

LETTER OF MEMORANDUM

To: Al Martin
Secretary of the Urban Design Commission
**Department of Planning & Community & Economic
Development**
Planning Division
Madison Municipal Building, Suite LL-100
215 Martin Luther King, Jr. Blvd.
Madison, Wisconsin 53701-2985

Date: 08/24/2016

Re: Nakoosa Trail Fleet-Fire-Radio Shop

The Project is the site development, design and construction of the Nakoosa Trail Fleet-Fire-Radio Shop for the City of Madison Fleet Services Department. We are formally submitting our schematic design to the Urban Design Commission for the purposes of **Final Approval**.

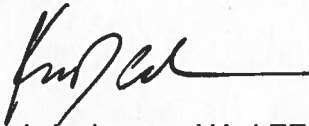
We are requesting a time to present our project to the Urban Design Commission on September 7th. We have prepared preliminary drawings to provide details on the context of the existing and new site configurations, design concepts, and site and building design schematics to obtain feedback, direction and approval by the Urban Design Commission.

We are submitting the design for the complete building and site under this scope of work and contract. The submitted Site Plan also shows the footprint for the planned future development of the remainder of this site, which is a satellite facility for Madison Metro.

The project site is located on Lots 2 through 6 at Nakoosa Trail and Commercial Avenue in Madison, Wisconsin. The former Cub Foods building address is 4141 Nakoosa Trail.

Thank you in advance for your time!

Sincerely,



Ken J. Anderson, AIA, LEED AP
Principal, RNL

WASHINGTON, DC
1451 DOLLEY MADISON BLVD
SUITE 200
MCLEAN VA 22101
T 800 826 7803

DENVER
LOS ANGELES
PHOENIX
ABU DHABI



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>August 24, 2016</u>	<input type="checkbox"/> Informational Presentation
UDC Meeting Date: <u>September 7, 2016</u>	<input checked="" type="checkbox"/> Initial Approval
Combined Schedule Plan Commission Date (if applicable): _____	<input checked="" type="checkbox"/> Final Approval

1. Project Address: 4141 Nakoosa Trail
Project Title (if any): Nakoosa Trail Fleet/Fire/Radio Shop Facility

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: Ken Anderson Company: RNL Design
 Street Address: 1600 Wilson Blvd., Suite 360 City/State: Arlington, VA Zip: 22209
 Telephone: (571) 290-7679 Fax: () Email: ken.anderson@rnldesign.com

Project Contact Person: Ken Anderson Company: _____
 Street Address: (same as above) City/State: _____ Zip: _____
 Telephone: () Fax: () Email: _____

Project Owner (if not applicant): City of Madison, Bill Vandebrook
 Street Address: 200 N. First Street City/State: Madison, WI Zip: 53704
 Telephone: (608) 246-4540 Fax: () Email: WVandebrook@cityofmadison.com

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 Al Martin on August 22, 2016.
(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 Ken Anderson Relationship to Property Architect, Design Professional

Authorized Signature [Signature] Date 8/23/16

NAKOOSA TRAIL FLEET/FIRE/RADIO SHOP FACILITY REPORT

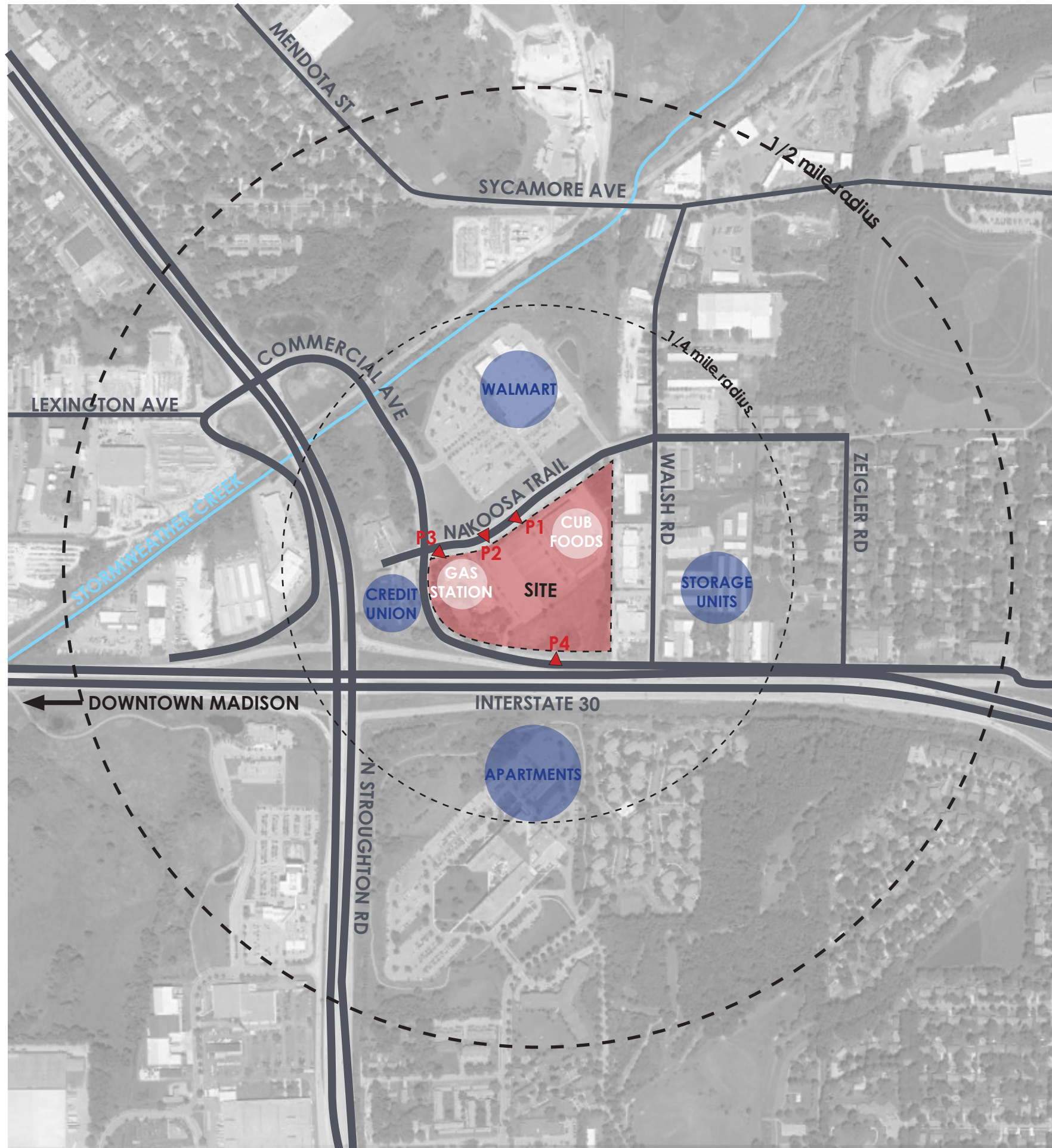
UDC FINAL APPROVAL

AUGUST 24th, 2016



RNL

SITE: NAKOOSA TRAIL
MADISON, WI



P1 VIEW TOWARDS CUB FOODS



P2 VIEW FROM NAKOOSA TRAIL



P3 VIEW TOWARD SITE FROM COMMERCIAL AVE



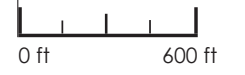
P4 VIEW DOWNHILL FROM COMMERCIAL AVE

RNL

LEGEND:



SITE: NAKOOSA TRAIL
MADISON, WI

SITE LOCATION PLAN



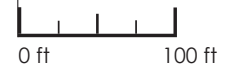


RNL

- LEGEND:**
-  Vegetation
 -  Existing Buildings

SITE: NAKOOSA TRAIL
MADISON, WI

EXISTING SITE PLAN

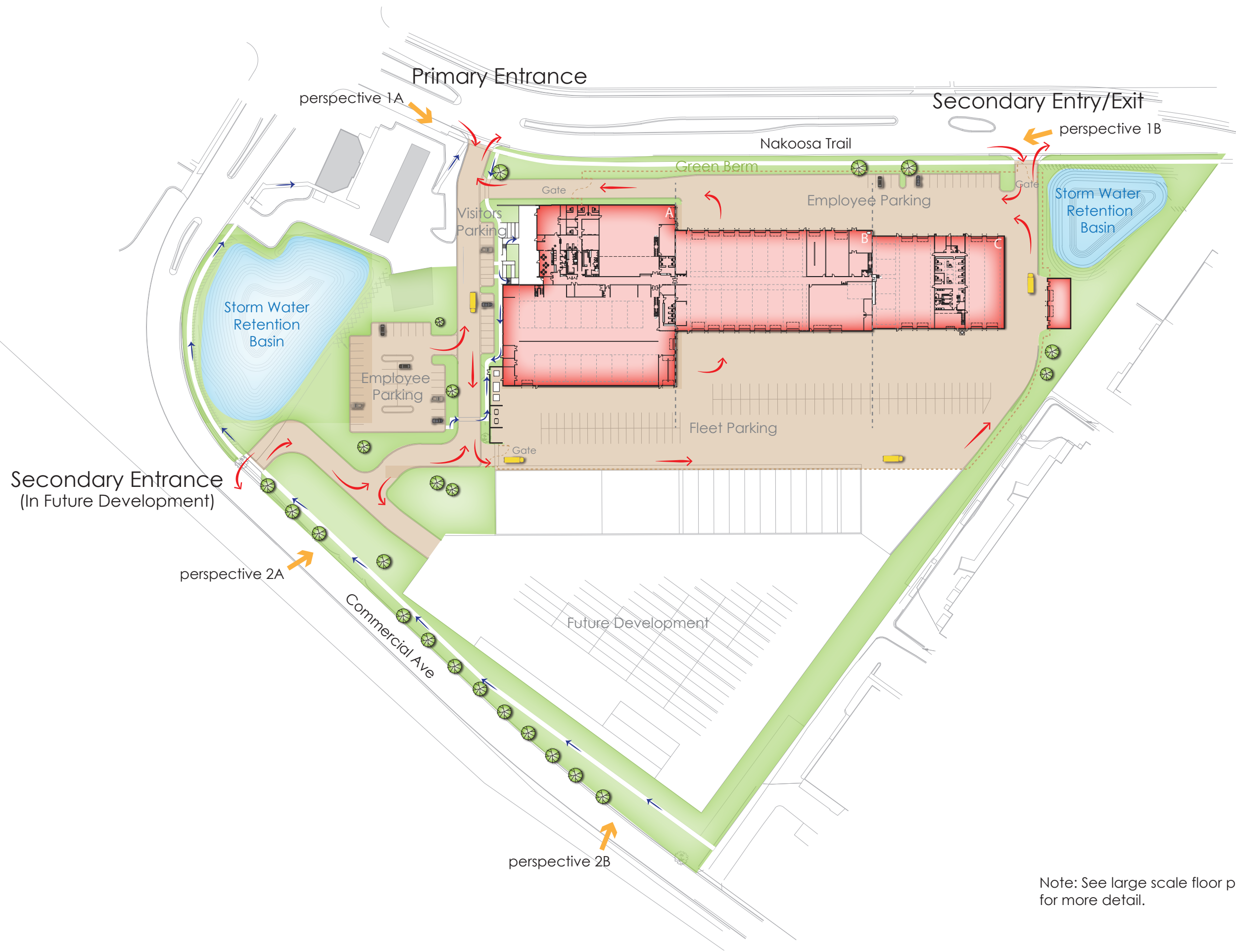


LEGEND:

- Vegetation
- Pedestrian Circulation
- Vehicle Circulation
- Existing Buildings

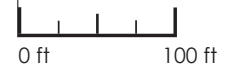
SITE: NAKOOSA TRAIL
MADISON, WI

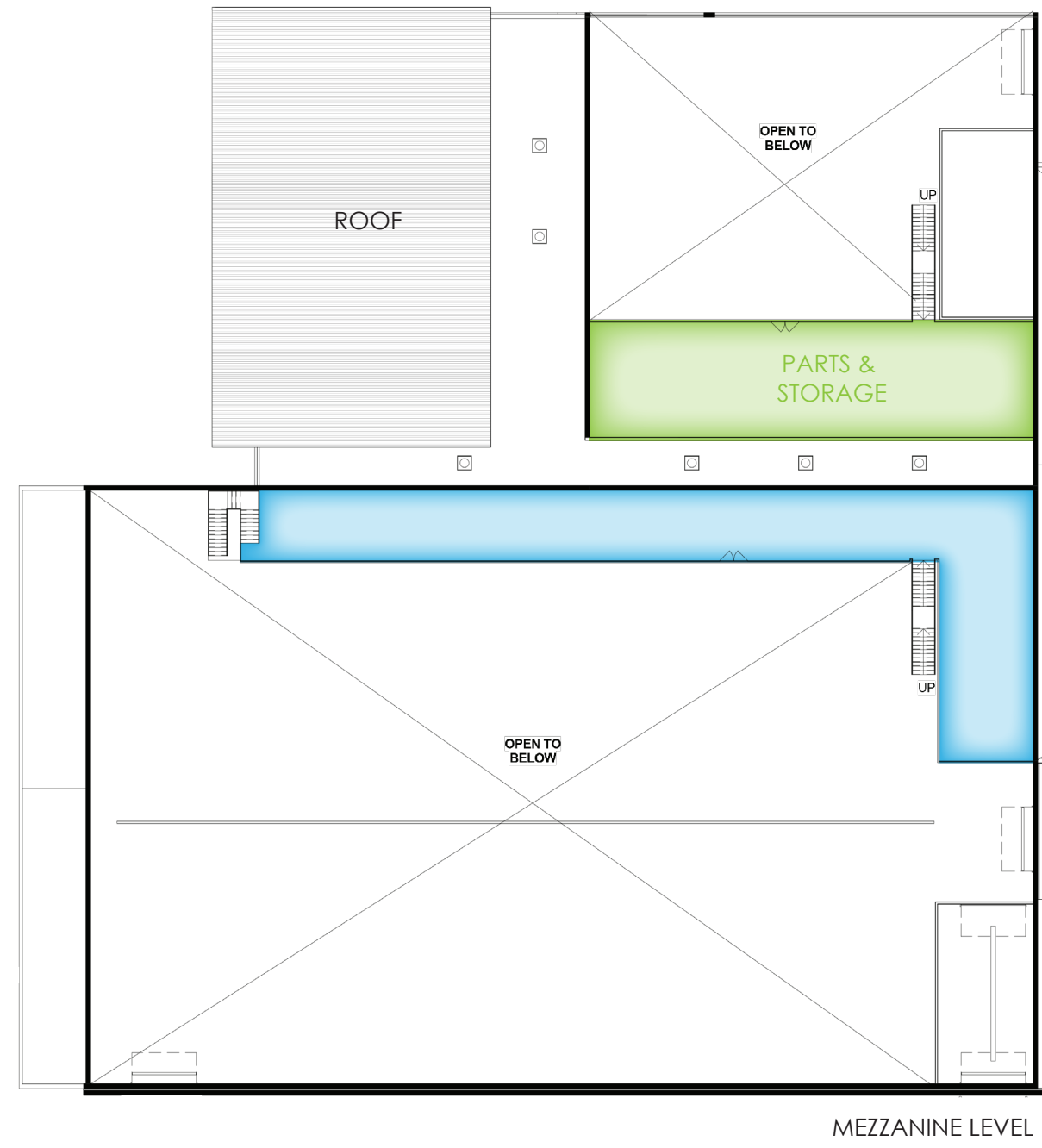
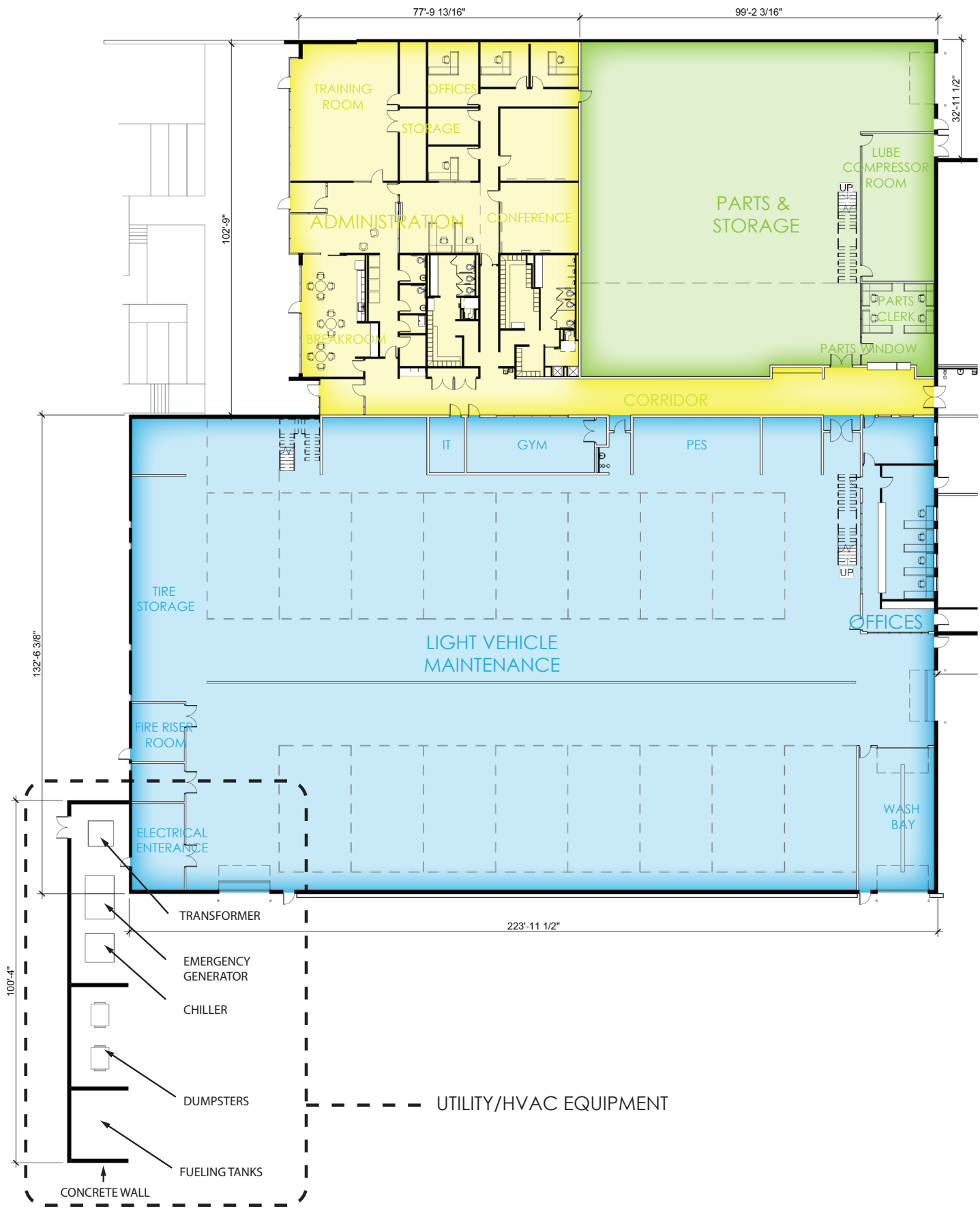
SITE PLAN



Secondary Entrance
(In Future Development)

Note: See large scale floor plans for more detail.





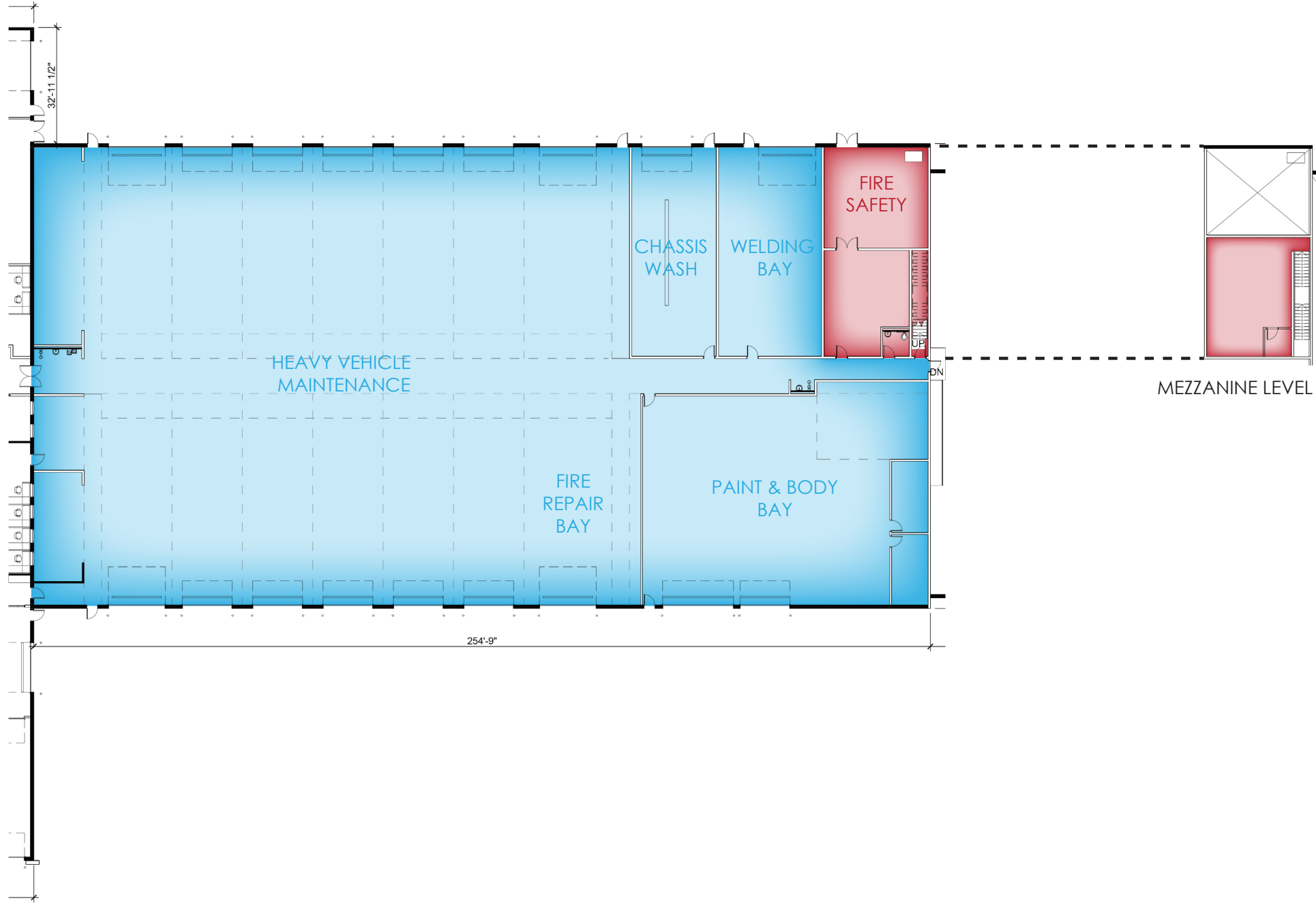
PART A FLOOR PLAN AND HVAC/UTILITY PLAN

RNL

SITE: NAKOOSA TRAIL
MADISON, WI

LEGEND:





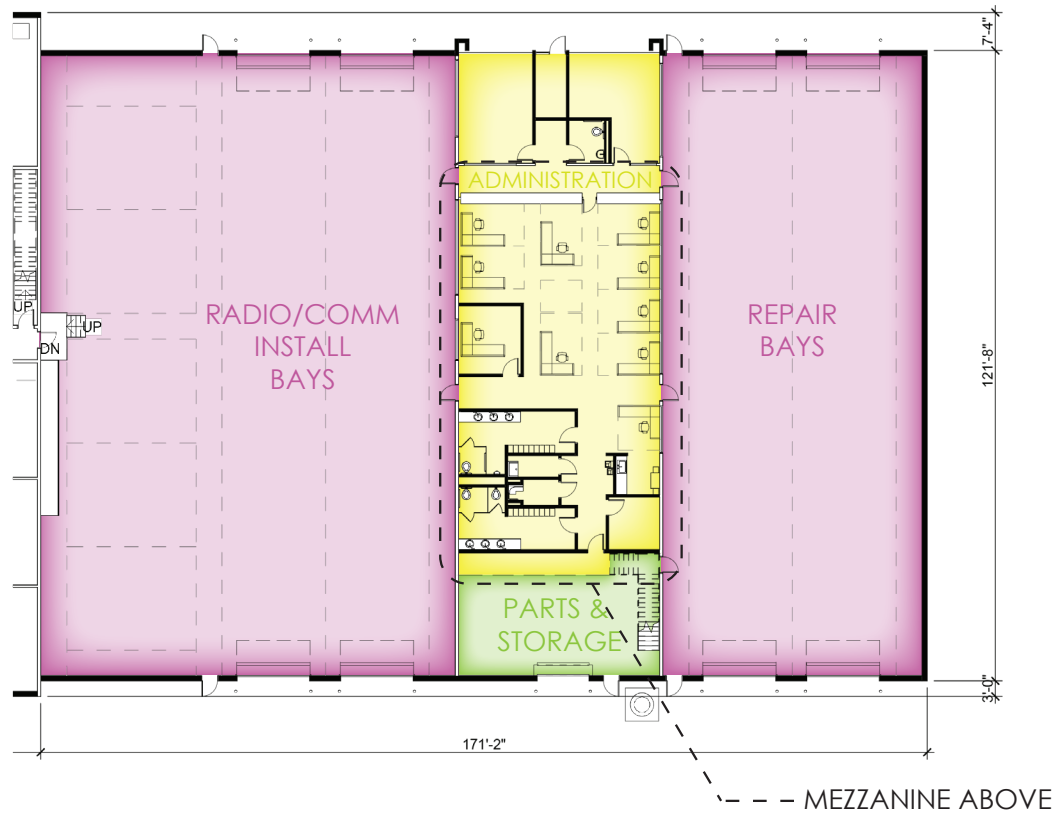
RNL

SITE: NAKOOSA TRAIL
MADISON, WI

PART B FLOOR PLAN

LEGEND:





MEZZANINE LEVEL

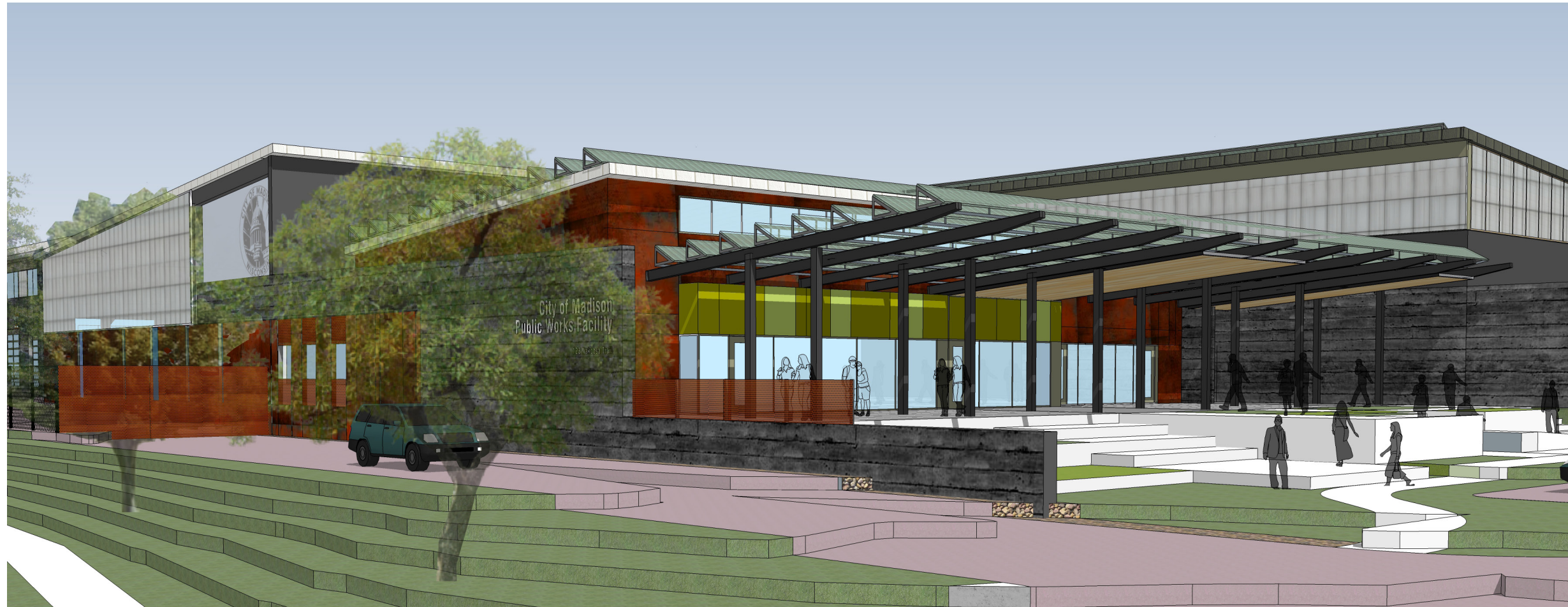
RNL

SITE: NAKOOSA TRAIL
MADISON, WI

PART C FLOOR PLAN

LEGEND:





PERSPECTIVE 1A

FROM NAKOOSA TRAIL



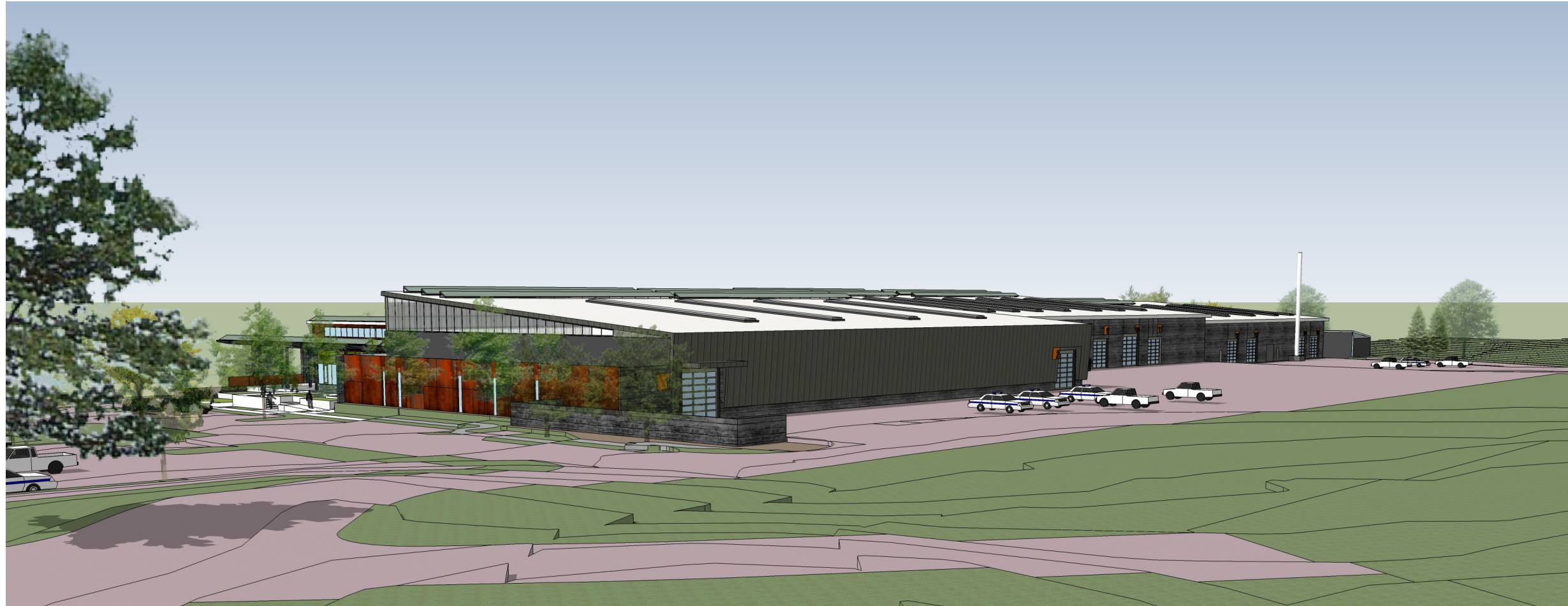
PERSPECTIVE 1B

FROM NAKOOSA TRAIL

RNL

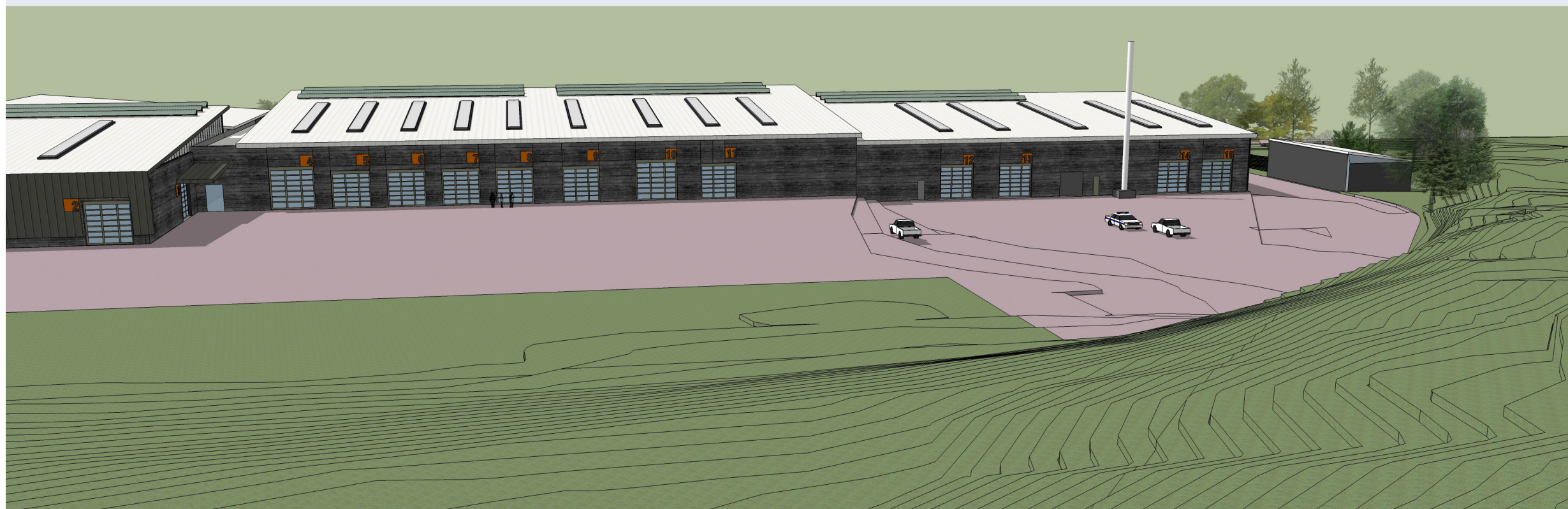
SITE: NAKOOSA TRAIL
MADISON, WI

PERSPECTIVES 1A + 1B



PERSPECTIVE 2A

FROM HIGHWAY



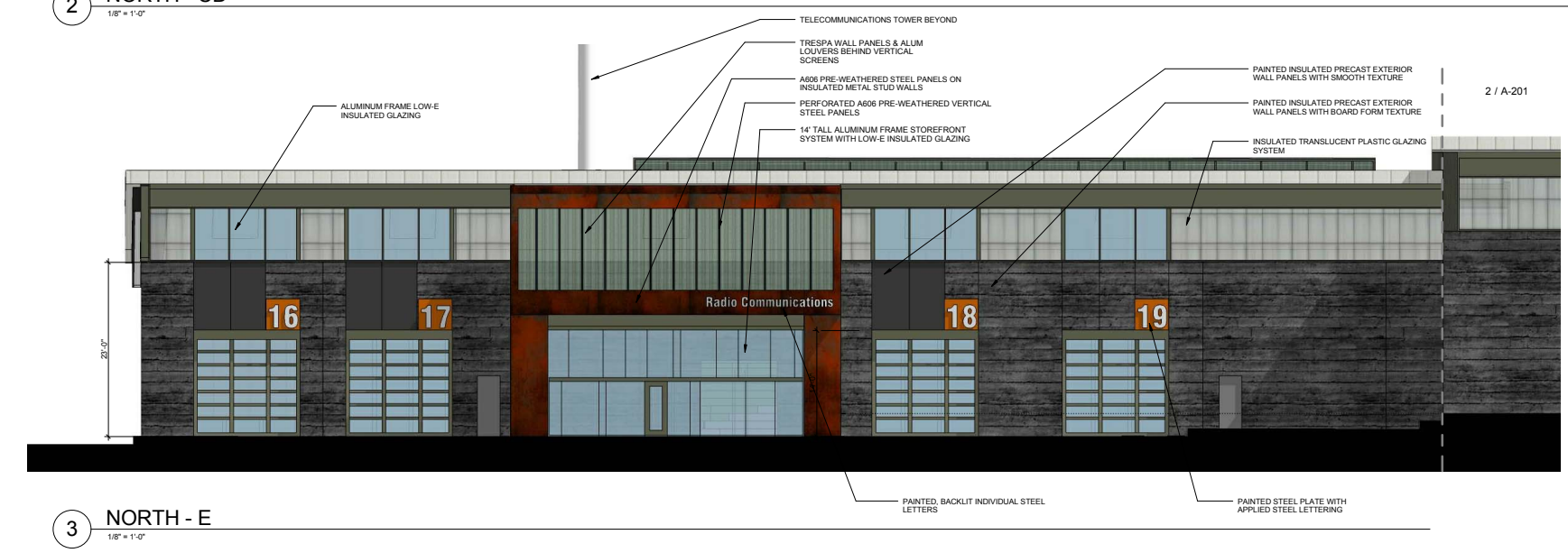
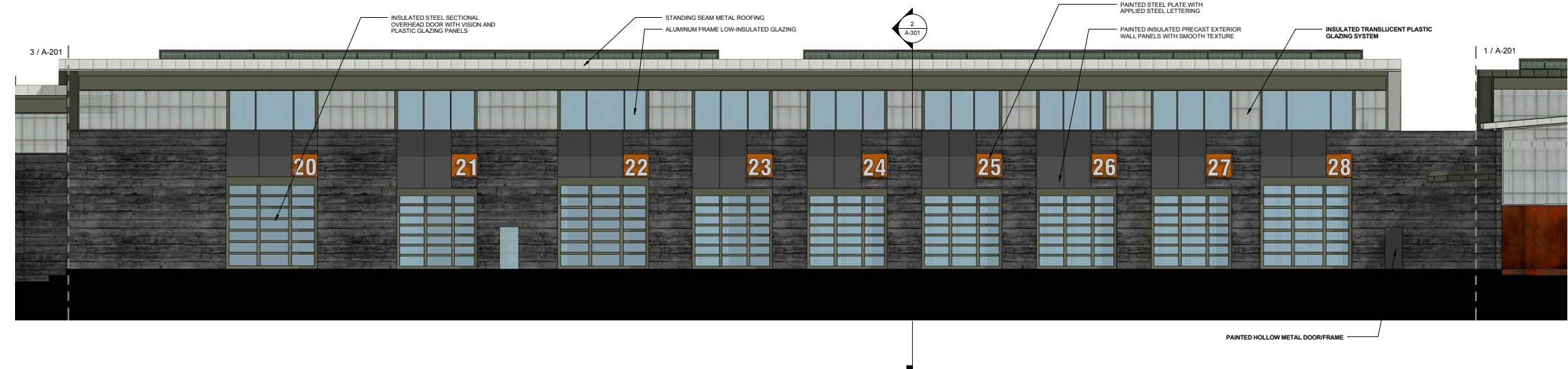
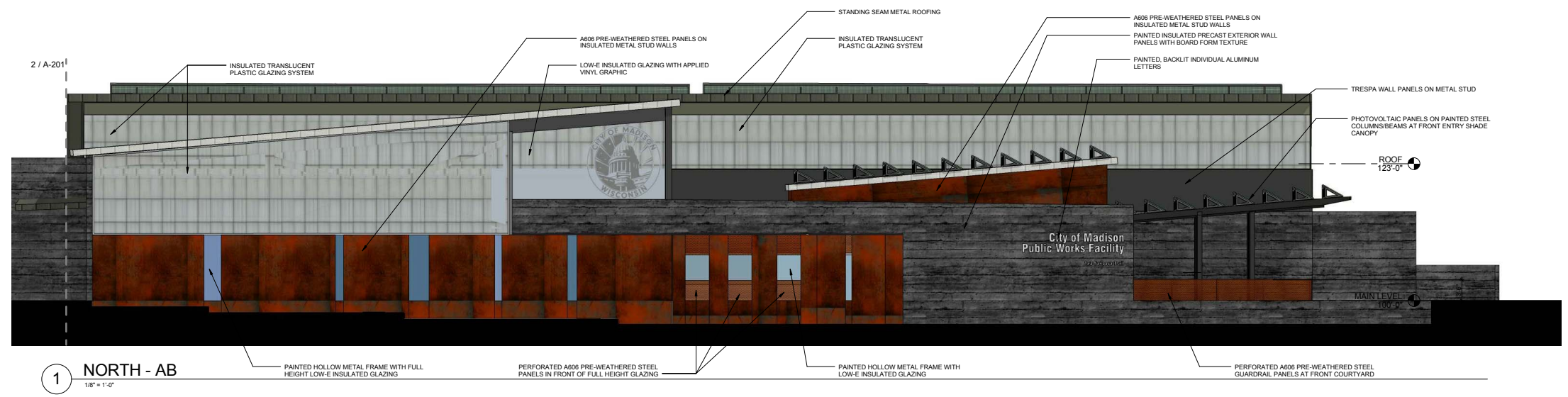
PERSPECTIVE 2B

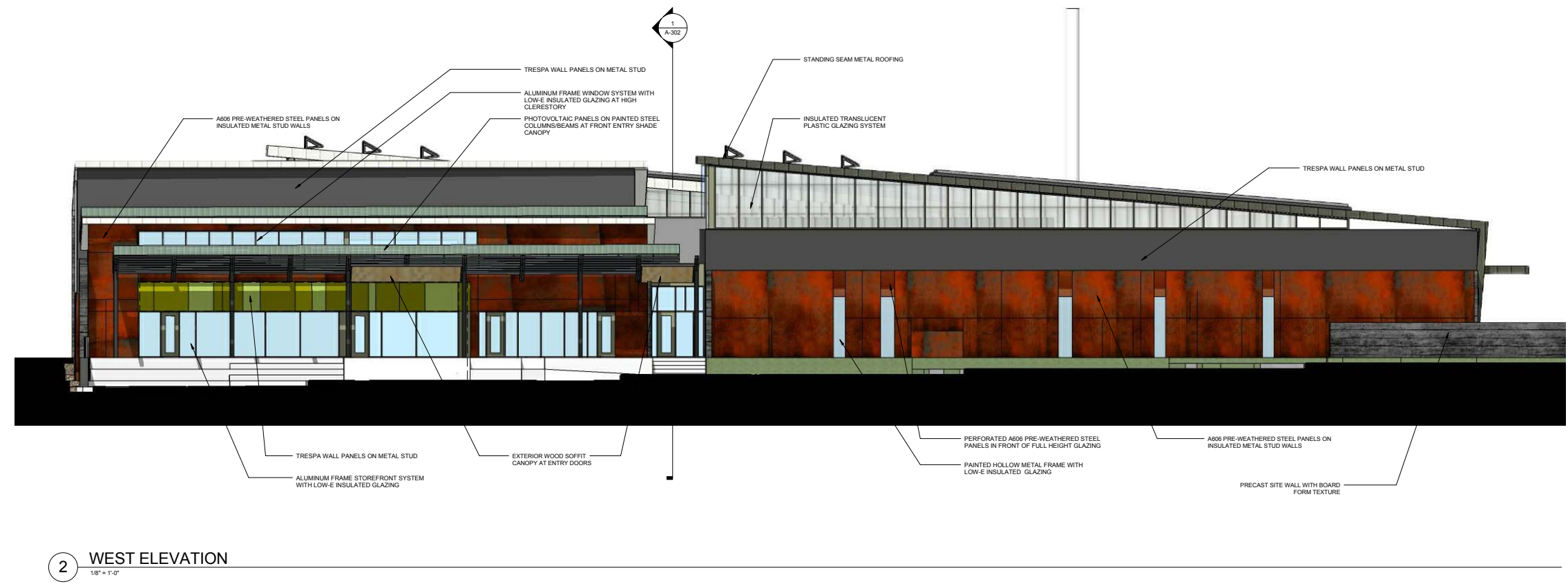
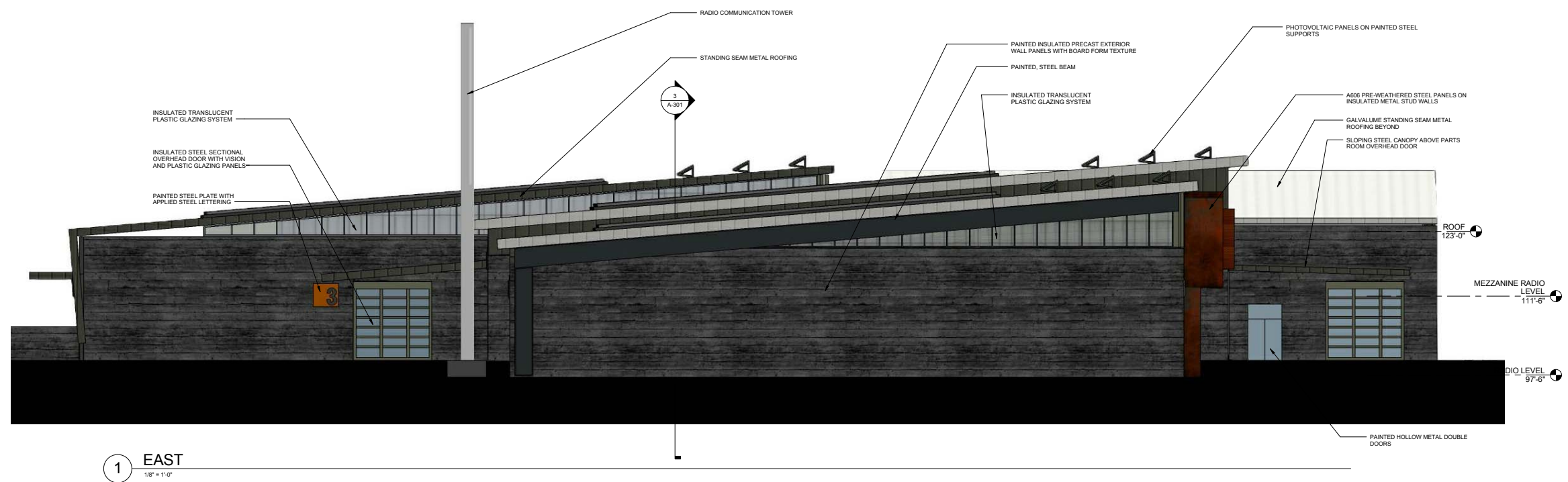
FROM TOP OF HILL

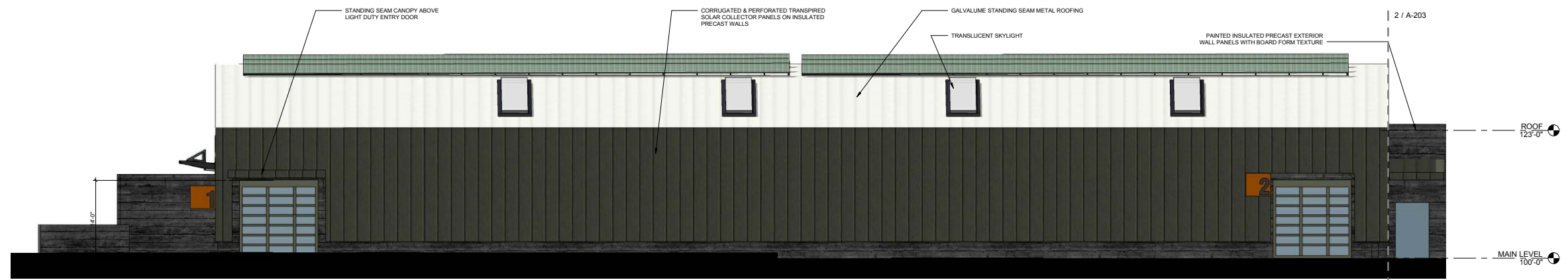
RNL

SITE: NAKOOSA TRAIL
MADISON, WI

PERSPECTIVES 2A +2B







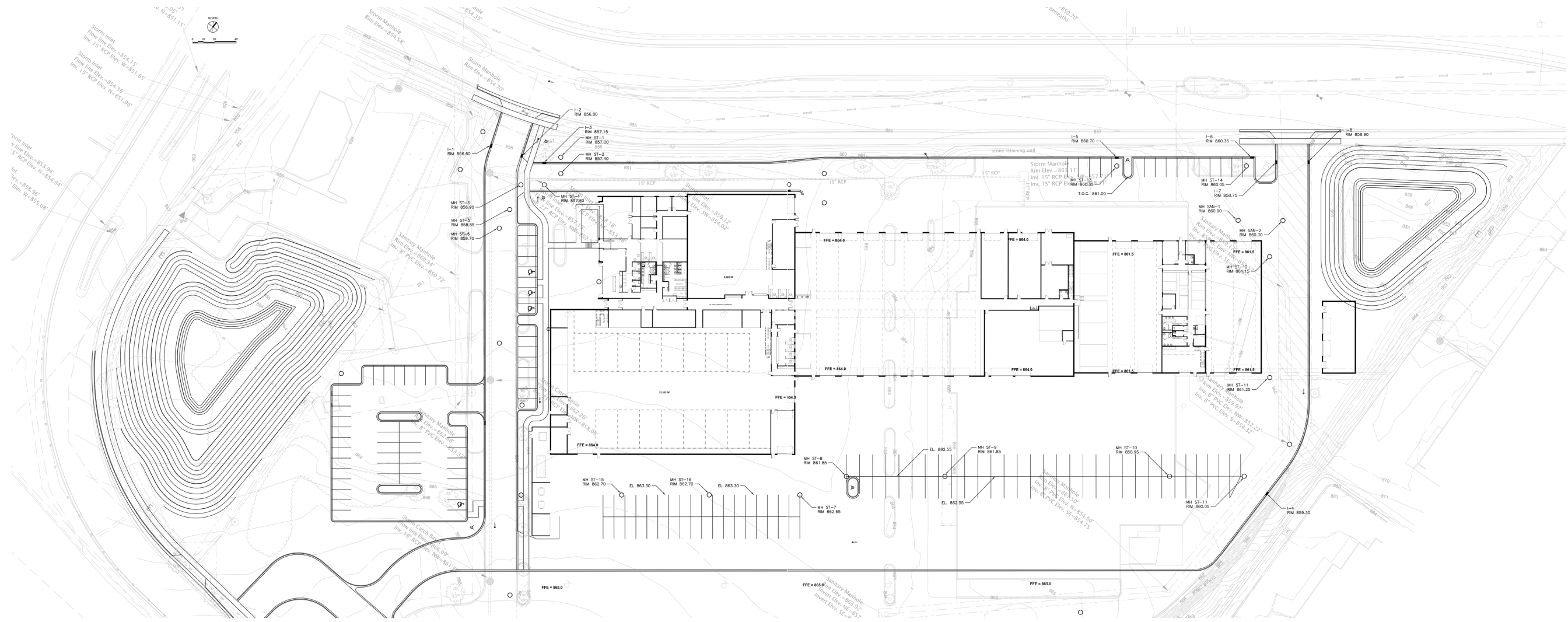
1 SOUTH - AB
1/8" = 1'-0"

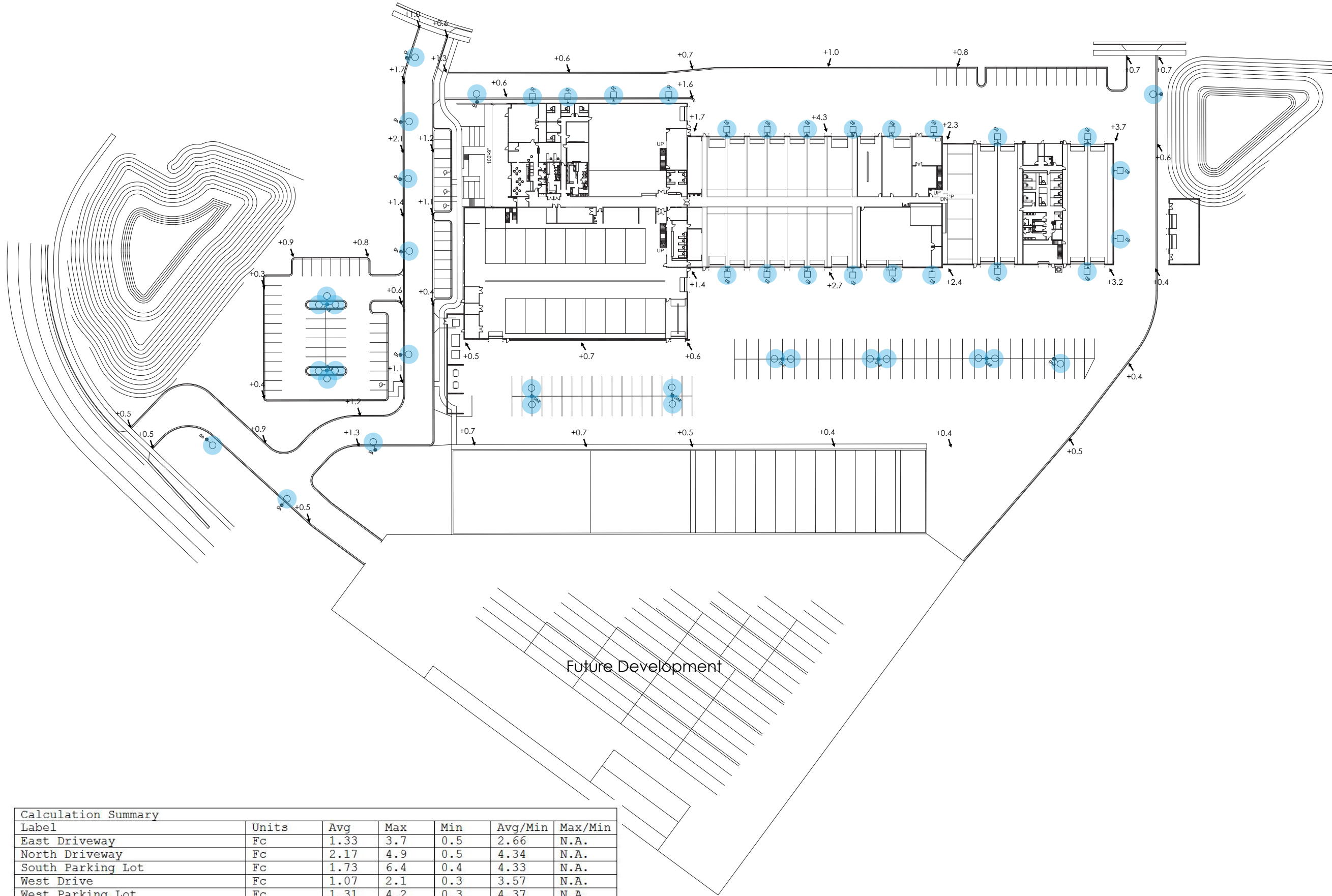


2 SOUTH - CD
1/8" = 1'-0"



3 SOUTH - E
1/8" = 1'-0"





Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
East Driveway	Fc	1.33	3.7	0.5	2.66	N.A.
North Driveway	Fc	2.17	4.9	0.5	4.34	N.A.
South Parking Lot	Fc	1.73	6.4	0.4	4.33	N.A.
West Drive	Fc	1.07	2.1	0.3	3.57	N.A.
West Parking Lot	Fc	1.31	4.2	0.3	4.37	N.A.

LIGHTING AND PHOTOMETRICS PLAN

RNL

SITE: NAKOOSA TRAIL
MADISON, WI

RESET

Date: _____ Customer: _____
 Project: _____
 Type: _____ Qty: _____

selux

Olivio Grande LED Sistema Arm Mount



Order Code:	#1	OLGL	-	-	-	-	-	-	-
	#2	OLGL	-	-	-	-	-	-	-
	#3	OLGL	-	-	-	-	-	-	-
	#4	OLGL	-	-	-	-	-	-	-
Fixture #	Series	Optics	Mounting	Light Engine	CCT	Finish	Voltage	Options	

Pole Order Code:	Series	Height	Finish	RN Rivnut Pairs	Options	*Rivnut Locations
	OLGL					

*Refer to chart on page 6 for Rivnut locations

Series	OLGL Olivio Grande LED									
Optics	S09 Spot, 9°	F40 Flood medium, 44°	F80 Flood wide, 78°	ASM Asymmetric (no SLH or SLV option)						
Mounting	SSx Specify Arm Locations (x = number of arms)	W1 Single Wall mount	W2 Double Wall mount							
Light Engine	L58 58W nominal	L28 28W nominal								
CCT	30 3000K	40 4000K								
Finish	WH White	BK Black	BZ Bronze	SV Silver	SP Specify Premium Color					
Voltage	120	208	240	277	347					
Options	DS ¹ Dark Sky 0° Tilt Option	DM ² Dimming, 0-10V	HL ^{2,3} Hi-Lo switching	SLH Spread Lens Horizontal (fixed)	SLV Spread Lens Vertical (fixed)	20kA 20kA Surge Supression	PC Photocell (consult factory)	¹ IDA certified "Dark Sky Friendly"	² Only available with L58	³ Only available with 120V, 240V, or 277V

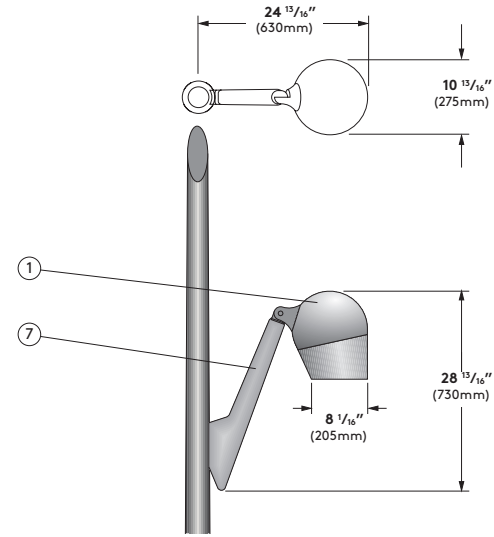
Product Modifications
 Please list modification requirements for review by factory:

Approvals

Date:

Olivio Grande LED - Sistema Arm Mount

OLGL-SS1



Specifications

- Luminaire Housing** - Two piece high pressure die cast housing, made of low copper aluminum alloy. Single recessed captive screw allows easy access to light engine & gear tray components.
- Gasketing** - (not shown) UV and ozone-resistant, silicone gasket between fixture housing and lens base provide IP67 level ingress protection. IP rated micro-membrane ensures pressure compensation.
- Lens** - (not shown) Tempered clear glass lens.
- LED Light Engine** - (not shown) made from high flux COB and vacuum metalized aluminum reflectors. Selux is using brand name LED manufacturers. Available in 3000K and 4000K, CRI minimum 80. Reflectors made from high purity aluminum to ensure high efficiencies throughout lifetime. Complete light engine can be removed easily for future upgrade. LED light engine provides a reported lumen maintenance of 84.3% at 60,000 hours. L70 calculated greater than 60,000 hours.
- LED Driver** - (not shown) Selux uses brand name high efficiency LED drivers. LEDs are driven by RoHS compliant high-efficiency driver. Excellent for cold temperature starting and instant on. Min. operating temperature -40°C/ -40°F.

- Surge Protector** - (not shown) Designed to protect luminaire from electrical surge up to 10kA. Surge protection up to 20kA optional.
- Arm** - 70 degree cast aluminum mounting arms for flexible pole mounting. Fixture head joint provides tilt-swivel range from 0° to 175°, and 360° rotation. Locks down with set screws.
- Rivnuts** - (not shown) (2) Two rivnuts required per Fixture Arm and installed by manufacturer.
- Power Cord** - (not shown) Pre-installed at factory and fed hidden through the luminaire hinge and hinge arm. Power cords are specified to fit the length of the pole specified with the luminaire.
- Exterior Luminaire Finish** - Selux utilizes a high quality Polyester Powder Coating. All Selux luminaires and poles are finished in our Tiger Drylac certified facility and undergo a five stage intensive pretreatment process where product is thoroughly cleaned, phosphated and sealed. Selux powder coated products provide excellent salt and humidity resistance as well as ultraviolet resistance for color retention. All products are tested in accordance with test specifications for coatings from ASTM and PCI. Standard exterior

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

5 Year Limited LED Luminaire Warranty - Selux offers a 5 Year Limited Warranty to the original purchaser that the Olivio LED luminaire shall be free from defects in material and workmanship for up to five (5) years from date of shipment. This limited warranty covers the LED driver and LED Light engine when installed and operated according to Selux instructions. For details, see "Selux Terms and Condition of Sale."

Listings and Ratings: Luminaire and LED tested to IP67 and IESNA LM-79-08 standards. LED tested to LM-80 standards. Luminaire and LED tested at 25°C ambient temperature.

Olivio LED suitable for ambient temperatures of 40°C (104°F). Minimum operating temperature of luminaire at -40°C (-40°F).

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

Visit selux.us for our LED End of Life recycling policy.

Lumen Output for OLGL (58 watts)

Olivio Grande LED	S09	F40	F80	ASM
3000K CRI>80	4380 lm CBCP 66199cd	4430 lm CBCP 7600cd	4229 lm CBCP 2976cd	3489 lm CBCP 2852cd
4000K CRI>80	4506 lm CBCP 68103cd	4827 lm CBCP 7558cd	4350 lm CBCP 3058cd	3634 lm CBCP 2970cd

Lumen Output for OLGL (28 watts)

Olivio Grande LED	S09	F40	F80	ASM
3000K CRI>80	2190 lm CBCP 33099.5cd	2215 lm CBCP 3800cd	2114.5 lm CBCP 1488cd	1744.5 lm CBCP 1426cd
4000K CRI>80	2253 lm CBCP 34051.5cd	2413.5 lm CBCP 3779cd	2174 lm CBCP 1531cd	1817 lm CBCP 1485cd

RNL

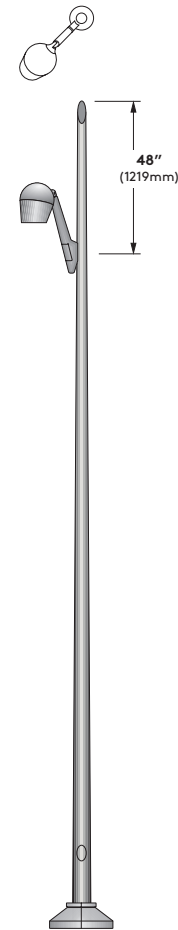
SITE: NAKOOSA TRAIL
 MADISON, WI

LIGHT FIXTURES

Mounting

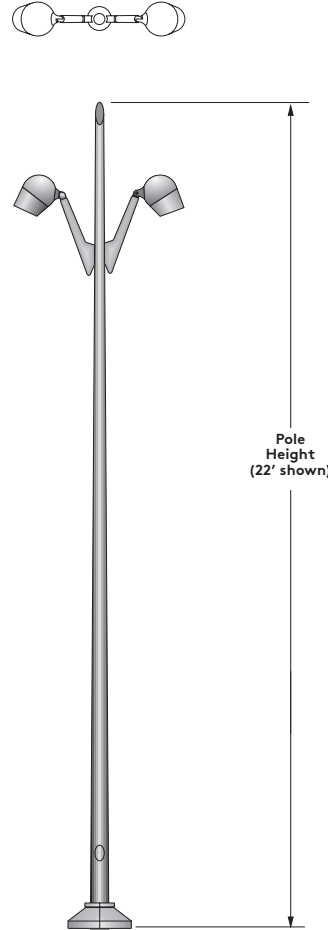
Mounting Details

Single
(Arm Location: 0D)



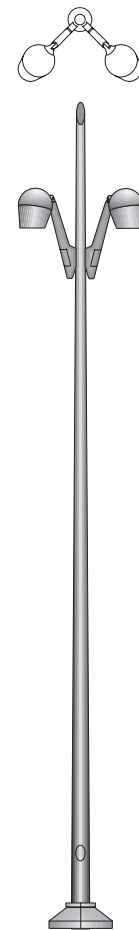
EPA = 1.8 ft² (0.167 m²)
Weight = 35 lbs. (16 kg)
Rivnuts = 1 pair (RN1)

Double at 180°
(Arm Locations: 0G-0S)



EPA = 3.7 ft² (0.344 m²)
Weight = 70 lbs. (32 kg)
Rivnuts = 2 pair (RN2)

Double at 90°
(Arm Locations: 0D-0V)

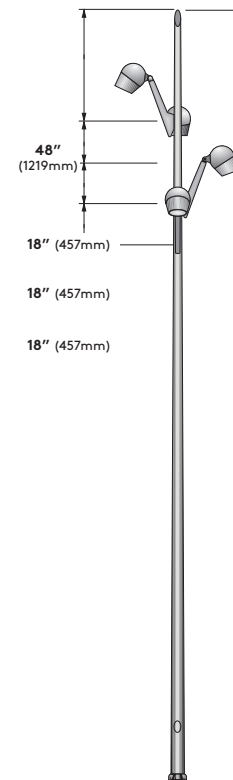
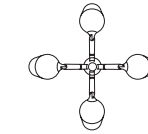


EPA = 3.7 ft² (0.344 m²)
Weight = 70 lbs. (32 kg)
Rivnuts = 2 pair (RN2)

Mounting

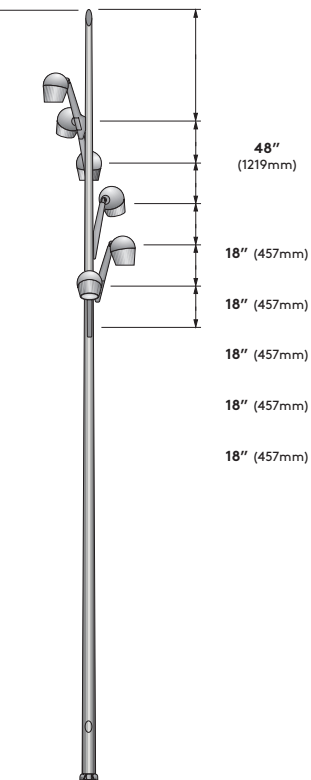
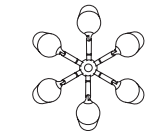
Mounting Details

Quadruple Pole Arms stepped at 90°
(Arm Location: 0G-1M-2S-3A)



EPA = 7.4 ft² (0.687 m²)
Weight = 141 lbs. (64 kg)
Rivnuts = 4 pair (RN4)

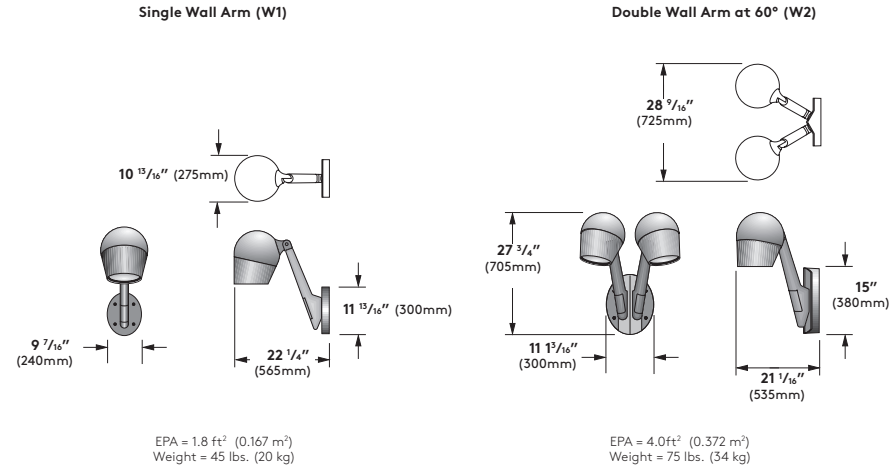
Sextuple Pole Arms stepped at 60°
(Arm Locations: 0E-1L-2M-3Q-4U-5A)



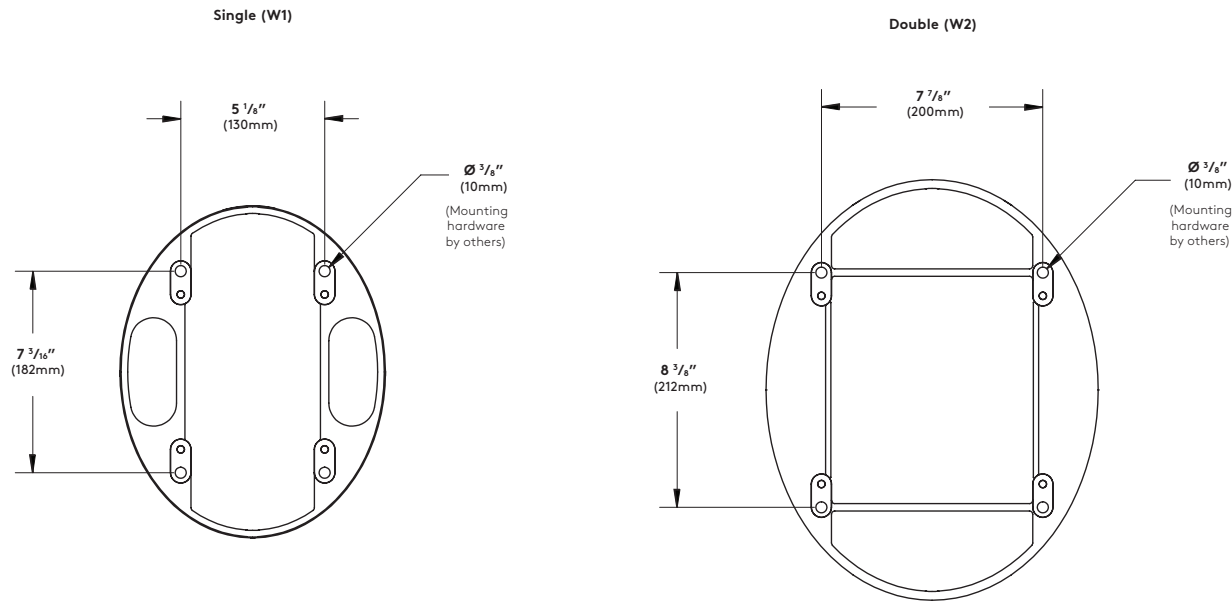
EPA = 11.1 ft² (1.03 m²)
Weight = 211 lbs. (96 kg)
Rivnuts = 6 pair (RN6)

Mounting

Mounting Details



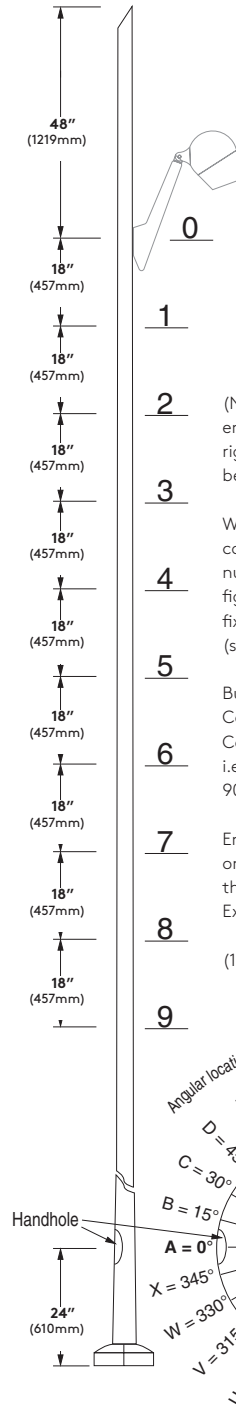
Wall Plate Detail



Note: Wall plate is mounted to surface structure and over junction box (by others)

Specify Mounting Configurations

(Luminaire shown for illustrative purposes only - not to scale)



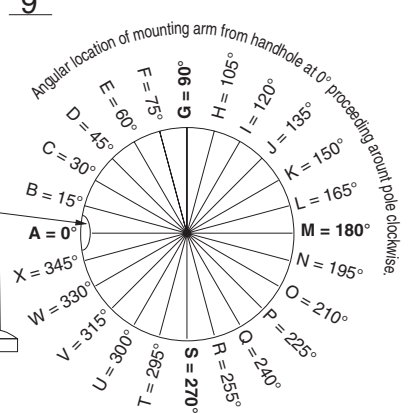
(NOTE: If using Adobe Acrobat to enter data (checks) in chart on right, the following instructions will be carried out automatically)

When specifying non-standard configurations, enter "SS+total number of arms specified)" on configuration matrix on page 1 in the fixture mounting field. Example: SS4 (specifying 4 mounting arms)

Build up the Mounting Arm Location Codes from chart on right ("Height Code" + "Angular Location Code") i.e. "3G"=8.5 feet from top of pole, 90° clockwise from handhole.

Enter Mounting Arm Location Codes on page 1 in the blanks provided that follow the Pole Option blanks. Example: 3G-3P-4A-5S

(1) Pair of Rivnuts required per arm.



HEIGHT CODE
 DISTANCE FROM TOP OF POLE
 CLOCKWISE FROM HANDHOLE
 ANGULAR LOCATION CODE

Use checkboxes provided in chart below. Columns #0 through #9 indicate heights starting with 4 feet (1219mm) below top of pole and proceeding downwards in increments of 18 inches (457mm). Rows A through X indicate angular placement around pole starting with 0° at handhole and proceeding clockwise.

NOTE: Arms mounted at same height level must be spaced apart at 90° minimum. Arms mounted at adjacent height levels (18" apart) must be space apart at 45° minimum.

	0	1	2	3	4	5	6	7	8	9
	4'	5.5'	7'	8.5'	10'	11.5'	13'	14.5'	16'	17.5'
A	0°									
B	15°									
C	30°									
D	45°									
E	60°									
F	75°									
G	90°									
H	105°									
I	120°									
J	135°									
K	150°									
L	165°									
M	180°									
N	195°									
O	210°									
P	225°									
Q	240°									
R	255°									
S	270°									
T	285°									
U	300°									
V	315°									
W	330°									
X	345°									

Streetworks

DESCRIPTION

The Galleon™ LED luminaire delivers exceptional performance in a highly scalable, low-profile design. Patented, high-efficiency AccuLED Optics™ system provides uniform and energy conscious illumination to walkways, parking lots, roadways, building areas and security lighting applications. IP66 rated and UL/cUL Listed for wet locations.

Catalog #		Type
Project		OA, OA2, OA3, OB
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction

Extruded aluminum driver enclosure thermally isolated from Light Squares for optimal thermal performance. Heavy-wall, die-cast aluminum end caps enclose housing and die-cast aluminum heat sinks. A unique, patent pending interlocking housing and heat sink provides scalability with superior structural rigidity. 3G vibration tested. Optional tool-less hardware available for ease of entry into electrical chamber. Housing is IP66 rated.

Optics

Patented, high-efficiency injection-molded AccuLED Optics technology. Optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT 70 CRI. Optional 6000K CCT and 3000K CCT.

Electrical

LED drivers are mounted to removable tray assembly for ease of maintenance. 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Standard with 0-10V dimming. Shipped standard with Eaton proprietary circuit module designed to withstand 10kV of transient line surge. The Galleon LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Light Squares are IP66 rated. 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 530mA and 700mA drive currents.

Mounting

STANDARD ARM MOUNT: Extruded aluminum arm includes internal bolt guides allowing for easy positioning of fixture during assembly. When mounting two or more luminaires at 90° and 120° apart, the EA extended arm may be required. Refer to the

arm mounting requirement table. Round pole adapter included. For wall mounting, specify wall mount bracket option. 3G vibration rated. **QUICK MOUNT ARM:** Arm is bolted directly to the pole and the fixture slides onto the quick mount arm and is secured via a single fastener, facilitating quick and easy installation. The versatile, patent pending, quick mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the quick mount arm enables wiring of the fixture without having to access the driver compartment. A knock-out enables round pole mounting.

Finish

Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Heat sink is powder coated black. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available.

Warranty

Five-year warranty.



GAN GALLEON LED

1-10 Light Squares
Solid State LED

AREA / ROADWAY LUMINAIRE



CERTIFICATION DATA

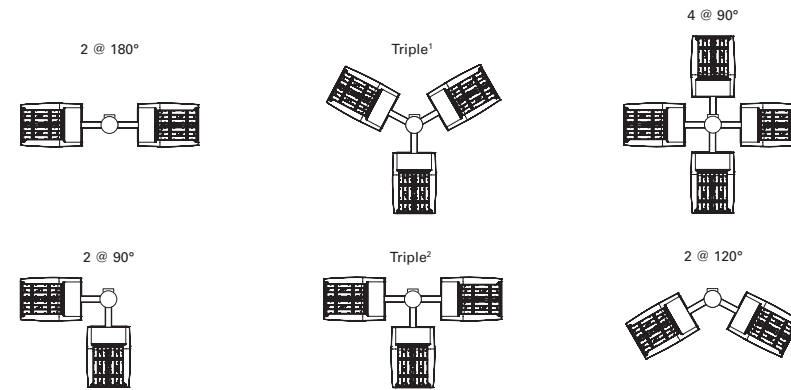
UL/cUL Wet Location Listed
ISO 9001
LM79 / LM80 Compliant
3G Vibration Rated
IP66 Rated
DesignLights Consortium™ Qualified*

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120V-277V 50/60Hz
347V & 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

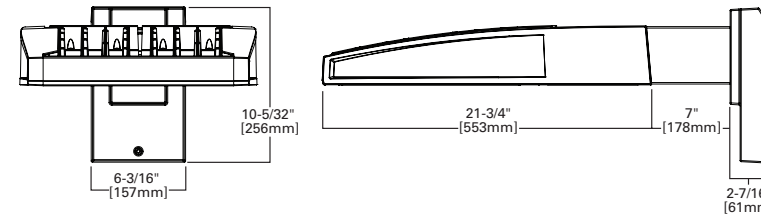
STANDARD ARM MOUNTING REQUIREMENTS

Configuration	90° Apart	120° Apart
GAN-AE-01	7" Arm (Standard)	7" Arm (Standard)
GAN-AE-02	7" Arm (Standard)	7" Arm (Standard)
GAN-AE-03	7" Arm (Standard)	7" Arm (Standard)
GAN-AE-04	7" Arm (Standard)	7" Arm (Standard)
GAN-AE-05	10" Extended Arm (Required)	7" Arm (Standard)
GAN-AE-06	10" Extended Arm (Required)	7" Arm (Standard)
GAN-AE-07	13" Extended Arm (Required)	13" Extended Arm (Required)
GAN-AE-08	13" Extended Arm (Required)	13" Extended Arm (Required)
GAN-AE-09	16" Extended Arm (Required)	16" Extended Arm (Required)

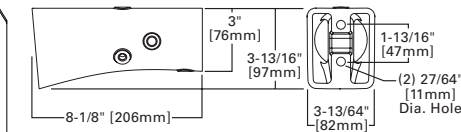


NOTES: 1 Round poles are 3 @ 120°. Square poles are 3 @ 90°. 2 Round poles are 3 @ 90°.

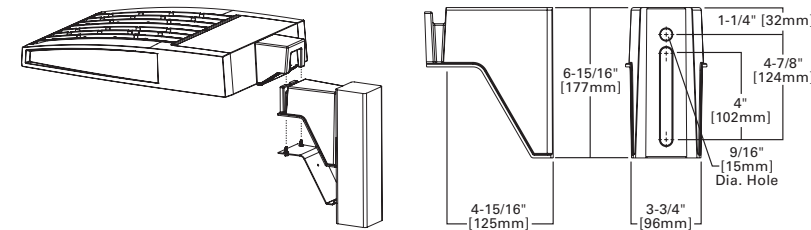
STANDARD WALL MOUNT



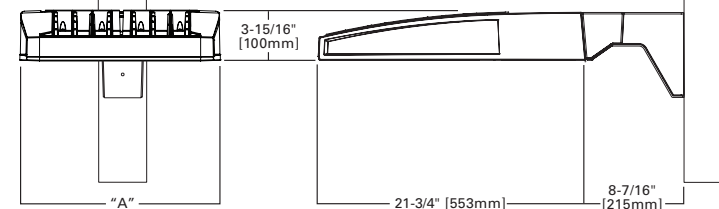
MAST ARM MOUNT



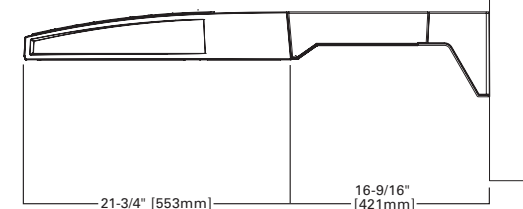
QUICK MOUNT ARM (INCLUDES FIXTURE ADAPTER)



QM Quick Mount Arm (Standard)



QMEA Quick Mount Arm (Extended)

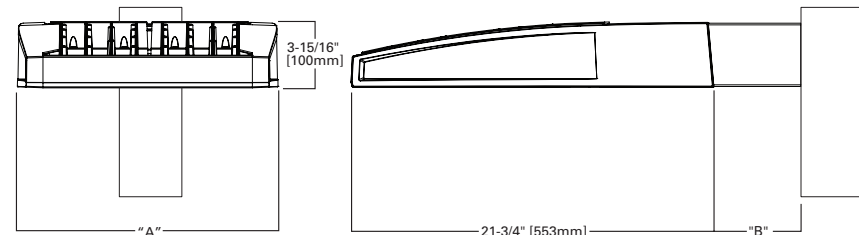


QUICK MOUNT ARM DATA

Number of Light Squares ^{1,2}	"A" Width	Weight with QM Arm (lbs.)	Weight with QMEA Arm (lbs.)	EPA (Sq. Ft.)
1-4	15-1/2" (394mm)	35 (15.91 kgs.)	38 (17.27 kgs.)	1.11
5-6 ³	21-5/8" (549mm)	46 (20.91 kgs.)	49 (22.27 kgs.)	
7-8	27-5/8" (702mm)	56 (25.45 kgs.)	59 (26.82 kgs.)	

NOTES: 1 QM option available with 1-8 light square configurations. 2 QMEA option available with 1-6 light square configurations. 3 QMEA arm to be used when mounting two fixtures at 90° on a single pole.

DIMENSIONS

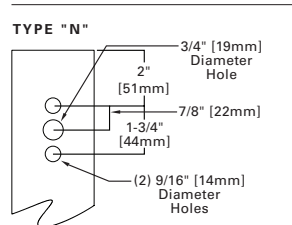


DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length ¹	Weight with Arm (lbs.)	EPA with Arm ² (Sq. Ft.)
1-4	15-1/2" (394mm)	7" (178mm)	10" (254mm)	33 (15.0 kgs.)	0.96
5-6	21-5/8" (549mm)	7" (178mm)	10" (254mm)	44 (20.0 kgs.)	1.00
7-8	27-5/8" (702mm)	7" (178mm)	13" (330mm)	54 (24.5 kgs.)	1.07
9-10	33-3/4" (857mm)	7" (178mm)	16" (406mm)	63 (28.6 kgs.)	1.12

NOTES: 1 Optional arm length to be used when mounting two fixtures at 90° on a single pole. 2 EPA calculated with optional arm length.

DRILLING PATTERN

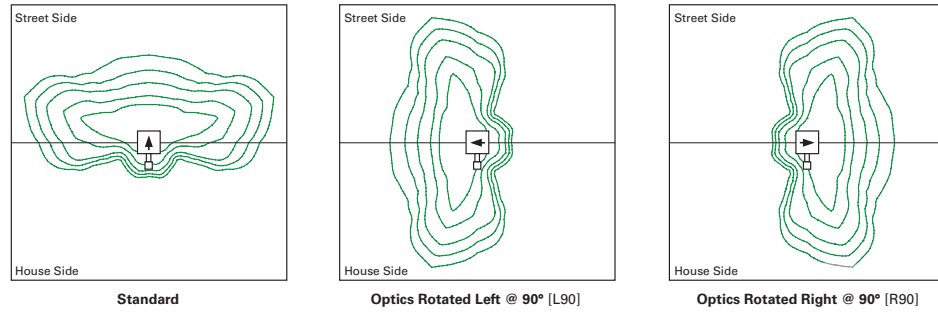


RNL

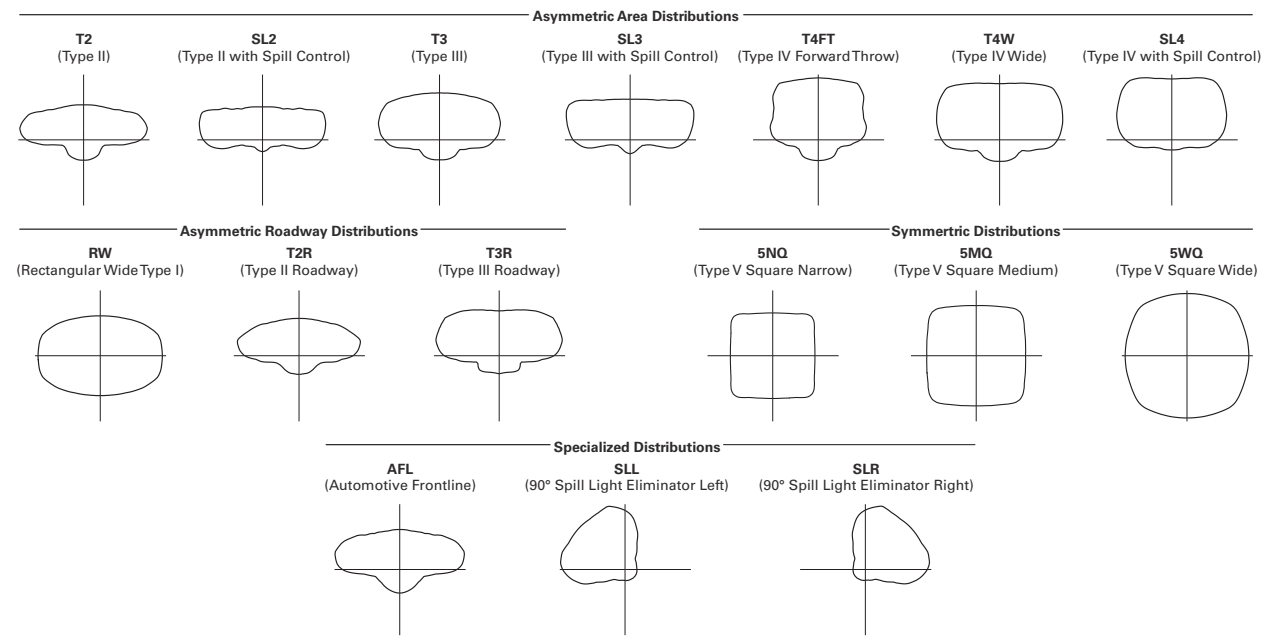
SITE: NAKOOSA TRAIL
MADISON, WI

LIGHT FIXTURES

OPTIC ORIENTATION



OPTICAL DISTRIBUTIONS



NOMINAL POWER AND LUMENS (1A)

Number of Light Squares	1	2	3	4	5	6	7	8	9	10
Drive Current	1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
Nominal Power (Watts)	56	107	157	213	264	315	370	421	475	528
Input Current @ 120V (A)	0.47	0.90	1.31	1.79	2.21	2.64	3.09	3.51	3.96	4.41
Input Current @ 208V (A)	0.28	0.51	0.74	1.02	1.25	1.48	1.76	1.99	2.22	2.50
Input Current @ 240V (A)	0.25	0.45	0.65	0.90	1.10	1.30	1.55	1.75	1.95	2.20
Input Current @ 277V (A)	0.23	0.41	0.59	0.82	1.00	1.18	1.41	1.59	1.77	2.00

Optics											
T2	Lumens	5,272	10,303	15,373	20,313	25,168	30,118	35,618	40,357	45,018	49,842
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B4-U0-G5	B4-U0-G5
T2R	Lumens	5,597	10,938	16,321	21,565	26,719	31,974	37,813	42,844	47,792	52,914
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B4-U0-G4	B4-U0-G5
T3	Lumens	5,374	10,501	15,669	20,704	25,652	30,697	36,303	41,134	45,884	50,802
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
T3R	Lumens	5,493	10,735	16,017	21,164	26,222	31,379	37,110	42,048	46,904	51,930
	BUG Rating	B1-U0-G2	B1-U0-G2	B2-U0-G3	B2-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4FT	Lumens	5,405	10,562	15,760	20,824	25,801	30,875	36,514	41,372	46,150	51,096
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
T4W	Lumens	5,335	10,426	15,556	20,555	25,468	30,476	36,042	40,838	45,554	50,436
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5	B4-U0-G5
SL2	Lumens	5,263	10,285	15,347	20,278	25,124	30,066	35,556	40,288	44,940	49,756
	BUG Rating	B1-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B4-U0-G5	B4-U0-G5
SL3	Lumens	5,373	10,500	15,667	20,701	25,649	30,693	36,298	41,128	45,878	50,794
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
SL4	Lumens	5,105	9,976	14,886	19,669	24,370	29,163	34,488	39,078	43,591	48,262
	BUG Rating	B1-U0-G2	B1-U0-G3	B1-U0-G3	B2-U0-G4	B2-U0-G4	B2-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
5NQ	Lumens	5,542	10,830	16,160	21,352	26,455	31,658	37,439	42,421	47,320	52,392
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4
5MQ	Lumens	5,644	11,029	16,457	21,745	26,942	32,241	38,128	43,202	48,191	53,356
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5
5WQ	Lumens	5,659	11,059	16,501	21,803	27,014	32,327	38,230	43,317	48,320	53,498
	BUG Rating	B3-U0-G1	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G4	B5-U0-G4	B5-U0-G4	B5-U0-G5	B5-U0-G5	B5-U0-G5
SLL/SLR	Lumens	4,722	9,227	13,767	18,191	22,539	26,971	31,897	36,141	40,315	44,635
	BUG Rating	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B3-U0-G4	B3-U0-G4	B3-U0-G5	B3-U0-G5	B3-U0-G5	B3-U0-G5
RW	Lumens	5,492	10,732	16,014	21,159	26,216	31,372	37,101	42,038	46,893	51,918
	BUG Rating	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3	B5-U0-G3	B5-U0-G3	B5-U0-G4	B5-U0-G4
AFL	Lumens	5,512	10,771	16,072	21,236	26,311	31,486	37,236	42,191	47,063	52,107
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G4

* Nominal data for 4000K CCT.

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C*	> 90%	> 170,000

Invue

DESCRIPTION

The Entri LED luminaire features a classic and stylish design with the added benefits of solid state lighting technology, offering outstanding uniformity and energy savings. Using Eaton's proprietary LED LightBAR™ technology and AccuLED Optics™ system, the Entri LED luminaire offers designers vast versatility in system design, function and performance. Use Entri LED for wall mount architectural lighting applications and egress lighting requirements. UL/cUL listed for use in wet locations.

Catalog #		Type
Project		OC
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Construction
HOUSING: Heavy wall, one-piece, die-cast aluminum construction for precise tolerance control and repeatability in manufacturing. Integral extruded aluminum heat sink provides superior thermal heat transfer in +40°C ambient environments. FACEPLATE / DOOR: One-piece, die-cast aluminum construction. Captive, side hinged faceplate swings open via release of one flush mount die-cast aluminum latch on housing side panel. GASKET: One-piece molded silicone gasket mates perfectly between the door and housing for repeatable seal. LENS: Uplight lens is impact-resistant, 5/32" thick tempered frosted glass sealed to housing with continuous bead silicone gasket. Downlight lens is LED board integrated acrylic over-optics, each individually sealed for IP66 rating. HARDWARE: Stainless steel mounting screws and latch hardware allow access to electrical components for installation and servicing.

4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT, 5000K CCT and 5700K CCT.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Emergency egress options for -20°C ambient environments, occupancy sensor and dimming options available.

wall surface, forbidding entry of moisture and particulates. Optional mounting arrangements utilize a die-cast mounting adaptor box to allow for LED battery pack, surface conduit and through branch wiring. The Entri LED luminaire is approved for mounting on combustible surfaces.

Finish
Housing is finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

Warranty
Five-year warranty.

Optics
Choice of six patented, high-efficiency AccuLED Optic distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optic technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in

Mounting
JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box. LightBARs mount facing downward. Fixture slides over mounting plate and is secured with two stainless steel fasteners. Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to



ENC/ENT/ENV ENTRI LED

1 - 2 LightBARs
Solid State LED

ARCHITECTURAL WALL LUMINAIRE

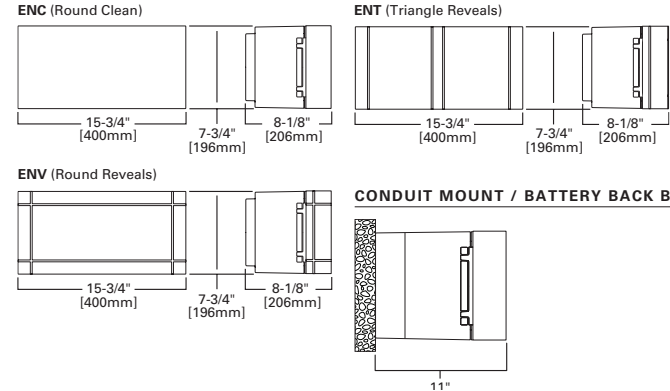


CERTIFICATION DATA
UL/cUL Listed
ISO 9001
IP66 LightBARs
LM79 / LM80 Compliant
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature
40°C Ambient Temperature Rating

SHIPPING DATA
Approximate Net Weight:
16 lbs. (7.3 kgs.)

DIMENSIONS



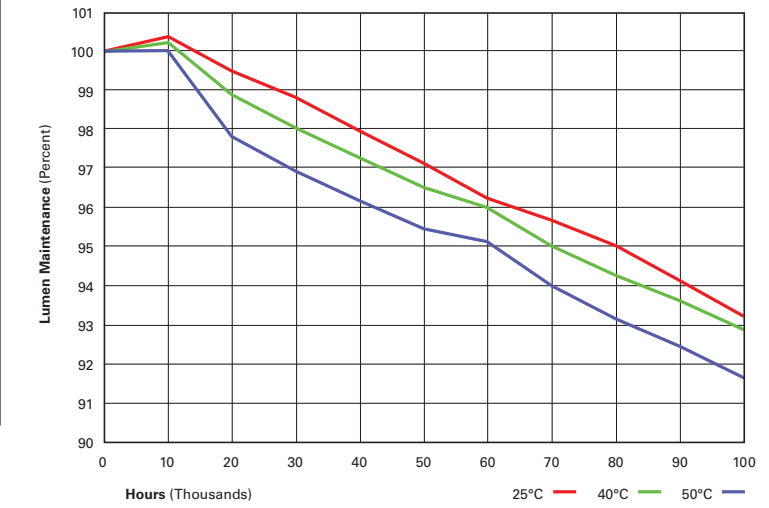
POWER AND LUMENS BY BAR COUNT

Number of LightBARs		E01	E02	F01	F02
		21 LED LightBAR		7 LED LightBAR	
Drive Current		350mA		1A	
Power (Watts)	120-277V	25W	47W	26W	50W
Current (A)	120V	0.22	0.40	0.22	0.42
	277V	0.10	0.18	0.10	0.19
Power (Watts)	347V or 480V	31W	52W	32W	55W
Current (A)	347V	0.11	0.16	0.11	0.17
	480V	0.16	0.18	0.16	0.18
Optics					
BL2	Lumens	2,738	5,476	2,260	4,521
	Bug Rating	B1-U0-G1	B1-U0-G1	B1-U0-G1	B1-U0-G1
BL3	Lumens	2,702	5,405	2,231	4,462
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
BL4	Lumens	2,613	5,225	2,157	4,313
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G1
GZW	Lumens	2,785	5,570	2,299	4,598
	Bug Rating	B2-U0-G2	B3-U0-G3	B1-U0-G1	B2-U0-G2
SLR/SLL	Lumens	2,435	4,869	2,010	4,020
	Bug Rating	B1-U0-G1	B1-U0-G2	B1-U0-G1	B1-U0-G2

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

* Per IESNA TM-21 data.



LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99

ORDERING INFORMATION

Sample Number: ENC-E02-LED-E1-BL3-GM

Product Family ¹	Number of LightBARs ²	Lamp Type	Voltage	Distribution	Color ⁴
ENC=Entri Round Clean ENT=Entri Triangle Reveals ENV=Entri Round Reveals	E01=(1) 21 LED LightBAR E02=(2) 21 LED LightBARs F01=(1) 7 LED LightBAR F02=(2) 7 LED LightBARs	LED=Solid State Light Emitting Diodes	E1=Electronic (120-277V) 347=347V 480=480V ³	BL2=Type II w/Back Light Control BL3=Type III w/Back Light Control BL4=Type IV w/Back Light Control GZW=Wall Grazer Wide SLL=90° Spill Light Eliminator Left SLR=90° Spill Light Eliminator Right	AP=Grey BZ=Bronze BK=Black DP=Dark Platinum GM=Graphite Metallic WH=White
Options (Add as Suffix)			Accessories (Order Separately) ⁵		
ULG=Uplight Glow (For Uplight Only) PC=Button Type Photocontrol (120, 208, 240 or 277V. Must Specify Voltage) WG=Wire Guard TP=Tamper Resistant Hardware LCF=LightBAR Cover Plate Matches Housing Finish 7030=70 CRI / 3000K CCT ⁵ 7050=70 CRI / 5000K CCT ⁵ 7060=70 CRI / 5700K CCT ⁵ 8030=80 CRI / 3000K CCT ⁵ OSB=Occupancy Sensor with Back Box (Specify 120V or 277V) ⁶ BBB=Battery Pack with Back Box (Specify 120V or 277V) ⁷ CWB=Cold Weather Battery Pack with Back Box (Specify 120V or 277V) ⁸ DIM=0-10V Dimming Driver			VA2001-XX=Thru-Way Conduit Box VA6172=Wire Guard VA6173=Tamper-Resistant Driver Bit MA1253=10kV Circuit Module Replacement		

NOTES:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Standard 4000K CCT and greater than 70 CRI. LightBARs for downlight use only.
3. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
4. Custom and RAL color matching available upon request. Consult your lighting representative at Eaton for more information.
5. Extended lead times apply.
6. Available with E02 or F02, only one bar on street side will be wired to sensor. Time delay factory setting 15-minutes. When ordered with PC option, both bars are connected to photocontrol as primary switching means.
7. Standard sensor lens covers 8" mounting height, 360° coverage, maximum 48" diameter. Not available in all configurations or with BBB or CWB options.
8. Specify 120V or 277V. LED standard integral battery pack is rated for minimum operating temperature 32°F (0°C). Operates one bar for 90-minutes. Not available in all configurations or with OSB option. Consult factory.
9. Replace XX with color suffix.