transformer

For use with 12VAC BKSSL remote transformer.

Wiring

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

Hardware

Tamper-resistant, stainless steel hardware. LOCK™ aiming screw is 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. Lighting Facts Registration per USDOE (www.lightingfacts.com). ETL Listed to ANSI/UL Standard 1838 and UL Standard 8750. Certified to CAN/CSA Standard C22.2 No. 9, CSA TIL B-58B. RoHS compliant. Suitable for indoor or outdoor use. Suitable for use in wet locations. Suitable for installation within 4' of the ground. 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.

Select OptiKit™ for desired distribution

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

Set adjust-e-lume™ Dial to desired output



Adjust-e-Lume™ Setting

Distance from lamp	Narrow Spot	1	2	3	4	5	6	7	8	9
20'		2.4	3.1	5.0	6.3	7.6	8.9	9.2	9.3	9.3
16'		3.8	4.9	7.9	9.9	11.9	13.9	14.3	14.6	14.6
12'		6.7	8.6	14.0	17.6	21.2	24.7	25.5	25.9	25.9
8'		15.1	19.4	31.4	39.7	47.6	55.5	57.3	58.3	58.3
4'		60.4	77.7	125.8	158.6	190.4	222.1	229.2	233.0	233.2
	4' 2' 0' 2' 4'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Adjust-e-Lume™ Setting

Distance from lamp	Spot	1	2	3	4	5	6	7	8	9
20'		1.6	2.1	3.3	4.3	5.3	5.9	6.1	6.3	6.3
16'		2.6	3.3	5.2	6.7	8.2	9.3	9.6	9.8	9.9
12'		4.5	5.8	9.3	12.0	14.7	16.5	17.0	17.5	17.5
8'		10.2	13.0	20.9	26.9	33.0	37.0	38.3	39.4	39.4
4'		40.9	52.1	83.4	107.8	131.9	148.1	153.1	157.5	157.8
	8' 6' 4' 2' 0' 2' 4' 6' 8'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Adjust-e-Lume™ Setting

Distance from lamp	Medium Flood	1	2	3	4	5	6	7	8	9
20'		0.9	1.3	2.0	2.5	3.1	3.4	3.6	3.6	3.6
16'		1.5	2.0	3.1	3.9	4.8	5.4	5.6	5.6	5.7
12'		2.6	3.6	5.5	6.9	8.6	9.5	9.9	9.9	10.1
8'		5.9	8.0	12.3	15.5	19.3	21.5	22.2	22.4	22.6
4'		23.6	32.1	49.3	62.2	77.1	85.8	88.9	89.5	90.5
	10' 8' 6' 4' 2' 0' 2' 4' 6' 8' 10'									





Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Adjust-e-Lume™ Setting

Distance from lamp	Wide Flood	1	2	3	4	5	6	7	8	9
20'		0.4	0.6	0.9	1.1	1.4	1.6	1.6	1.7	1.7
16'		0.7	0.9	1.4	1.8	2.1	2.5	2.6	2.6	2.6
12'		1.2	1.6	2.5	3.2	3.8	4.4	4.6	4.7	4.7
8'		2.7	3.7	5.6	7.2	8.6	10.0	10.3	10.5	10.6
4'		10.9	14.8	22.3	28.6	34.3	39.9	41.1	42.2	42.3
	14' 12' 10' 8' 6' 4' 2' 0' 2' 4' 6' 8' 10' 12' 14'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Select OptiKit™ for desired distribution

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

Set adjust-e-lume™ Dial to desired output



Distance from lamp	Narrow Spot	Adjust-e-Lume™ Setting									
		1	2	3	4	5	6	7	8	9	
20'		2.4	2.9	4.9	6.1	7.3	8.8	9.1	9.3	9.3	
16'		3.8	4.6	7.6	9.6	11.4	13.8	14.3	14.5	14.6	
12'		6.7	8.2	13.5	17.0	20.3	24.5	25.4	25.7	25.9	
8'		15.1	18.4	30.3	38.2	45.8	55.2	57.0	57.9	58.2	
4'		60.3	73.6	121.3	152.8	183.1	220.9	228.2	231.6	232.8	
		4'	2'	0'	2'	4'					

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Distance from lamp	Spot	Adjust-e-Lume™ Setting								
		1	2	3	4	5	6	7	8	9
20'		1.6	2.1	3.1	4.1	4.9	6.0	6.1	6.2	6.3
16'		2.5	3.3	4.9	6.4	7.6	9.3	9.6	9.8	9.9
12'		4.5	5.9	8.7	11.4	13.5	16.6	17.0	17.3	17.5
8'		10.2	13.2	19.5	25.6	30.5	37.3	38.3	39.0	39.4
4'		40.6	52.7	78.1	102.3	121.9	149.1	153.1	156.0	157.8
		8'	6'	4'	2'	0'	2'	4'	6'	8'

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80





Distance from lamp	Medium Flood	Adjust-e-Lume™ Setting										
		1	2	3	4	5	6	7	8	9		
20'		1.0	1.2	1.9	2.4	2.9	3.4	3.5	3.6	3.7		
16'		1.5	1.8	2.9	3.8	4.6	5.3	5.4	5.7	5.8		
12'		2.6	3.3	5.2	6.7	8.1	9.5	9.6	10.1	10.2		
8'		6.0	7.4	11.8	15.0	18.3	21.3	21.6	22.8	23.0		
4'		23.8	29.5	47.0	60.2	73.3	85.1	86.4	91.2	92.2		
		10'	8'	6'	4'	2'	0'	2'	4'	6'	8'	10'

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Distance from lamp	Wide Flood	Adjust-e-Lume™ Setting														
		1	2	3	4	5	6	7	8	9						
20'		0.4	0.5	0.9	1.1	1.3	1.6	1.7	1.7	1.7						
16'		0.7	0.8	1.4	1.7	2.0	2.4	2.6	2.7	2.7						
12'		1.2	1.5	2.5	3.0	3.5	4.3	4.7	4.7	4.7						
8'		2.8	3.4	5.5	6.7	7.9	9.8	10.5	10.7	10.7						
4'		11.1	13.4	22.2	26.8	31.7	39.0	41.9	42.6	42.7						
		14'	12'	10'	8'	6'	4'	2'	0'	2'	4'	6'	8'	10'	12'	14'

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Select OptiKit™ for desired distribution

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

Set adjust-e-lume™ Dial to desired output



Distance from lamp	Narrow Spot	Adjust-e-Lume™ Setting								
		1	2	3	4	5	6	7	8	9
20'		2.7	3.7	5.5	6.9	8.5	10.1	10.4	10.6	10.6
16'		4.3	5.7	8.7	10.8	13.3	15.7	16.2	16.5	16.5
12'		7.6	10.2	15.4	19.2	23.6	27.9	28.8	29.3	29.4
8'		17.1	23.0	34.7	43.2	53.0	62.8	64.8	66.0	66.1
4'		68.6	91.9	138.6	172.9	212.1	251.3	259.2	263.8	264.3
	4' 2' 0' 2' 4'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Distance from lamp	Spot	Adjust-e-Lume™ Setting								
		1	2	3	4	5	6	7	8	9
20'		1.9	2.4	3.7	4.8	6.0	6.8	7.1	7.1	7.1
16'		2.9	3.7	5.9	7.4	9.4	10.6	11.0	11.1	11.2
12'		5.2	6.6	10.4	13.2	16.7	18.9	19.6	19.8	19.8
8'		11.8	14.9	23.4	29.7	37.6	42.5	44.1	44.6	44.6
4'		47.0	59.6	93.6	118.9	150.3	170.1	176.3	178.3	178.6
	8' 6' 4' 2' 0' 2' 4' 6' 8'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Distance from lamp	Medium Flood	Adjust-e-Lume™ Setting								
		1	2	3	4	5	6	7	8	9
20'		1.1	1.4	2.2	2.8	3.3	3.8	4.0	4.1	4.1
16'		1.7	2.1	3.4	4.3	5.1	5.9	6.3	6.4	6.4
12'		3.0	3.8	6.1	7.7	9.1	10.5	11.2	11.3	11.4
8'		6.7	8.5	13.8	17.3	20.5	23.7	25.2	25.4	25.6
4'		26.9	34.2	55.0	69.3	81.9	94.7	100.6	101.6	102.4
	10' 8' 6' 4' 2' 0' 2' 4' 6' 8' 10'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

Distance from lamp	Wide Flood	Adjust-e-Lume™ Setting								
		1	2	3	4	5	6	7	8	9
20'		0.5	0.6	1.0	1.2	1.4	1.7	1.8	1.8	1.8
16'		0.8	1.0	1.5	1.8	2.2	2.7	2.8	2.8	2.9
12'		1.3	1.8	2.7	3.3	3.9	4.7	4.9	5.0	5.1
8'		3.0	4.0	6.0	7.3	8.8	10.7	11.1	11.3	11.4
4'		12.0	15.9	23.9	29.3	35.1	42.6	44.4	45.1	45.7
	14' 12' 10' 8' 6' 4' 2' 0' 2' 4' 6' 8' 10' 12' 14'									

Note: If using No. 11 honeycomb baffle multiply footcandle values by .80

NiteStar - N. Spot

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 365
Watts 8.2
Lumens per Watt (Efficacy) 44

Color Accuracy
 Color Rendering Index (CRI) 68

Light Color
 Correlated Color Temperature (CCT) 4102 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-F8KBF2
 Model Number: NS-LED-e23-NSP-12
 Type: Other

NiteStar - W. Flood

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 345
Watts 8.3
Lumens per Watt (Efficacy) 41

Color Accuracy
 Color Rendering Index (CRI) 67

Light Color
 Correlated Color Temperature (CCT) 3981 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-IM8TLS
 Model Number: NS-LED-e23-WFL-12
 Type: Other

NiteStar - Spot

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 354
Watts 8.1
Lumens per Watt (Efficacy) 43

Color Accuracy
 Color Rendering Index (CRI) 68

Light Color
 Correlated Color Temperature (CCT) 4080 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-XKQZJR
 Model Number: NS-LED-e23-SP-12
 Type: Other

NiteStar - M. Flood

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 346
Watts 8.2
Lumens per Watt (Efficacy) 42

Color Accuracy
 Color Rendering Index (CRI) 68

Light Color
 Correlated Color Temperature (CCT) 4047 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-VHBBTD
 Model Number: NS-LED-e23-MFL-12
 Type: Other

NiteStar - Spot

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 253
Watts 8.2
Lumens per Watt (Efficacy) 30

Color Accuracy
 Color Rendering Index (CRI) 83

Light Color
 Correlated Color Temperature (CCT) 3182 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-EK4LV4
 Model Number: NS-LED-e22-SP-12
 Type: Other

Nite Star™ - Med. Flood - Recllinear

lighting facts

A Program of the U.S. DOE

Light Output (Lumens) 299
Watts 8.5
Lumens per Watt (Efficacy) 35

Color Accuracy
 Color Rendering Index (CRI) 66

Light Color
 Correlated Color Temperature (CCT) 4022 (Bright White)

2700K 3000K Bright White 4500K Daylight 6500K

All results are according to IESNA LM-79-2008; Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

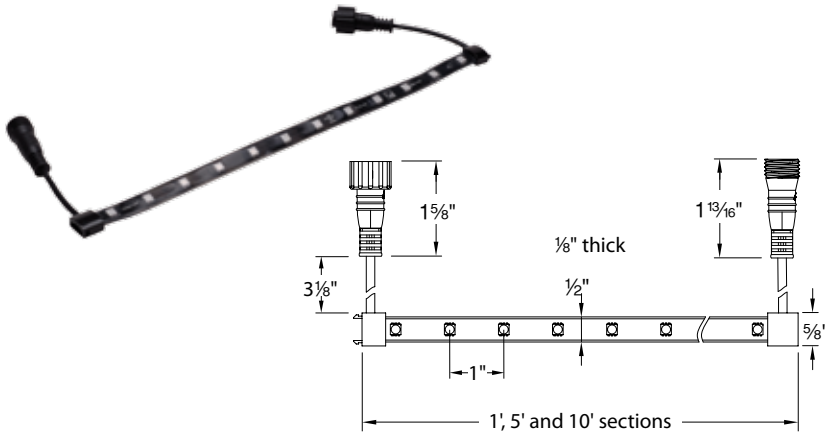
Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: GCXV-AXCRJ4
 Model Number: NS-LED-e23-MFL-13
 Type: Other

InvisiLED® Palette Outdoor

24V Outdoor Color Changing LED Tape Light

WAC LIGHTING
Responsible Lighting®



Fixture Type:

Q12

Catalog Number:

Project:

Location:

PRODUCT DESCRIPTION

Color changing 24V system for any and all outdoor accent lighting applications. Uses the latest LED technology water sealed in silicone cased tape, while still delivering crisp, quality light and effortless navigation of curves.

FEATURES

- IP-68 rated, allows for submersion up to five feet
- Power supply is UL and CUL listed
- Wet location listed
- DMX controller option (consult factory)
- Select from any color to visibly change an interior design
- Switch to warm 3500K white light with the push of a button
- Ultra thin profile at 1/8"
- Diodes spaced evenly at 1" on center
- Minimum run length of 1' and maximum of 40'
- May be field cut every 2" at the end of a run
- Unique tape section connections ensure even LED spacing and no dark spots
- Four mounting options provided for different surfaces
- 80,000 hour rated life
- 5 year WAC Lighting product warranty

SPECIFICATIONS

Construction: Flexible, silicone sealed tape light. Indicating marks on back for field cutting

Power Supply: Remote electronic Class 2 transformer.
120VAC 50/60Hz input, 24VDC 100W output.

Light Source: 12 LED diodes per foot. Runs on 24V at 1.5W per foot.

Dimming: Dimmable using an LED-TO24-WS wireless controller.

Operating Temperature: -4°F – 122°F (-20°C – 50°C), relative humidity 95%.

Standards: UL & CUL Listed. UL (E204239) wet location certified.

ORDER NUMBER

Model #	Length	Color
LED-TCO	1 1 foot	RGB
	5 5 feet	
	10 10 feet	

LED-TCO - [] - RGB

Example: LED-TCO-10-RGB



Stop at any point for a custom color effect.

POWER SUPPLY

EN-O24100-RB2-T 24VDC/100W
Class 2 LED transformer

CONTROLLERS

LED-TO24-WS 4 function wireless controller
LED-TO24-CM Master controller
LED-TO24-CS Slave controller

CONTROLLER COMPONENTS

LED-TO24-IC Joiner cables
LED-TO24-SW Master to Slave signal wire
LED-TO24-MW DMX to Master signal wire

TAPE LIGHT ACCESSORIES

LED-TO24-IC-RGB RGB Joiner Cable
LED-TO24-X-RGB 4 way "X" connector
LED-TO24-Y-RGB 3 way "Y" connector
LED-TO24-EC End cap
LED-TO24-C1 Mounting clip 1 (10 per pack)
LED-TO24-C2 Mounting clip 2 (10 per pack)
LED-TO24-C3 Mounting clip 3 (10 per pack)
LED-TO24-CH Retrofit channel

WAC Lighting
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Phone (800) 526.2588 • Fax (800) 526.2585




InvisiLED® Palette Outdoor




Power Supplies and Accessories









WAC LIGHTING

Responsible Lighting®

POWER SUPPLY		Model #	Input	Output	Dimensions	Description
Remote Class 2 DC Transformer		EN-O24100-RB2-T	120V-277V AC	24V DC/96W	11 ⁷ / ₁₆ " × 4 ¹ / ₈ " × 1 ¹⁵ / ₁₆ "	6' lead wire included. Requires a minimum load of 1W. Max run 100W: 40'

CONTROLLERS		Model #	Dimensions	Description
Wireless Palette Controller		LED-TO24-WS	4" × 2 ¹ / ₂ " × 5 ⁵ / ₈ "	Wireless connection to Master Controller. <ul style="list-style-type: none"> • Use to switch from color changing to white light • Play/Pause the color changing effect • Control the brightness and speed of the color changing effect <i>Includes 2 AAA batteries.</i>
Master Controller		LED-TO24-CM	4" × 2" × 1 ¹ / ₂ "	Powers one run up to 40'. Connects and controls all slave controllers for runs over 40'.
Slave Controller		LED-TO24-CS	4" × 2" × 1 ¹ / ₂ "	Connects to Master Controller for runs over 40'. Uses a separate 120V power supply. Powers up to another 40', a new Slave Controller is needed for every 40' extension.

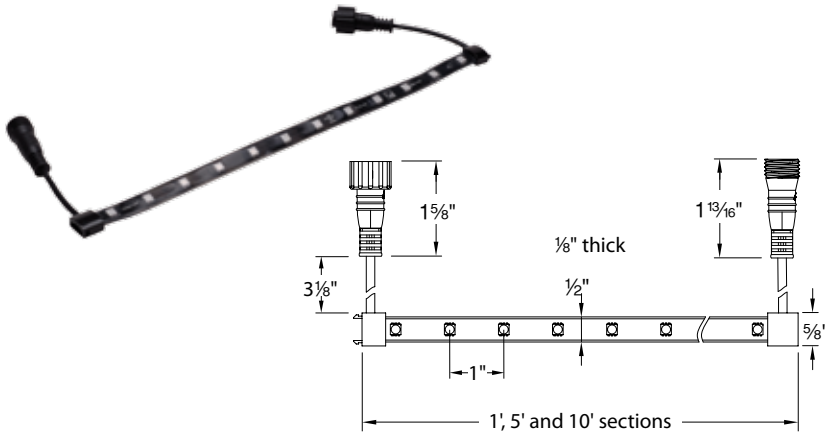
CONTROLLER COMPONENTS		Model #	Dimensions	Description
Joiner Cable		LED-TO24-IC6 LED-TO24-IC12 LED-TO24-IC72 LED-TO24-IC120	6" 12" 72" 120"	Extends distance between Power Supply and Master Controller.
Signal wire		LED-TO24-SW60 LED-TO24-SW120	60" 120"	Connects Master Controller and Slave Controller.
DMX Signal Wire		LED-TO24-MW60 LED-TO24-MW120	60" 120"	Connects DMX system to Master Controller.

TAPE LIGHT ACCESSORIES		Model #	Dimensions	Description
RGB Joiner Cable		LED-TO24-IC6-RGB LED-TO24-IC12-RGB LED-TO24-IC72-RGB LED-TO24-IC120-RGB	6" 12" 72" 120"	Use to connect two sections of InvisiLED® Outdoor Palette tape.
4-Way "X" Connector		LED-TO24-X-RGB	wires: 5" each connectors: 3/4" each	"X" connector has one male and three female connectors and can be used to easily customize your design layout.
3-Way "Y" Connector		LED-TO24-Y-RGB	wires: 5" each connectors: 3/4" each	"Y" connector has one male and two female connectors and can be used to easily customize your design layout.
End cap		LED-TO24-EC	5/8" × 5/8" × 3/8"	Use to terminate every run to protect against contaminants. Seal cut end with silicone after adding end cap.
Mounting Clip 1 (10 pack)		LED-TO24-C1	1 1/8" × 3/8" × 1/4"	For installation on non-flat surfaces where there is no edge contact. 2 clips per ft are recommended for straight runs.
Mounting Clip 2 (10 pack)		LED-TO24-C2	7/8" × 3/8" × 1/4"	For installation on non-flat surfaces, allows for contact on one edge. 2 clips per ft are recommended for straight runs.
Mounting Clip 3 (10 pack)		LED-TO24-C3	5/8" × 5/8" × 1/4"	For installation on non-flat surfaces, allows for contact on both edges. 2 clips per ft are recommended for straight runs.
Retrofit Channel		LED-TO24-CH1 LED-TO24-CH5	12" × 5/8" × 1/4" 60" × 5/8" × 1/4"	Rigid, non-flexible channel for mounting to a straight, solid surface.

InvisiLED® Palette Outdoor

24V Outdoor Color Changing LED Tape Light

WAC LIGHTING
Responsible Lighting®



Fixture Type:

Q13

Catalog Number:

Project:

Location:

PRODUCT DESCRIPTION

Color changing 24V system for any and all outdoor accent lighting applications. Uses the latest LED technology water sealed in silicone cased tape, while still delivering crisp, quality light and effortless navigation of curves.

FEATURES

- IP-68 rated, allows for submersion up to five feet
- Power supply is UL and CUL listed
- Wet location listed
- DMX controller option (consult factory)
- Select from any color to visibly change an interior design
- Switch to warm 3500K white light with the push of a button
- Ultra thin profile at 1/8"
- Diodes spaced evenly at 1" on center
- Minimum run length of 1' and maximum of 40'
- May be field cut every 2" at the end of a run
- Unique tape section connections ensure even LED spacing and no dark spots
- Four mounting options provided for different surfaces
- 80,000 hour rated life
- 5 year WAC Lighting product warranty

SPECIFICATIONS

Construction: Flexible, silicone sealed tape light. Indicating marks on back for field cutting

Power Supply: Remote electronic Class 2 transformer. 120VAC 50/60Hz input, 24VDC 100W output.

Light Source: 12 LED diodes per foot. Runs on 24V at 1.5W per foot.

Dimming: Dimmable using an LED-TO24-WS wireless controller.

Operating Temperature: -4°F – 122°F (-20°C – 50°C), relative humidity 95%.

Standards: UL & CUL Listed. UL (E204239) wet location certified.

ORDER NUMBER

Model #	Length	Color
LED-TCO	1 1 foot	RGB
	5 5 feet	
	10 10 feet	

LED-TCO - [] - RGB

Example: LED-TCO-10-RGB



Stop at any point for a custom color effect.

POWER SUPPLY

EN-O24100-RB2-T 24VDC/100W
Class 2 LED transformer

CONTROLLERS

LED-TO24-WS 4 function wireless controller
LED-TO24-CM Master controller
LED-TO24-CS Slave controller

CONTROLLER COMPONENTS

LED-TO24-IC Joiner cables
LED-TO24-SW Master to Slave signal wire
LED-TO24-MW DMX to Master signal wire

TAPE LIGHT ACCESSORIES

LED-TO24-IC-RGB RGB Joiner Cable
LED-TO24-X-RGB 4 way "X" connector
LED-TO24-Y-RGB 3 way "Y" connector
LED-TO24-EC End cap
LED-TO24-C1 Mounting clip 1 (10 per pack)
LED-TO24-C2 Mounting clip 2 (10 per pack)
LED-TO24-C3 Mounting clip 3 (10 per pack)
LED-TO24-CH Retrofit channel

WAC Lighting
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InvisiLED® Palette Outdoor




Power Supplies and Accessories









WAC LIGHTING

Responsible Lighting®

POWER SUPPLY		Model #	Input	Output	Dimensions	Description
Remote Class 2 DC Transformer		EN-O24100-RB2-T	120V-277V AC	24V DC/96W	11 ⁷ / ₁₆ " × 4 ¹ / ₈ " × 1 ¹⁵ / ₁₆ "	6' lead wire included. Requires a minimum load of 1W. Max run 100W: 40'

CONTROLLERS		Model #	Dimensions	Description
Wireless Palette Controller		LED-TO24-WS	4" × 2 ¹ / ₂ " × 5 ⁵ / ₈ "	Wireless connection to Master Controller. • Use to switch from color changing to white light • Play/Pause the color changing effect • Control the brightness and speed of the color changing effect <i>Includes 2 AAA batteries.</i>
Master Controller		LED-TO24-CM	4" × 2" × 1 ¹ / ₂ "	Powers one run up to 40'. Connects and controls all slave controllers for runs over 40'.
Slave Controller		LED-TO24-CS	4" × 2" × 1 ¹ / ₂ "	Connects to Master Controller for runs over 40'. Uses a separate 120V power supply. Powers up to another 40', a new Slave Controller is needed for every 40' extension.

CONTROLLER COMPONENTS		Model #	Dimensions	Description
Joiner Cable		LED-TO24-IC6 LED-TO24-IC12 LED-TO24-IC72 LED-TO24-IC120	6" 12" 72" 120"	Extends distance between Power Supply and Master Controller.
Signal wire		LED-TO24-SW60 LED-TO24-SW120	60" 120"	Connects Master Controller and Slave Controller.
DMX Signal Wire		LED-TO24-MW60 LED-TO24-MW120	60" 120"	Connects DMX system to Master Controller.

TAPE LIGHT ACCESSORIES		Model #	Dimensions	Description
RGB Joiner Cable		LED-TO24-IC6-RGB LED-TO24-IC12-RGB LED-TO24-IC72-RGB LED-TO24-IC120-RGB	6" 12" 72" 120"	Use to connect two sections of InvisiLED® Outdoor Palette tape.
4-Way "X" Connector		LED-TO24-X-RGB	wires: 5" each connectors: 3/4" each	"X" connector has one male and three female connectors and can be used to easily customize your design layout.
3-Way "Y" Connector		LED-TO24-Y-RGB	wires: 5" each connectors: 3/4" each	"Y" connector has one male and two female connectors and can be used to easily customize your design layout.
End cap		LED-TO24-EC	5/8" × 5/8" × 3/8"	Use to terminate every run to protect against contaminants. Seal cut end with silicone after adding end cap.
Mounting Clip 1 (10 pack)		LED-TO24-C1	1 1/8" × 3/8" × 1/4"	For installation on non-flat surfaces where there is no edge contact. 2 clips per ft are recommended for straight runs.
Mounting Clip 2 (10 pack)		LED-TO24-C2	7/8" × 3/8" × 1/4"	For installation on non-flat surfaces, allows for contact on one edge. 2 clips per ft are recommended for straight runs.
Mounting Clip 3 (10 pack)		LED-TO24-C3	5/8" × 5/8" × 1/4"	For installation on non-flat surfaces, allows for contact on both edges. 2 clips per ft are recommended for straight runs.
Retrofit Channel		LED-TO24-CH1 LED-TO24-CH5	12" × 5/8" × 1/4" 60" × 5/8" × 1/4"	Rigid, non-flexible channel for mounting to a straight, solid surface.

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Provides a minimum of 90 minutes of illumination for the rated wattage upon loss of AC power. Ideal for applications requiring attractive unit equipment with quick installation. **Certain airborne contaminants can diminish integrity of acrylic.** [Click here for Acrylic Environmental Compatibility table, for suitable uses.](#)

CONSTRUCTION — White, compact, low-profile contemporary design. Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable resin resists discoloration from natural and man-made light sources.

Two LED lamp heads with 12 series-parallel white LEDs each, provide redundant light sources to ensure emergency lighting performance. Typical LED lamp life is 10 years.

Dual-voltage input capability (120/277V). Edge connector on printed circuit board ensures long-term durability. Low-profile, integrated test switch/pilot light. Easily visible bright red status indicator.

Unique track-and-swivel arrangement permits full range of direction of lamp head adjustment. Universal J-box mounting pattern. Tool-less access for maintenance. Flexible conduit entry provision on top of the unit.

Ceiling- or wall-mount standard.

ELECTRICAL — Current-limiting charger maximizes battery life and minimizes energy consumption. Provides low operating costs.

Short-circuit protection — current-limiting charger circuitry protects printed circuit board from shorts.

Thermal compensation adjusts charger output to provide optimum charge voltage relative to ambient temperature.

Regulated charge voltage maintains constant-charge voltage over a wide range of line voltages. Prevents over/undercharging that shortens battery life and reduces capacity.

Filtered charger input minimizes charge voltage ripple and extends battery life.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

BATTERY: Sealed, maintenance-free nickel-cadmium battery delivers 90 minute capacity to emergency lamps. Two-state constant-current charge maximizes battery life and automatically recharges after battery discharge. Low-voltage disconnect prevents excessively deep discharge that can permanently damage the battery. Optional high-output battery available to power both local and optional LED remote lamp heads simultaneously.

Wireless Reporting System (WRS option): Data from self-diagnostics will be communicated via wireless transceivers within their vicinity, creating a self-configuring, self-healing and self-optimizing wireless network that exchanges the data between FIDO-compatible emergency lighting fixtures on an event-driven basis. Wireless communications electronics to operate 2.4GHz mesh network are enclosed entirely within the fixture.

Self-Diagnostics (SD- Option) Single multi-color LED indicator to display two-state charging, test activation and three-state diagnostic test. Test switch provides manual activation of 30-second diagnostic testing for on-demand visual inspection. Self-diagnostic testing for 30 seconds every 30 days, 30 minutes at 180-day interval, and 90 minutes annually. Diagnostic evaluation of LED light source, AC to DC transfer, charging and battery condition.

Wireless Reporting System (WRS option) must be ordered with FIDO edge router.



Thermoplastic Emergency Light

ELM2 LED



LED Lamp Head
Ni-Cad Battery



INSTALLATION — Radio range is 500' between fixtures in most buildings. Actual performance may vary depending on application environment and electromagnetic interference. Substantially longer distances have been recorded in uninterrupted open air. Consult factory for more details.

LISTING — UL damp location listed standard 50-104°F (10-40°C). Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

WARRANTY — Five-year limited warranty. Full warranty terms located at www.AcuityBrands.com/CustomerResources/Terms_and_Conditions.aspx.

Specifications subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: ELM2 LED

ELM2 Series	LED Lamp type	Housing	Options
ELM2	LED Two 1.5W/3.6V white LED	(blank) White B Black	HO High-output ni-cad battery for 6W remote capacity ¹ SD Self-diagnostics ¹ NOM Meets Mexican standards WRS Dual-voltage 120/277, nickel-cadmium battery back-up and self-diagnostics with FIDO wireless reporting system capability ¹

Accessories: Order as separate catalog number.	
ELA Q L0304 SD	Single LED indoor remote head, white, self-diagnostics ^{2,3,4}
ELA T Q L0304 SD	Twin LED indoor remote head, white, self-diagnostics ^{2,3,4}
ELA QWP L0304 SD	Single LED weather-proof remote head, gray, self-diagnostics ^{2,3,4}
ELA T QWP L0304 SD	Twin LED weather-proof remote head, gray, self-diagnostics
ELA WG1	Wireguard, 15"W x 13-1/2"H x 6"D (See spec sheet ELA-WG)
FIDO	Emergency wireless reporting system edge router (See spec sheet FIDO)

Notes

- Not available with NOM.
- Only available with HO option. See spec sheet [ELA Q LED](#).
- Also available in black. Add "B" after ELA to order black finish. Example: ELA B Q L0304 SD. See spec sheet [ELA Q LED](#).
- Only compatible with Quantum LED series.

ELM2 LED QUANTUM® Thermoplastic Emergency Light

SPECIFICATIONS

Electrical				
Primary Circuit				
Typical LED life ¹	Supply voltage	Max amps	Max watts	HO/max watts
10 years	120	.04	1.44	2.88
	277	.03	1.44	2.88

BATTERY

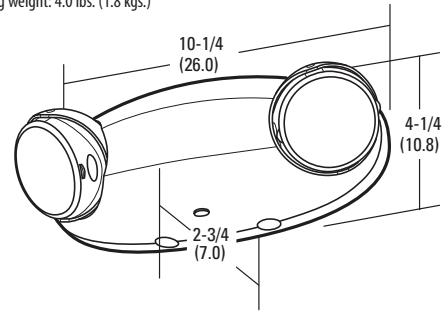
Ni-Cad				
Voltage	Shelf life ²	Typical life ²	Maintenance ³	Optimum temperature ⁴
3.6	3 years	7-9 years	none	50-104°F (10-40°C)

- Based on continuous operation.
- At 77°F (25°C).
- All life safety equipment, including emergency lighting path of egress, must be maintained, serviced and tested in accordance with all National Fire Protection Association and local codes. Failure to perform the required maintenance, service or testing could jeopardize the safety of occupants and will void all warranties.
- Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity. Consult factory for detailed information.

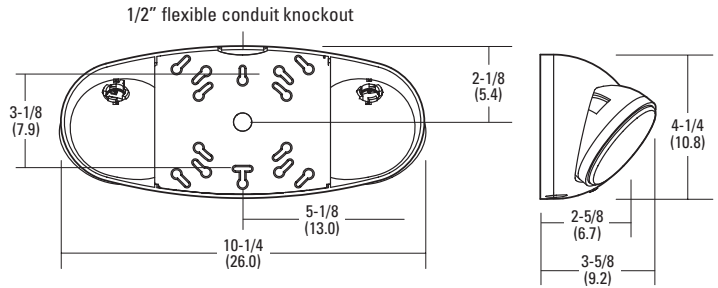
Remote Output Capacity	
Standard unit	Unit/HO battery
NA	6W

MOUNTING

All dimensions are inches (centimeters).
Shipping weight: 4.0 lbs. (1.8 kgs.)



Mounting Plate

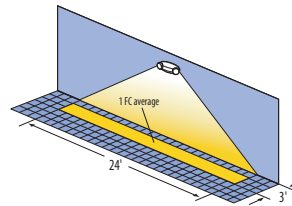


LAMP PHOTOMETRICS

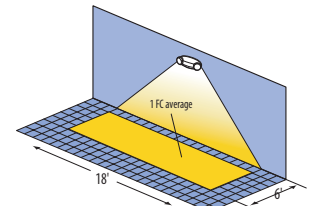
QUANTUM LED SERIES – SINGLE COVERAGE

3W Total White LEDs

Using a single unit at a typical 7.5' mounting height delivers an average illuminance of 1.0 FC over a distance of 24' on a 3' path of egress and 18' on a 6' path of egress.



Example of single ELM2 LED WRS unit illuminating a 3' path of egress

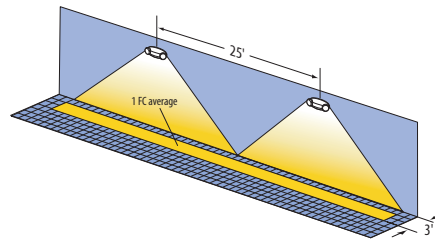


Example of single ELM2 LED WRS unit illuminating a 6' path of egress

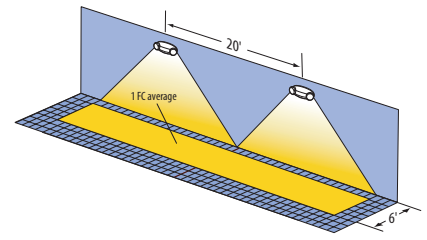
QUANTUM LED SERIES – MULTIPLE COVERAGE

3W Total White LEDs

Using multiple units at a typical 7.5' mounting height delivers 25' center-to-center spacing on a 3' path of egress and 20' center-to-center spacing on a 6' path of egress.



Example of multiple ELM2 LED WRS units illuminating a 3' path of egress



Example of multiple ELM2 LED WRS units illuminating a 6' path of egress

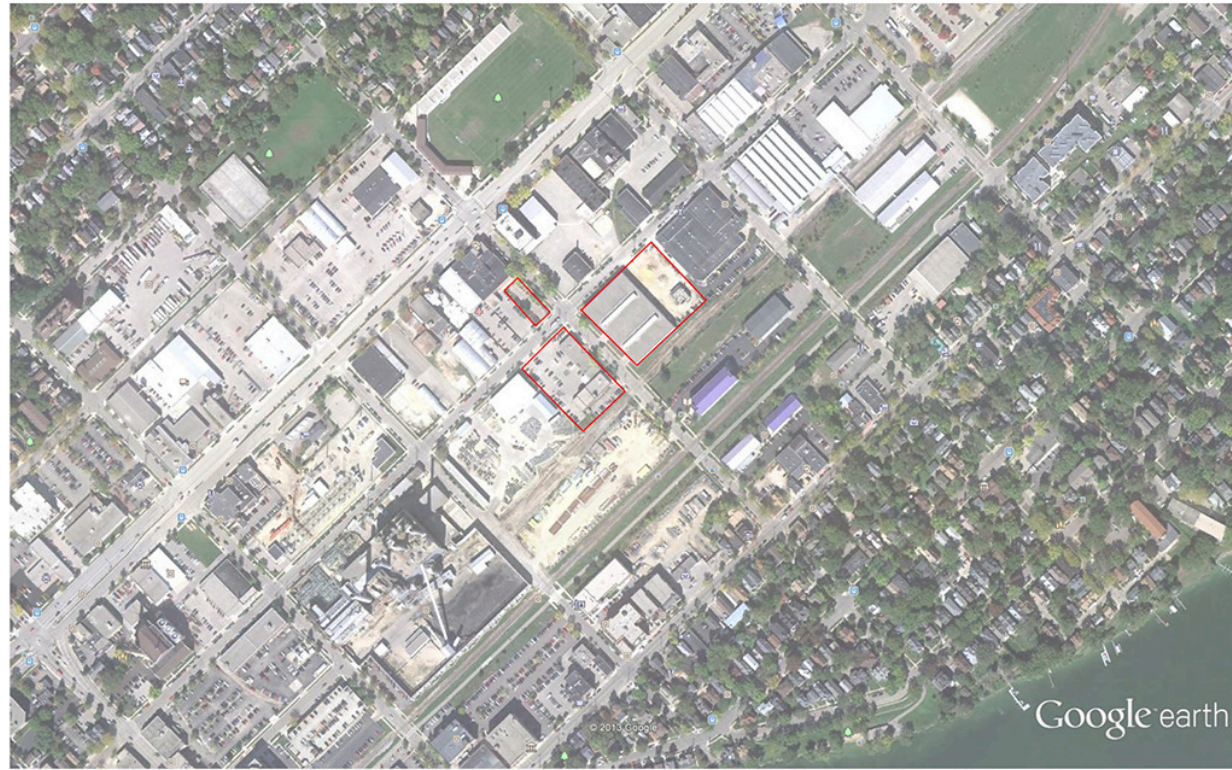
EXTENDED RUN-TIME FOR HIGH-OUTPUT UNITS

Product	Run time
ELM2 LED HO WRS (no remotes)	3.9 hours

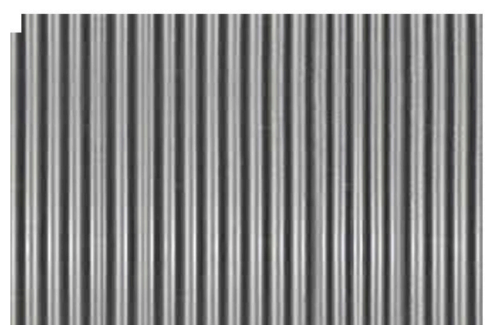
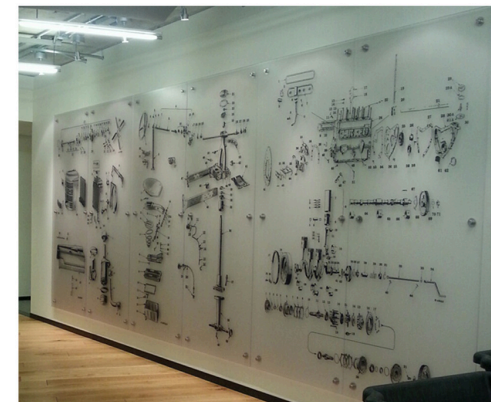
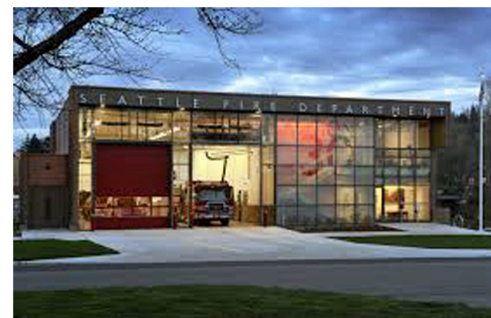
* Meets Life Safety Code standard minimum illuminance of 0.1 FC and average illuminance of 1.0 FC. Assumes open space with no obstructions, mounting height: 7.5', ceiling height: 9', and reflectances: 80/50/20. Analysis based on independently tested photometrics.

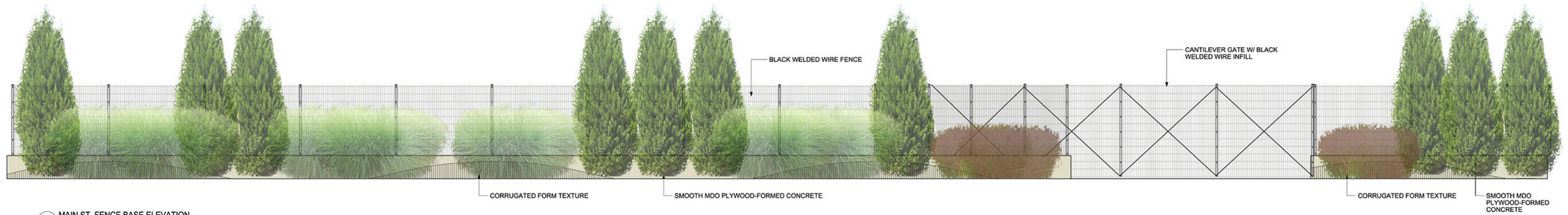


ELM2-LED



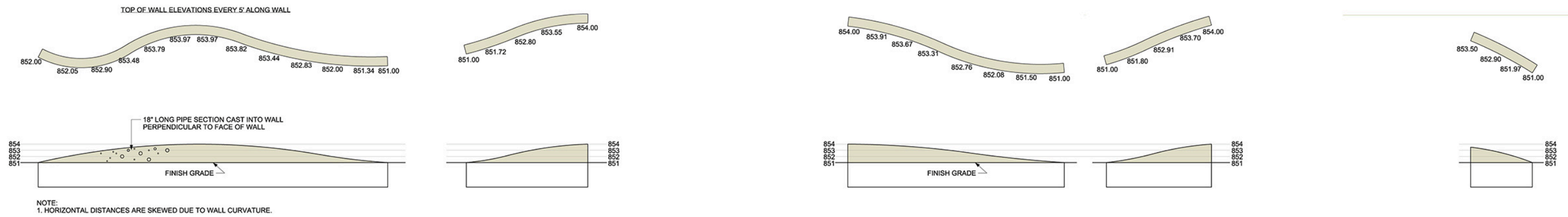






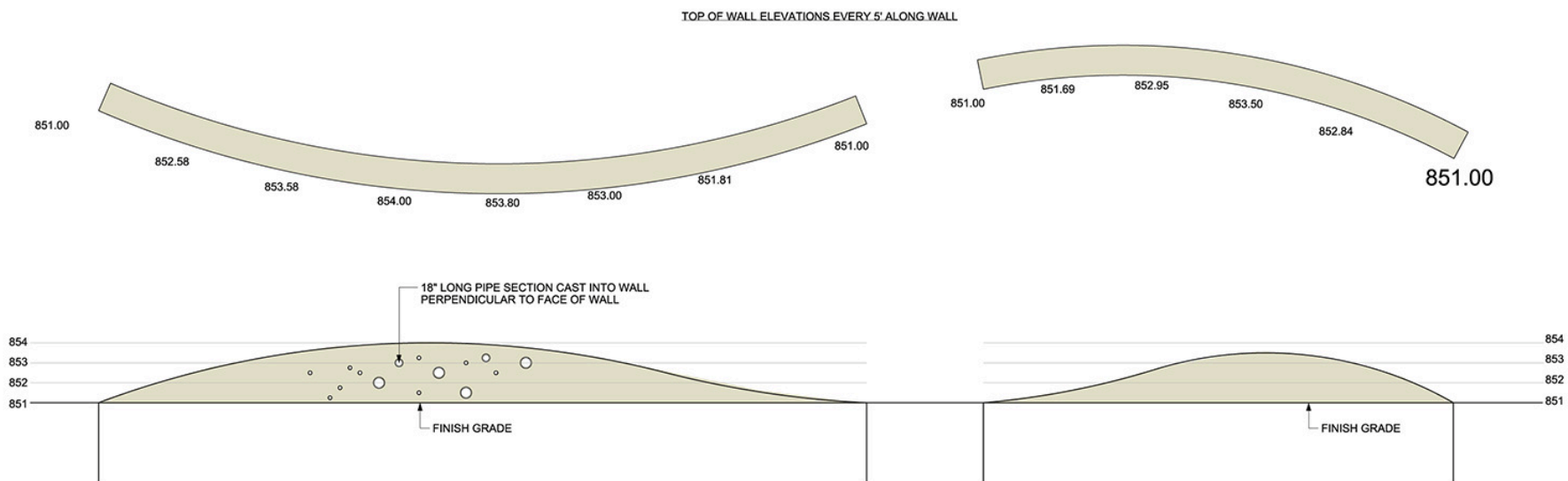
3
L401 1/4" = 1'-0"

MAIN ST. FENCE BASE ELEVATION



4
L401 1/8" = 1'-0"

PATERSON ST. SITE WALL ELEVATION



4
L301 1/4" = 1'-0"

MAIN ST. SITE WALL ELEVATION



PATERSON STREET LOOKING SOUTHEAST



WELDED WIRE FENCE (MATCH CENTRAL PARK)



CORRUGATED CONCRETE FORMS housepstudiope.com



UNDULATING CONCRETE WALL landezine.com

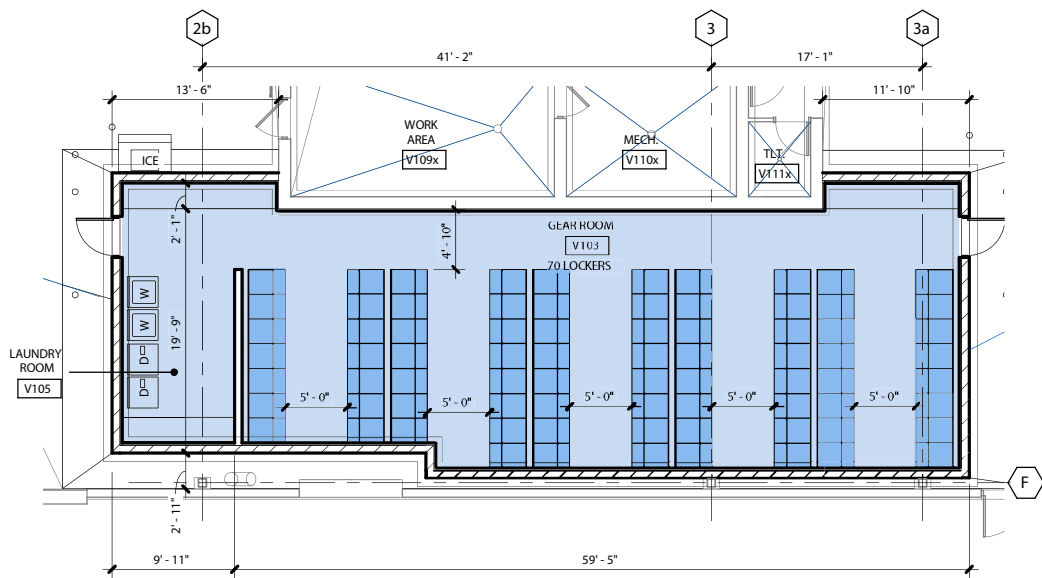


CONCRETE WALL HOLE FORM VOIDS interiii.com



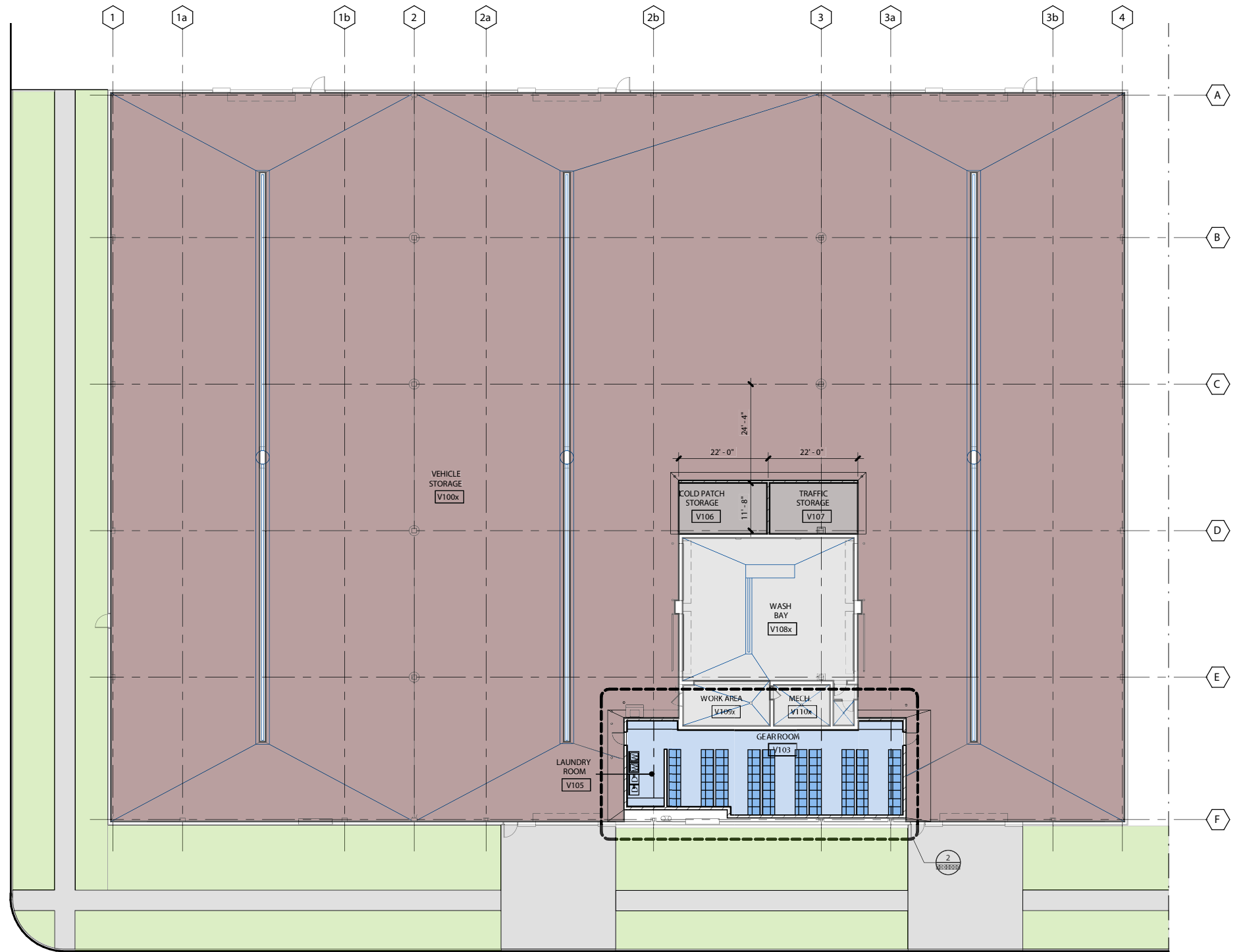
FENCE SCREENING INFILL (NON-PUBLIC AREAS)

- VEHICLE STORAGE
- LOCKER ROOM
- EXISTING WASH BAY/ SUPPORT/MECH
- STORAGE
- TRENCH DRAINS

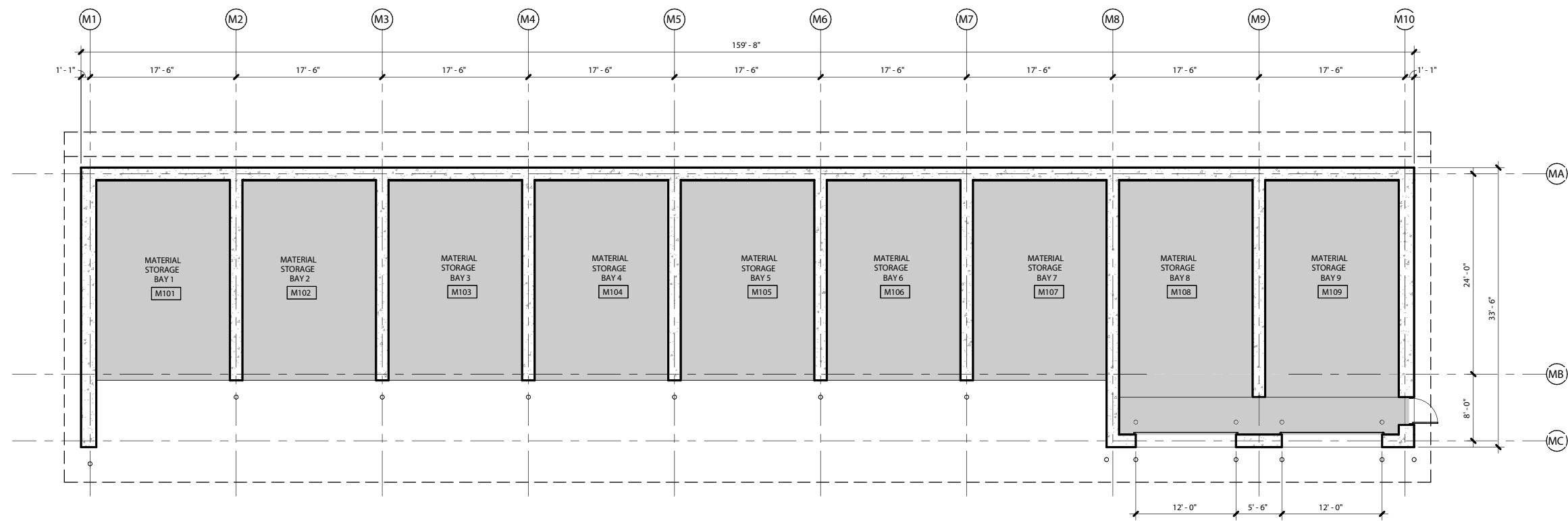


TRUE PLAN NORTH NORTH
2 VEHICLE STORAGE-ENLARGED LOCKER/LAUNDRY ROOM PLAN
 1/8" = 1'-0"
 0 4 8 16

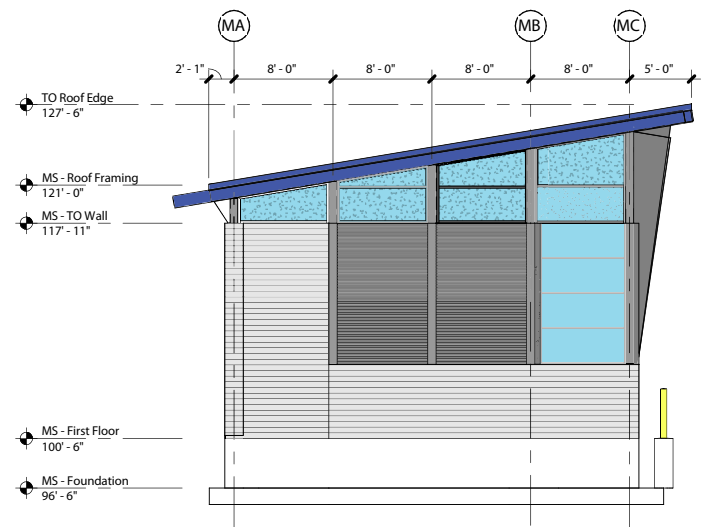
MAIN



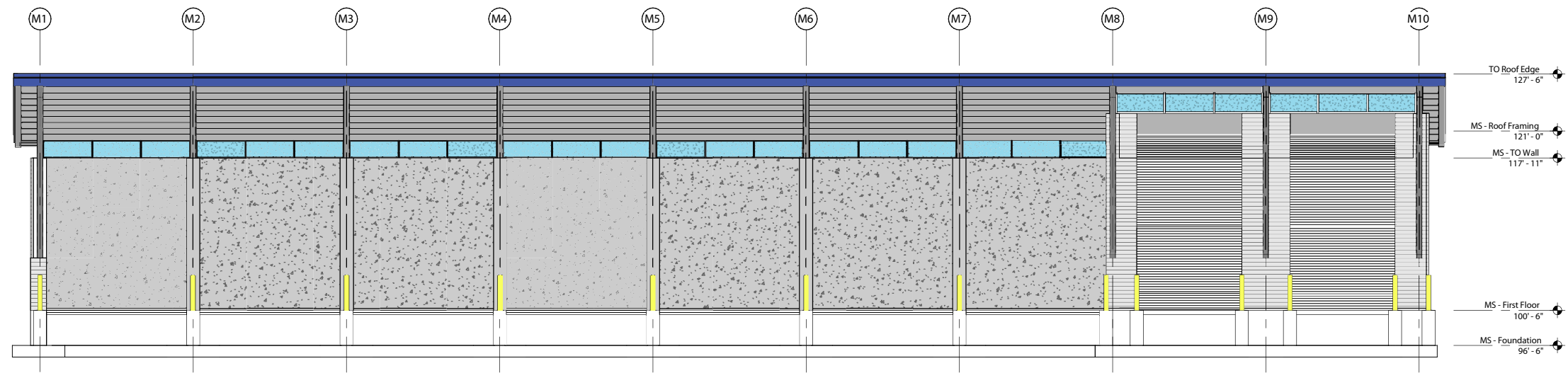
PATERSON
 TRUE PLAN NORTH NORTH
1 VEHICLE STORAGE BUILDING FLOOR PLAN
 1/16" = 1'-0"
 0 8 16 32



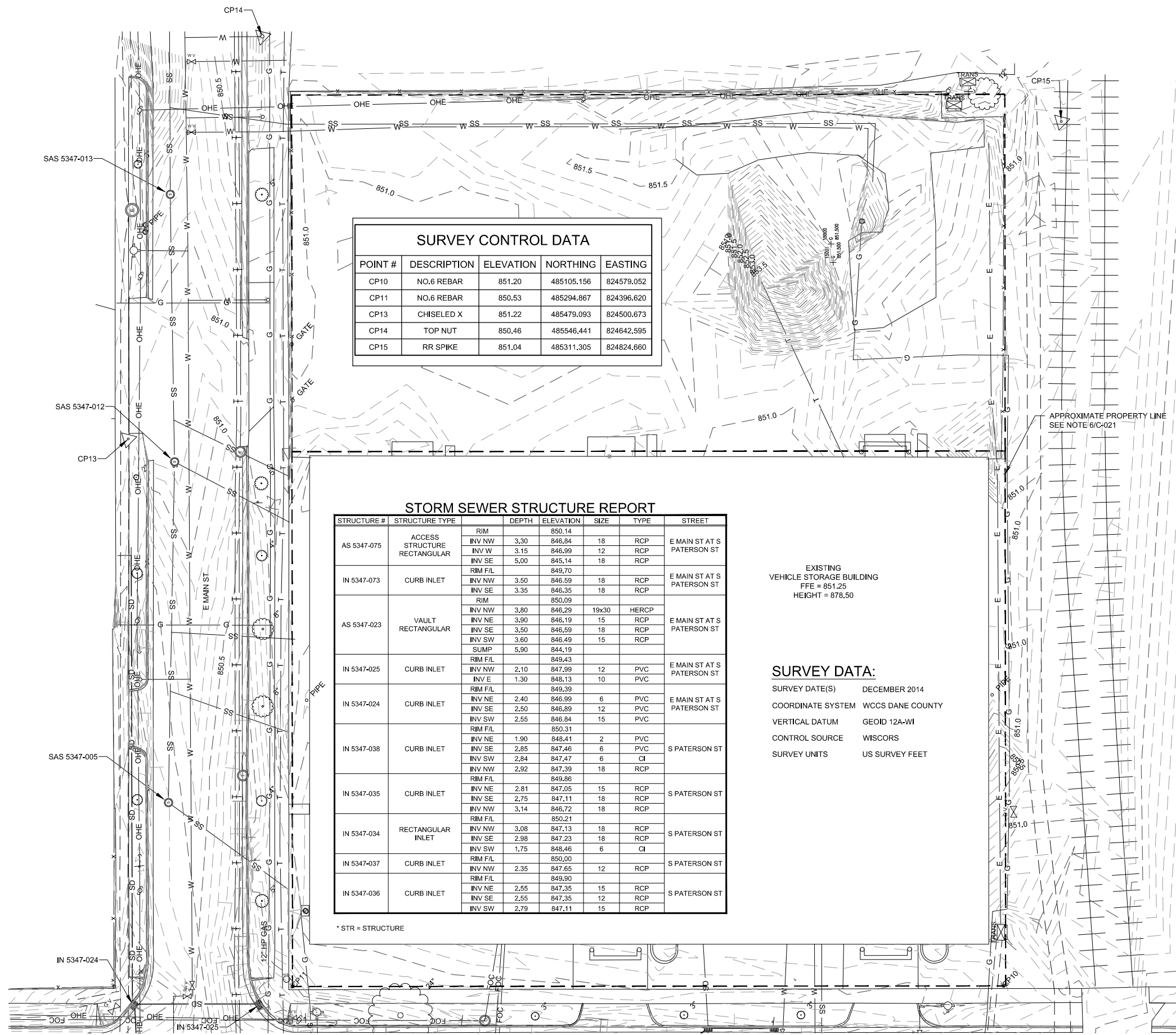
TRUE PLAN NORTH NORTH
1 MATERIAL STORAGE BUILDING FLOOR PLAN
 1/8" = 1'-0"
 0 4 8 16



3 WEST ELEVATION
 1/8" = 1'-0"
 0 4 8 16



2 SOUTH ELEVATION
 1/8" = 1'-0"
 0 4 8 16



SURVEY CONTROL DATA				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
CP10	NO.6 REBAR	851.20	485105.156	824579.052
CP11	NO.6 REBAR	850.53	485294.867	824396.620
CP13	CHISELED X	851.22	485479.093	824500.673
CP14	TOP NUT	850.46	485546.441	824642.595
CP15	RR SPIKE	851.04	485311.305	824824.660

STORM SEWER STRUCTURE REPORT							
STRUCTURE #	STRUCTURE TYPE	ELEVATION		SIZE	TYPE	STREET	
		DEPTH	RIM				
AS 5347-075	ACCESS STRUCTURE RECTANGULAR		850.14			E MAIN ST AT S PATERSON ST	
		3.30	846.84	18	RCP		
		3.15	846.99	12	RCP		
		5.00	845.14	18	RCP		
IN 5347-073	CURB INLET		849.70			E MAIN ST AT S PATERSON ST	
		3.50	846.59	18	RCP		
		3.35	846.35	18	RCP		
			850.09				
AS 5347-023	VAULT RECTANGULAR		849.43			E MAIN ST AT S PATERSON ST	
		3.80	846.29	19x30	HERCP		
		3.90	846.19	15	RCP		
		3.50	846.59	18	RCP		
		3.60	846.49	15	RCP		
		5.90	844.19				
IN 5347-025	CURB INLET		849.39			E MAIN ST AT S PATERSON ST	
		2.10	847.99	12	PVC		
		1.30	848.13	10	PVC		
			849.39				
IN 5347-024	CURB INLET		849.39			E MAIN ST AT S PATERSON ST	
		2.40	846.99	6	PVC		
		2.50	846.89	12	PVC		
		2.55	846.84	15	PVC		
IN 5347-038	CURB INLET		850.31			S PATERSON ST	
		1.90	848.41	2	PVC		
		2.85	847.46	6	PVC		
		2.84	847.47	6	CI		
		2.92	847.39	18	RCP		
			849.86				
IN 5347-035	CURB INLET		850.21			S PATERSON ST	
		2.81	847.05	15	RCP		
		2.75	847.11	18	RCP		
		3.14	846.72	18	RCP		
IN 5347-034	RECTANGULAR INLET		850.21			S PATERSON ST	
		3.08	847.13	18	RCP		
		2.98	847.23	18	RCP		
		1.75	848.46	6	CI		
IN 5347-037	CURB INLET		850.00			S PATERSON ST	
		2.35	847.65	12	RCP		
			849.90				
IN 5347-036	CURB INLET		850.31			S PATERSON ST	
		2.55	847.35	15	RCP		
		2.55	847.35	12	RCP		
		2.79	847.11	15	RCP		

EXISTING VEHICLE STORAGE BUILDING
FFE = 851.25
HEIGHT = 878.50

SURVEY DATA:
 SURVEY DATE(S) DECEMBER 2014
 COORDINATE SYSTEM WCCS DANE COUNTY
 VERTICAL DATUM GEOID 12A-WI
 CONTROL SOURCE WISCORS
 SURVEY UNITS US SURVEY FEET

SITE SURVEY PLAN NOTES:

1. CONTOUR INTERVALS SHOWN ARE 1.0'.
2. PRIVATE SUBSURFACE UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON GROUND MARKINGS PLACED BY CLIENT REPRESENTATIVE. MARKINGS MAY NOT BE BY BENEFIT OF SUBSURFACE DETECTING INSTRUMENTS AS SOME WERE MARKED PER PERSONNEL BEST RECOLLECTION.
3. PUBLIC SUBSURFACE UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON GROUND MARKINGS PLACED BY DIGGERS HOTLINE. DIGGERS HOTLINE DOES NOT GUARANTEE THE PRECISION OF THEIR MARKINGS. IN ACCORDANCE WITH WISCONSIN LAW, SUBSURFACE UTILITIES MUST BE EXPOSED VIA HAND DIGGING BEFORE MACHINE DIGGING IS PERMISSIBLE. UTILITY LOCATION MARKINGS ARE VALID FOR ONLY 10 DAYS. CONTRACTOR MUST ORDER NEW UTILITY LOCATE PRIOR TO ANY EXCAVATION.
4. SANITARY SEWER AND STORM SEWER LOCATIONS HAVE BEEN DETERMINED BY OBSERVABLE SURFACE STRUCTURES AND RESPECTIVE FEATURES. INTERMEDIATE PIPE LOCATIONS ARE APPROXIMATE AS ACCURATE LOCATIONS WERE NOT AVAILABLE AT TIME OF SURVEY.
5. CONTROL POINTS AND BENCHMARKS SHOWN HEREON ARE FOR REFERENCE PURPOSES ONLY. PRIOR TO STAKING, THE CONTROL MUST BE INDEPENDENTLY VERIFIED AS UNDISTURBED. NO WARRANTY IS MADE WITH RESPECT TO THE ACCURACY OF CONTROL SHOWN HEREON AS THEY ARE SUBJECT TO POTENTIAL DISTURBANCE.
6. LOT LINES ARE NOT MEASURED OR FIELD VERIFIED AND ARE SHOWN AS RECORDED ON THE ORIGINAL PLAT OF THE CITY OF MADISON. ALL TOPOGRAPHIC DATA IS REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM.

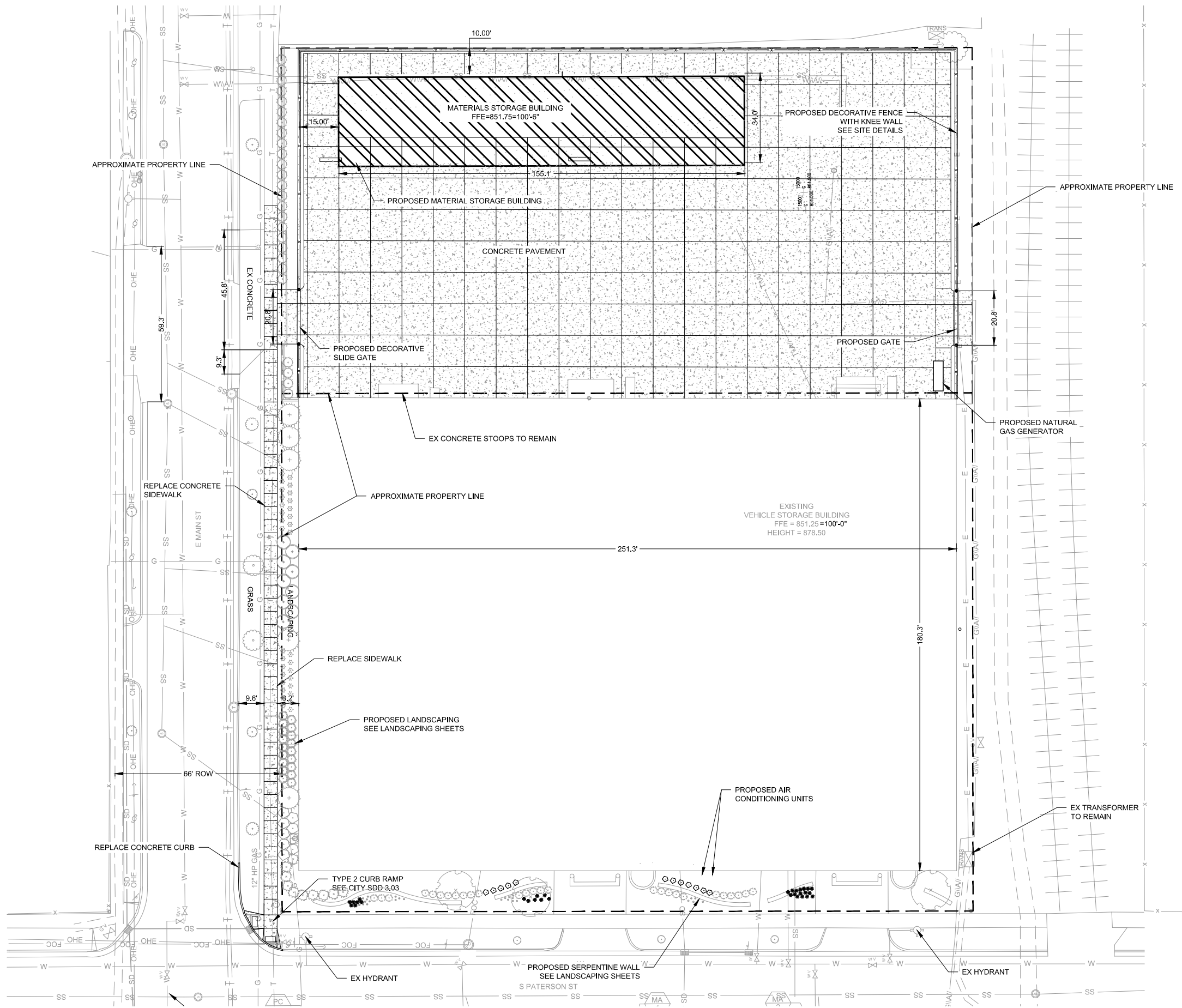
LEGEND:

- BOLLARD
- CONTROL POINT
- DOWNSPOUT
- ELECTRICAL TRANSFORMER BOX
- ELECTRICAL SERVICE PANEL
- ELECTRICAL HANDHOLE/PULLBOX
- FIRE HYDRANT
- FLAGPOLE
- GAS METER
- GAS VALVE
- INLET, CURB
- INLET, ROUND
- INLET, SQUARE
- IRON PIN
- LIGHT POLE (SINGLE)
- MANHOLE, ELECTRIC
- MANHOLE, SANITARY SEWER
- MANHOLE, STORM SEWER
- MANHOLE, TELECOMMUNICATIONS
- MARKER, CABLE
- POWER POLE
- SIGN (SINGLE POST)
- SOIL BORING
- TREE, DECIDUOUS
- WATER VALVE
- WATER METER
- WATER SHUTOFF
- MONITORING WELL
- GAS
- ELECTRIC, OVERHEAD
- ELECTRIC, UNDERGROUND
- EXISTING CONTOUR LINES
- FENCE
- HANDRAIL
- SANITARY SEWER
- STORM SEWER / ROOF DRAIN
- TELEPHONE
- TV CABLE
- WATER
- RAILROAD TRACKS



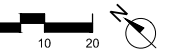
SITE IMPROVEMENTS PLAN NOTES:

1. LOT LINES ARE NOT MEASURED OR FIELD VERIFIED AND ARE SHOWN AS RECORDED ON THE ORIGINAL PLAT OF THE CITY OF MADISON. ALL TOPOGRAPHIC DATA IS REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM.



LEGEND:

	SIGN (SINGLE POST)
	STORM INLET, CURB
	STORM INLET, ROUND
	STORM INLET, SQUARE
	STORM SEWER MANHOLE
	TRAFFIC FLOW DIRECTION
	BOUNDARY (PROJECT / CONSTRUCTION LIMITS)
	CON CONDUIT, GENERIC
	G GAS
	OHE ELECTRIC, OVERHEAD
	E ELECTRIC, UNDERGROUND
	EXISTING CONTOUR LINES
	PROPOSED CONTOUR LINES
	FENCE
	GRADING LIMITS
	GUARDRAIL
	HANDRAIL
	PROPERTY LINE
	SS SANITARY SEWER
	S SIGNAL CABLE, UNDERGROUND
	SILT FENCE
	SSSSSSSSSSSSSSSSSSSS SEDIMENT LOG
	STONE RETAINING WALL
	SD STORM SEWER / CULVERT
	T TELEPHONE, UNDERGROUND
	TV TV CABLE
	W WATER
	ASPHALT
	CONCRETE
	STABILIZED CONSTRUCTION ENTRANCE
	EROSION MAT



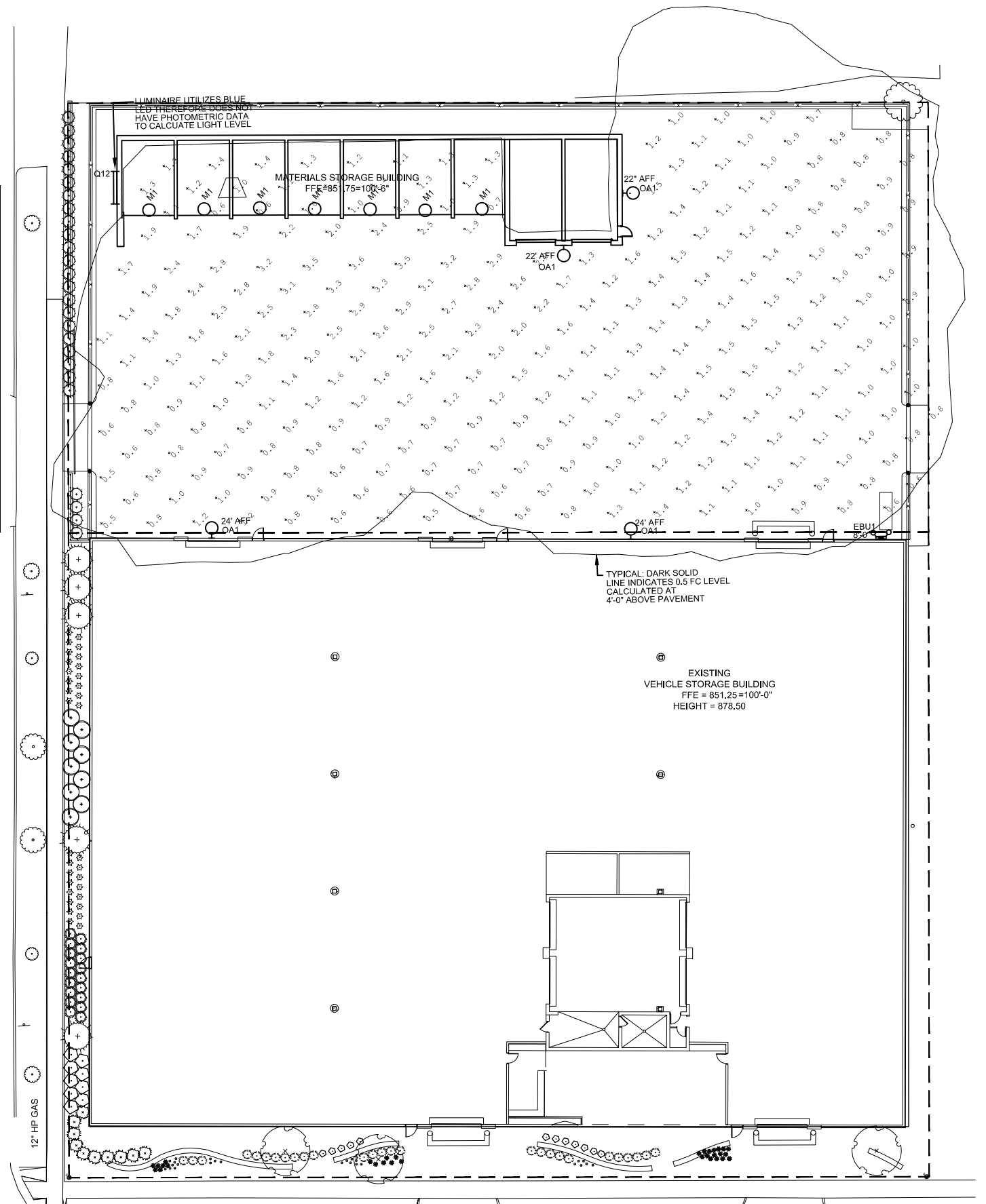
LUMINAIRE SCHEDULE

NOTE: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING LUMINAIRE AND INSTALLATION REQUIREMENTS. PROVIDE OPTIONS AND ACCESSORIES REFERENCED BY THE COLUMN TITLED "OPTIONS/ACCESSORIES". MANUFACTURERS LISTED ACCEPTABLE SHALL MEET ALL REQUIREMENTS AND FEATURES INDICATED. ACCEPTABLE MANUFACTURERS MUST MEET THE PHOTOMETRIC PERFORMANCE OF THE LISTED UNIT.

DES.	MANUFACTURER	CATALOG SERIES	DESCRIPTION	LAMP DATA	VOLT	BALLAST/D RIVER	MOUNT	CEILING TYPE	FIXTURE DEPTH	FIXTURE INPUT WATTAGE	INITIAL OR DELIVERED LUMENS	OPTIONS / ACCESSORIES	ACCEPTABLE MANUFACTURERS	SEE NOTE
M1	LITHONIA	D-SERIES LED CANOPY	LED SURFACE MOUNTED CANOPY FIXTURE WITH DIE CAST ALUMINUM HOUSING, CLEAR ACRYLIC LENS, INTEGRAL MOTION SENSOR AND IP66 LISTED.	4100K LED	120V	D	S	ES	3 1/2"	50W	4500			
OA1	LITHONIA	D-SERIES SIZE 1	LED POLE MOUNTED AREA FIXTURE WITH DIE CAST ALUMINUM HOUSING, ACRYLIC LENS, DARK SKY FRIENDLY CERTIFIED, IP65 RATED, TYPE III LIGHT DISTRIBUTION, AND NATURAL ALUMINUM FINISH, 30' SQUARE STRAIGHT STEEL POLE.	4000K LED	120V	D	-	-	-	70W	6700		CREE EDGE SERIES PHILIPS PUREFORM SERIES	
OF1	B-K LIGHTING	NITE STAR SERIES	ABOVE GRADE LED LANDSCAPE FLOOD LIGHT WITH ALUMINUM HOUSING, INTEGRAL DRIVER, MEDIUM FLOOD DISTRIBUTION, SOFT FOCUS LENS AND ROTATIONAL KNUCKLE MOUNTING. FINISH TO BE SELETEDECY BY ARCHITECT.	4000K LED	120V/24V	D	-	-	-	10W	350		LUMIERE CAMBRIA 203 SERIES INTENSE LIGHTING IVT104L SERIES	
O12	WAC	INVISIBLE OUTDOOR SERIES	25' COLOR CHANGING LED OUTDOOR TAPE LIGHT, COLOR SET TO BLUE. IP68 RATED. WET LOCATION LISTED, 100W REMOTE TRANSFORMER, 10' VERTICAL SECTION AND 15' HORIZONTAL SECTION REQUIRED. REFER TO ELEVATION. CONTRACTOR TO SUPPLY WITH ALL REQUIRED ACCESSORIES TO MAKE A COMPLETE INSTALLATION.	RGB LED	120V/24V	B	S	-	18"	1.5W/LF	-			
EBU1	LITHONIA	ELM2 SERIES	EMERGENCY BATTERY UNIT WITH TWO 1.5W/3.6V LED LAMPS WITH SELF DIAGNOSTICS	W/ UNIT	120/277V	-	W	-	-	5W	-		DUAL-LITE LZ SERIES PHILIPS VU6L SERIES	

CALCULATION SUMMARY					
CALCULATION AREA	AVG F.C.	MAX F.C.	MIN F.C.	AVG/MIN RATIO	MAX/MIN RATIO
MATERIAL STORAGE	1.4	2.5	0.6	2.3:1	4:1
PARKING	1.3	3.5	0.5	2.5:1	7:1
LANDSCAPE WALL	0.2	7.0	0.0	-	-

LIGHTING POWER DENSITY (LDP) SUMMARY			
CALCULATION AREA	AREA SF	TOTAL WATTS	LDP
LDP AREA	32,182	779	0.02





MADISON WATER UTILITY
Vehicle Storage Renovation and Material Storage Building - Urban Design Commission
Context Rendering Paterson & Main Street MWU Operations Center
13 July 2016

