June 13, 2012

City of Madison Urban Design Commission
215 Martin Luther King Jr. Blvd.- Room LL-100
P.O. Box 2985
Madison, Wisconsin 53701-2985

RE: **Urban Design Submission**
Animal Health Center, Henry Vilas Zoo

To Urban Design Commission Members:

The following along with the attachments indicated is an overview of the proposed Animal Health Center at the Henry Vilas Zoo located at 702 South Randall Avenue in the City of Madison, and a request for final Urban Design Commission approval of the project.

Design Team:

The building design team specializes in zoological projects:
WDM Architects- Wichita, Kansas (architecture and landscape architecture)
MKEC- Wichita, Kansas (structural engineering)
Alvine Engineering- Omaha, Nebraska (mep engineering)
Site utility work by:
MSA Professional Services- Madison, Wisconsin

Project Description:

The project site is at the southeast corner of the zoo; in front of the existing maintenance building. Most of the area is currently covered with natural growth. The only structures on the site are old stone walls previously used as containment for animal yards. The disturbed site area is 21,600sf. No new parking is proposed.

The new Animal Heath Center at the Henry Vilas Zoo is a 5,900sf facility that will assist the staff in providing the highest level of veterinary care for the animal collection. The building includes; animal holding areas, office area, hospital (treatment, radiology, surgery) and an education area. Its location near the edge of the zoo is ideal for receiving new animals from other institutions and separating animals as necessary from the rest of the collection.

Design and materials:

The building is designed to tie into the immediate context of the zoo as well as other park and residential structures in the vicinity. It provides a new face of the zoo at the southeast corner.

Roofing: standing seam metal roof – gray w/ green tint. The color has been selected to tie into the asphalt shingles on other recent buildings at the zoo while meeting the requirements of a "cool roof" as part of the zoos sustainability initiatives.

Siding and trim: wood lap siding painted to maintain a natural brown color.

Masonry: Stone base similar to other recent projects at the zoo (carousel, flamingos) capped with a burnished block of similar color and contrasting dark brown brick piers around the areas primarily visible to the public. A burnished block base around the areas that are less visible or facing service areas will be of a similar color to the stone.

EIFS: The upper portions of the back and sides of the building less visible to the public will be an eifs system in a lighter shade of the siding color. These areas will be largely screened by landscaping.

Elevations of the building with material indications and a street view as the public will be able to view the new Animal Health Center from the southeast are included with this submittal.

Sincerely,

Scott Ramser, AIA

WDM Architects

Attachments:

Application

Cover	title sheet, index, location, zoo context
SA0.1	existing site
SA0.2	grading plan
SA0.3	landscaping plan
A0.1	floor plan
A0.2	building elevations
A0.3	building elevations
A0.4	perspective view
A0.5	perspective view
E0.1	site lighting plan
E0.2	fixture cut sheets

APPLICATION FOR
URBAN DESIGN COMMISSION
REVIEW AND APPROVAL

AGENDA ITEM # _____
Project # _____
Legistar # _____

DATE SUBMITTED: 6/13/2012
UDC MEETING DATE: 6/20/2012

Action Requested
___ Informational Presentation
X Initial Approval and/or Recommendation
X Final Approval and/or Recommendation

PLEASE PRINT!

PROJECT ADDRESS: 702 SOUTH RANDAL AVE
ALDERMANIC DISTRICT: 13

OWNER/DEVELOPER (Partners and/or Principals)
CITY OF MADISON PARKS
HENRY VILAS ZOO

ARCHITECT/DESIGNER/OR AGENT:
WDM ARCHITECTS
105 N WASHINGTON
WICHITA, KS 67202

CONTACT PERSON: RONDA SCHWETZ
Address: 702 SOUTH RANDAL AVE
MADISON, WI 53715
Phone: (608) 2664732
Fax: (608) 266-5923
E-mail address: Schwetz@countyofdane.com

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TYPE OF PROJECT:
(See Section A for:)
___ Planned Unit Development (PUD)
___ General Development Plan (GDP)
___ Specific Implementation Plan (SIP)
___ Planned Community Development (PCD)
___ General Development Plan (GDP)
___ Specific Implementation Plan (SIP)
___ Planned Residential Development (PRD)
___ New Construction or Exterior Remodeling in an Urban Design District * (A public hearing is required as well as a fee)
X School, Public Building or Space (Fee may be required)
___ New Construction or Addition to or Remodeling of a Retail, Hotel or Motel Building Exceeding 40,000 Sq. Ft.
___ Planned Commercial Site

(See Section B for:)
___ New Construction or Exterior Remodeling in C4 District (Fee required)

(See Section C for:)
___ R.P.S.M. Parking Variance (Fee required)

(See Section D for:)
___ Comprehensive Design Review* (Fee required)
___ Street Graphics Variance* (Fee required)

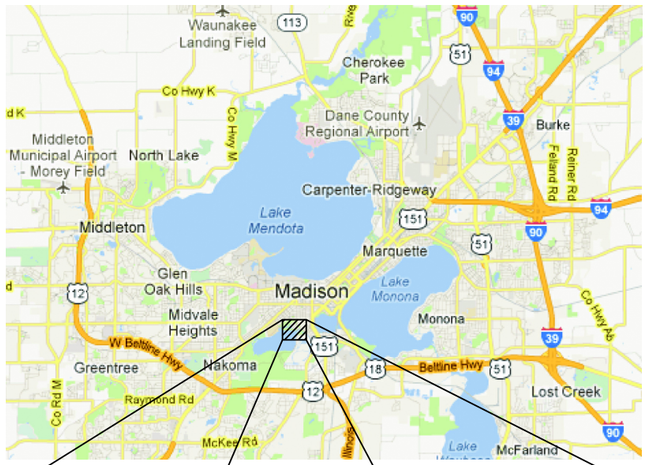
___ Other _____

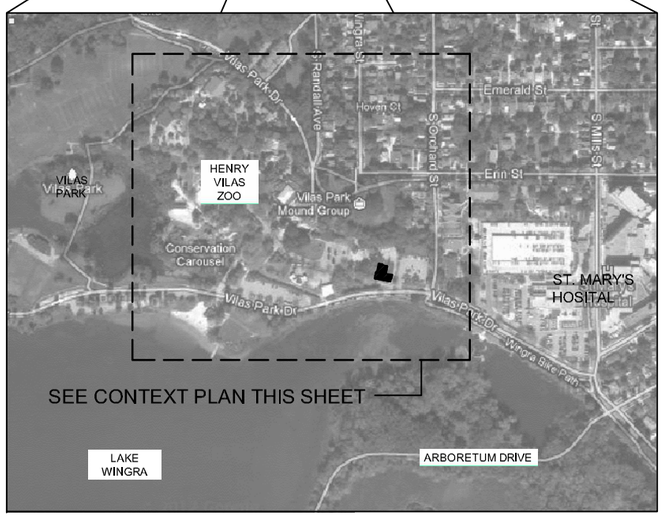
*Public Hearing Required (Submission Deadline 3 Weeks in Advance of Meeting Date)

Where fees are required (as noted above) they apply with the first submittal for either initial or final approval of a project.

ANIMAL HEALTH CENTER

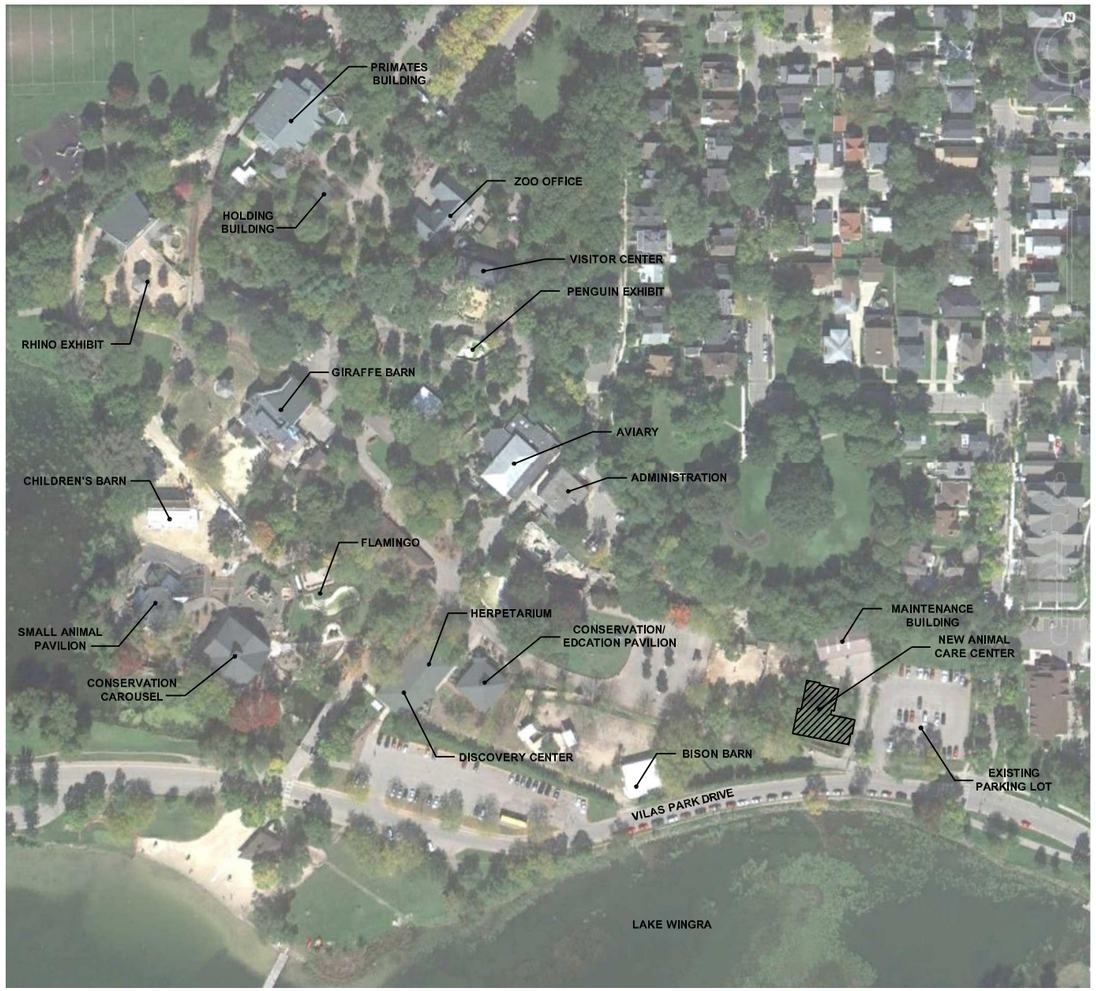
HENRY VILAS ZOO - MADISON, WISCONSIN





NORTH

LOCATION MAP
NOT TO SCALE



NORTH

CONTEXT PLAN
NOT TO SCALE

sheet index:

COVER	SHEET INDEX
	CONTEXT PLAN
	LOCATION MAP
SA0.1	CONTEXT PLAN
SA0.2	SITE PLAN
	GRADING PLAN
SA0.3	LANDSCAPE PLAN
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A0.2	BUILDING ELEVATIONS
A0.3	BUILDING ELEVATIONS
A0.4	PERSPECTIVE VIEW
A0.5	PERSPECTIVE VIEW
E0.1	SITE LIGHTING PLAN
E0.2	FIXTURE CUT SHEETS

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105 North Washington
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owner

henry vilas ZOO
It's our nature℠

architect / landscape architect

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mechanical / electrical / plumbing engineer

Alvine Engineering

structural engineer

MKEC ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

civil engineer

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
2901 International Lane Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

henry vilas ZOO

Henry Vilas Zoo
Animal Health Center
702 South Randall Ave
Madison, Wisconsin

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City Submittal - 6/4/2012

WDM No. 12014
drawn: DJ
checked: SR

Sheet Index
Project Narrative

COVER

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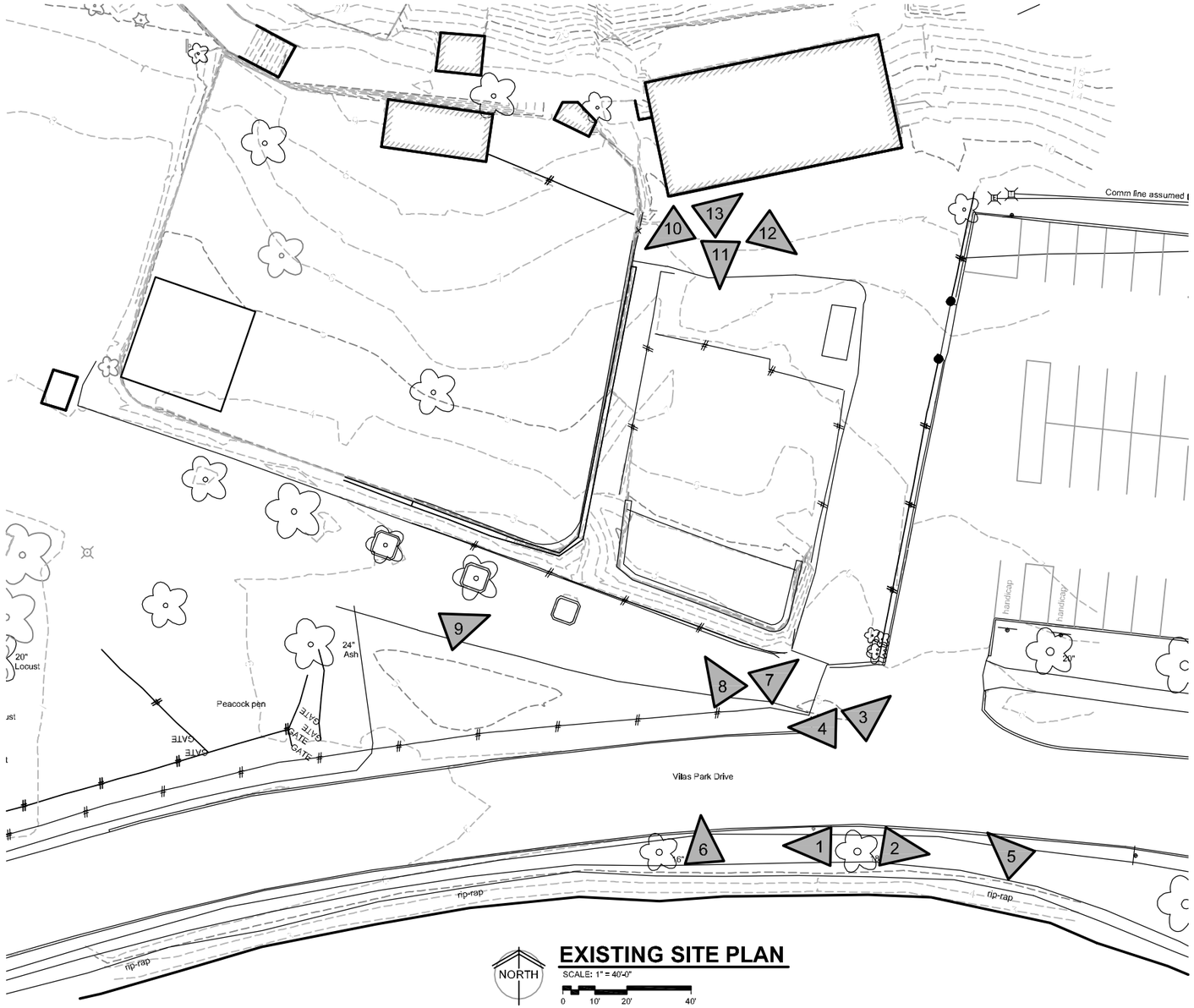

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Context Plan

SA0.1

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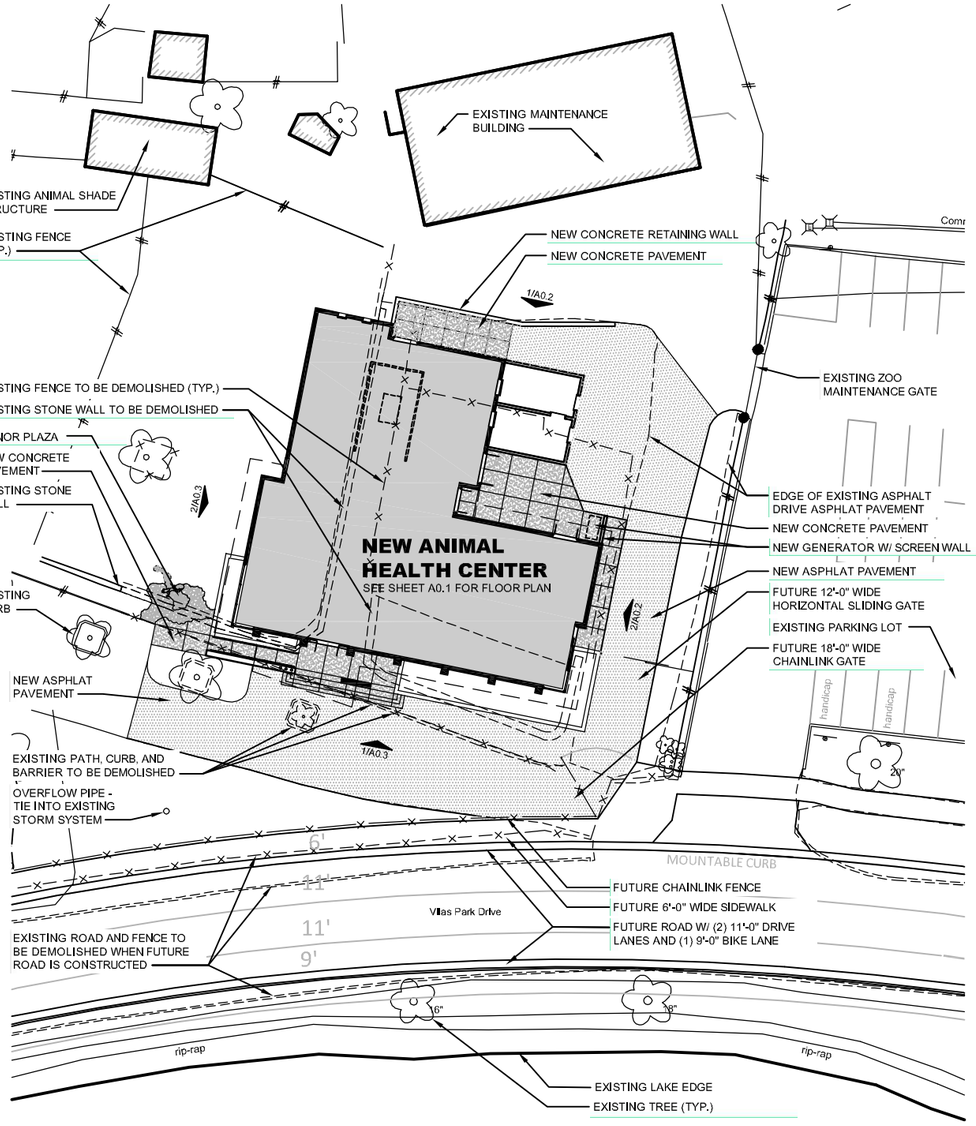

SITE LAYOUT PLAN

NORTH

SCALE: 1" = 40'-0"

0 10' 20' 40'

SITE GRADING PLAN

NORTH

SCALE: 1" = 40'-0"

0 10' 20' 40'

LEGAL DESCRIPTION

ALL LAND IN SECTIONS 22 & 27, T7N R9E, USED FOR VILAS PARK AND ZOO INCLUDING: WINGRA PARK, LOTS 7 THRU 12, BLK 22; LOTS 6 THRU 12, BLK 23; AND ALL OF BLKS 24, 25, 26, 27, 28, 29, 34, 35, 36, 37, 38, 39 & 40, EXC THAT PART DESC AS FOL: BEG SELY COR OF LOT 1 BLOCK 22 OF WINGRA PARK, TH S 45 DEG 01 MIN 52 SEC E ALG SWLY ROW OF GRANT ST EXTENDED 10 FT, TH S 45 DEG W 68 FT, TH S 55 DEG 52 MIN 01 SEC W 53.04 FT TO SWLY COR OF SD LOT 2, TH N 45 DEG E ALG SELY LN OF LOTS 1 & 2 120.09 FT TO POB.

ZONING INFORMATION

ZONED C- CONSERVANCY

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Animal Health Center

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Site Plan
Grading Plan

SA0.2

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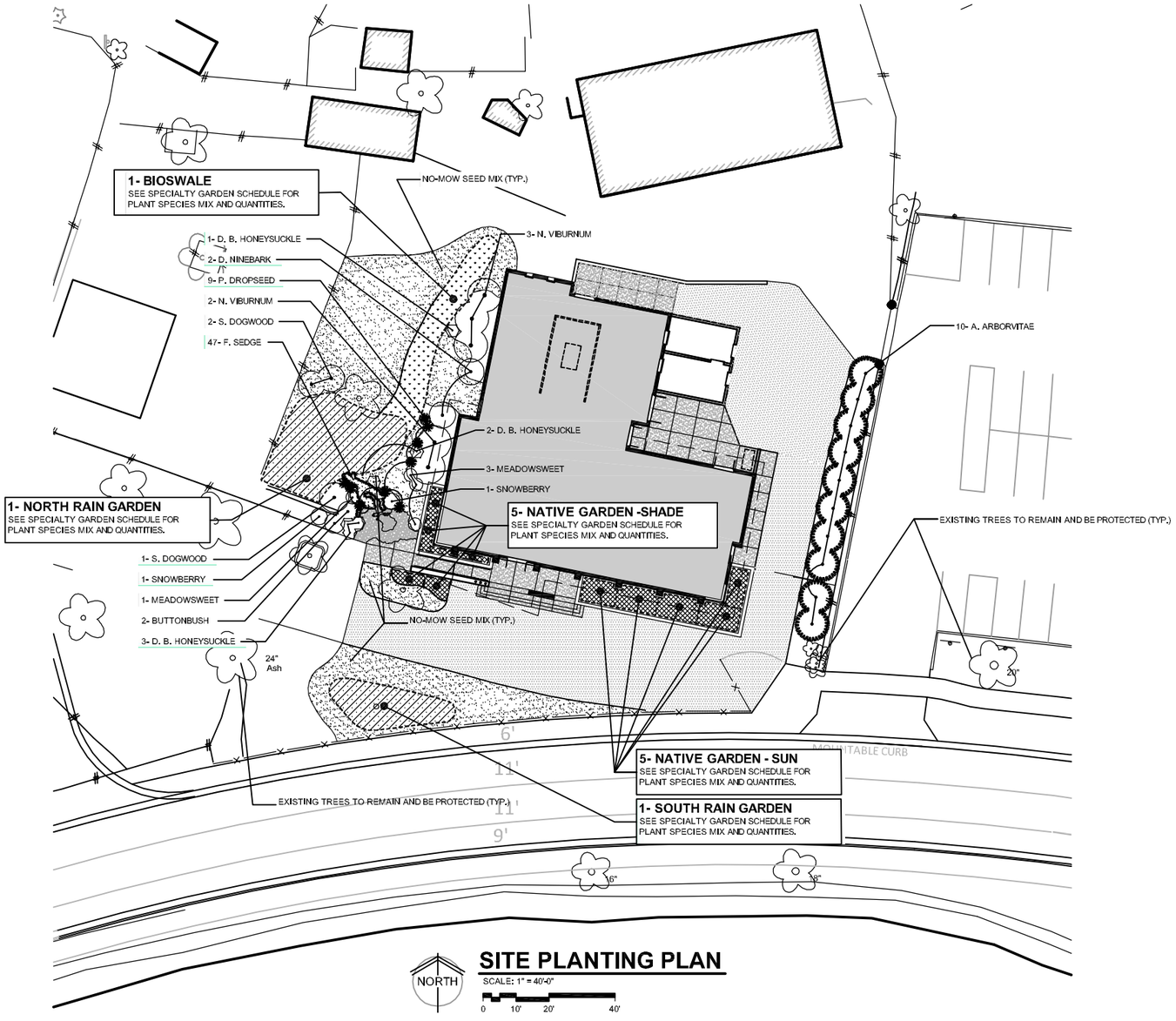

SITE PLANTING PLAN

SCALE: 1" = 40'-0"

GRASS SEEDING SCHEDULE

QNTY.	COMMON NAME	BOTANICAL NAME	MIX %
0.8 AC	NO-MOW SEED MIX		
	COVER CROP - ANNUAL GRASS		
	GULF ANNUAL RYEGRASS	Lolium multiflorum	10 LBS.
	GRASS MIX		
	JAMESTOWN IV CHEWINGS FESCUE	Festuca commutata	10 LBS.
	SHEEP FESCUE	Festuca ovina	3 LBS.
	AURORA HARD FESCUE	Festuca brevipila (F. longifolia)	
	RHINO HARD FESCUE	Festuca brevipila (F. longifolia)	
	SEABREEZE SLENDER CREEPING RED FESCUE	Festuca rubra	
	CROSSBOW CREEPING RED FESCUE	Festuca rubra subsp. rubra	

NOTE: NO-MOW GRASS MIX BASIS OF DESIGN IS "NO-MOW LAWN MIX WITH ANNUAL RYE NURSE CROP" BY:
PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453)

PLANT SCHEDULE

QNTY.	COMMON NAME	BOTANICAL NAME	MATURE SIZE	SIZE	COND.	REMARKS
	EVERGREEN TREES					
10	AMERICAN ARBORVITAE	Thuja occidentalis	20'-10'	8'-0" H	CONT.	
	SHRUBS					
2	BUTTONBUSH	Cephalenthus occidentalis	6'W-6'H	5 GAL.	CONT.	
2	SNOWBERRY	Symphoricarpus albus	5'W-4'H	5 GAL.	CONT.	
3	SILKY DOGWOOD	Cornus amomum	8'W-8'H	10 GAL.	CONT.	
4	MEADOWSWEET	Spirea alba	4'W-4'H	3 GAL.	CONT.	
6	DWARF BUSHHONEYSUCKLE	Diervilla lonicera	4'W-3'H	3 GAL.	CONT.	
2	DWARF NINEBARK	Physocarpus opufolius var. intermedius	7'W-7'H	10 GAL.	CONT.	
5	NANNYBERRY VIBURNUM	Viburnum lantago	12'W-10'H	10 GAL.	CONT.	
	GRASSES					
9	PRAIRIE DROPSEED	Cephalenthus occidentalis	3'W-4'H	3" POT	CONT.	
47	FOX SEDGE	Carex vulpinoidea	2'W-2'H	3" POT	CONT.	

SECIALTY GARDEN SCHEDULE

QNTY.	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	SIZE	COND.	REMARKS
SOUTH RAIN GARDEN		NOTE: RAIN GARDEN IS CUSTOM DESIGNED BY PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453) - LAYOUT AND INSTALL PLANTS PER SUPPLIERS INSTRUCTIONS				
	SEDGES					
128	FOX SEDGE	Carex vulpinoidea	1'-3'	3" POT	CONT.	
	FORBS					
12	NODDING PINK ONION	Allium cernuum	1'-2'	3" POT	CONT.	
8	RED MILKWEED	Asclepias incarnata	3'-5'	3" POT	CONT.	
10	CROOKED STEM ASTER	Aster prenanthoides	1'-3'	3" POT	CONT.	
12	WHITE TURTLEHEAD	Chelone glabra	2'-4'	3" POT	CONT.	
8	MISTFLOWER	Eupatorium coelestinum	1'-3'	3" POT	CONT.	
12	BONESET	Eupatorium perfoliatum	3'-4'	3" POT	CONT.	
12	BOTTLE GENTIAN	Gentiana andrewsii	1'-2'	3" POT	CONT.	
16	WILD IRIS	Iris shrevei	2'-3'	3" POT	CONT.	
18	PRAIRIE BLAZINGSTAR	Allium cernuum	3'-5'	3" POT	CONT.	
12	GREAT BLUE LOBELIA	Lobelia siphilica	1'-4'	3" POT	CONT.	
12	MARSH PHLOX	Phlox glaberrima	2'-4'	3" POT	CONT.	
10	OHIO GOLDENOD	Solidago ohioensis	3'-4'	3" POT	CONT.	
6	STEEPLEBUSH	Spirea tomentosa	2'-3'	3" POT	CONT.	
12	CULVER'S ROOT	Veronicastrum virginicum	3'-5'	3" POT	CONT.	
12	GOLDEN ALEXANDERES	Zizea aurea	1'-2'	3" POT	CONT.	
NORTH RAIN GARDEN		NOTE: RAIN GARDEN IS CUSTOM DESIGNED BY PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453) - LAYOUT AND INSTALL PLANTS PER SUPPLIERS INSTRUCTIONS				
	SEDGES					
320	FOX SEDGE	Carex vulpinoidea	1'-3'	3" POT	CONT.	
	FORBS					
48	NODDING PINK ONION	Allium cernuum	1'-2'	3" POT	CONT.	
32	CROOKED STEM ASTER	Aster prenanthoides	1'-3'	3" POT	CONT.	
32	WHITE TURTLEHEAD	Chelone glabra	2'-4'	3" POT	CONT.	
32	MISTFLOWER	Eupatorium coelestinum	1'-3'	3" POT	CONT.	
48	PURPLE CONEFLOWER	Echinacea coelestinum	3'-4'	3" POT	CONT.	
48	BOTTLE GENTIAN	Gentiana andrewsii	1'-2'	3" POT	CONT.	
32	WILD IRIS	Iris shrevei	2'-3'	3" POT	CONT.	
32	GREAT BLUE LOBELIA	Lobelia siphilica	1'-4'	3" POT	CONT.	
32	MARSH PHLOX	Phlox glaberrima	2'-4'	3" POT	CONT.	
48	CULVER'S ROOT	Veronicastrum virginicum	3'-5'	3" POT	CONT.	
48	GOLDEN ALEXANDERES	Zizea aurea	1'-2'	3" POT	CONT.	
BIOSWALE		NOTE: BIOSWALE IS CUSTOM DESIGNED BY PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453) - LAYOUT AND INSTALL PLANTS PER SUPPLIERS INSTRUCTIONS				
	SEDGES					
128	FOX SEDGE	Carex vulpinoidea	1'-3'	3" POT	CONT.	
96	BICKNELL'S SEDGE	Carex bicknellii	1'-3'	3" POT	CONT.	
	FORBS					
32	LAVENDER HYSSOP	Agastache foeniculum	1'-3'	3" POT	CONT.	
32	NODDING PINK ONION	Allium cernuum	1'-2'	3" POT	CONT.	
16	SMOOTH ASTER	Aster laevis	2'-4'	3" POT	CONT.	
16	CROOKED STEM ASTER	Aster prenanthoides	1'-3'	3" POT	CONT.	
32	SHOOTINGSTAR	Dodecatheon coelestinum	1'-2'	3" POT	CONT.	
32	MISTFLOWER	Eupatorium coelestinum	1'-3'	3" POT	CONT.	
48	PURPLE CONEFLOWER	Echinacea coelestinum	3'-4'	3" POT	CONT.	
16	BOTTLE GENTIAN	Gentiana andrewsii	1'-2'	3" POT	CONT.	
32	WILD GERANIUM	Geranium maculatum	1'-2'	3" POT	CONT.	
32	GREAT BLUE LOBELIA	Lobelia siphilica	1'-4'	3" POT	CONT.	
32	OHIO SPIDERWORT	Tradescantia ohiensis	2'-4'	3" POT	CONT.	
16	CULVER'S ROOT	Veronicastrum virginicum	3'-5'	3" POT	CONT.	
32	GOLDEN ALEXANDERES	Zizea aurea	1'-2'	3" POT	CONT.	
NATIVE GARDEN - SUN		NOTE: BASIS-OF-DESIGN "50 PLANT LOW GROWING GARDEN" BY PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453) - LAYOUT AND INSTALL PLANTS PER SUPPLIERS INSTRUCTIONS				
	SEDGE/GRASSES					
15	PRAIRIE DROPSEED	Sporobolus heterolepis	2'-4'	3" POT	CONT.	
	WILDFLOWERS/FORBS					
3	NODDING PINK ONION	Allium cernuum	1'-2'	3" POT	CONT.	
3	HEATH ASTER	Aster ericoides	1'-3'	3" POT	CONT.	
3	CROOKED STEM ASTER	Aster prenanthoides	1'-3'	3" POT	CONT.	
3	PURPLE PRAIRIE CLOVER	Dalea purpurea	1'-2'	3" POT	CONT.	
3	MISTFLOWER	Eupatorium coelestinum	1'-3'	3" POT	CONT.	
2	PRAIRIE SMOKE	Geum triflorum	6"	3" POT	CONT.	
3	BROAD-LEAVED PENSTEMON	Penstemon ovatus	1'-3'	3" POT	CONT.	
2	DOWNY PHLOX	Phlox pilosa	1'-2'	3" POT	CONT.	
3	COLUMBINE	Aquilegia canadensis	1'-3'	3" POT	CONT.	
3	PRAIRIE BLUE-EYED GRASS	Sisyrinchium campestre	6"-1'	3" POT	CONT.	
3	SHOWY GOLDENROD	Solidago speciosa	1'-3'	3" POT	CONT.	
1	WESTERN SPIDERWORT	Tradescantia occidentalis	1'	3" POT	CONT.	
NATIVE GARDEN - SHADE		NOTE: BASIS-OF-DESIGN "25 PLANT WOODLAND SHADE GARDEN" BY PRAIRIE NURSERY, INC.; P.O. BOX 306; WESTFIELD, WI 53964 (1-800-476-9453) - LAYOUT AND INSTALL PLANTS PER SUPPLIERS INSTRUCTIONS				
	SEDGE/GRASSES					
5	PALM SEDGE	Carex muskingumensis	2'-3'	3" POT	CONT.	
2	NORTHERN SEA OATS	Chasmanthium latifolium	3'-4'	3" POT	CONT.	
	WILDFLOWERS/FORBS					
1	COLUMBINE	Aquilegia canadensis	1'-3'	3" POT	CONT.	
2	JACK IN THE PULPIT	Arisaema triphyllum	1'-2'	3" POT	CONT.	
2	WHITE WOODLAND ASTER	Aster divaricatus	2'-4'	3" POT	CONT.	
2	CALICO ASTER	Aster lateriflorus	2'-3'	3" POT	CONT.	
2	WILD BLEEDING HEART	Dicentra eximia	1'-2'	3" POT	CONT.	
1	MAPLE LEAVED ALUM ROOT	Heuchera villosa var. Atropurpurea	1'-3'	3" POT	CONT.	
2	VIRGINIA BLUEBELLS	Mertensia virginica	1'-2'	3" POT	CONT.	
1	WILD BLUE PHLOX	Phlox divaricata	1'-2'	3" POT	CONT.	
2	JACOB'S LADDER	Polemonium reptans	1'-2'	3" POT	CONT.	
1	SOLOMON'S SEAL	Polygonatum biflorum	1'-3'	3" POT	CONT.	
2	CULVER'S ROOT	Veronicastrum virginicum	3'-6'	3" POT	CONT.	

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we do more

henry vilas Zoo

Henry Vilas Zoo Animal Health Center
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Madison, Wisconsin

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Planting Plan

SA0.3

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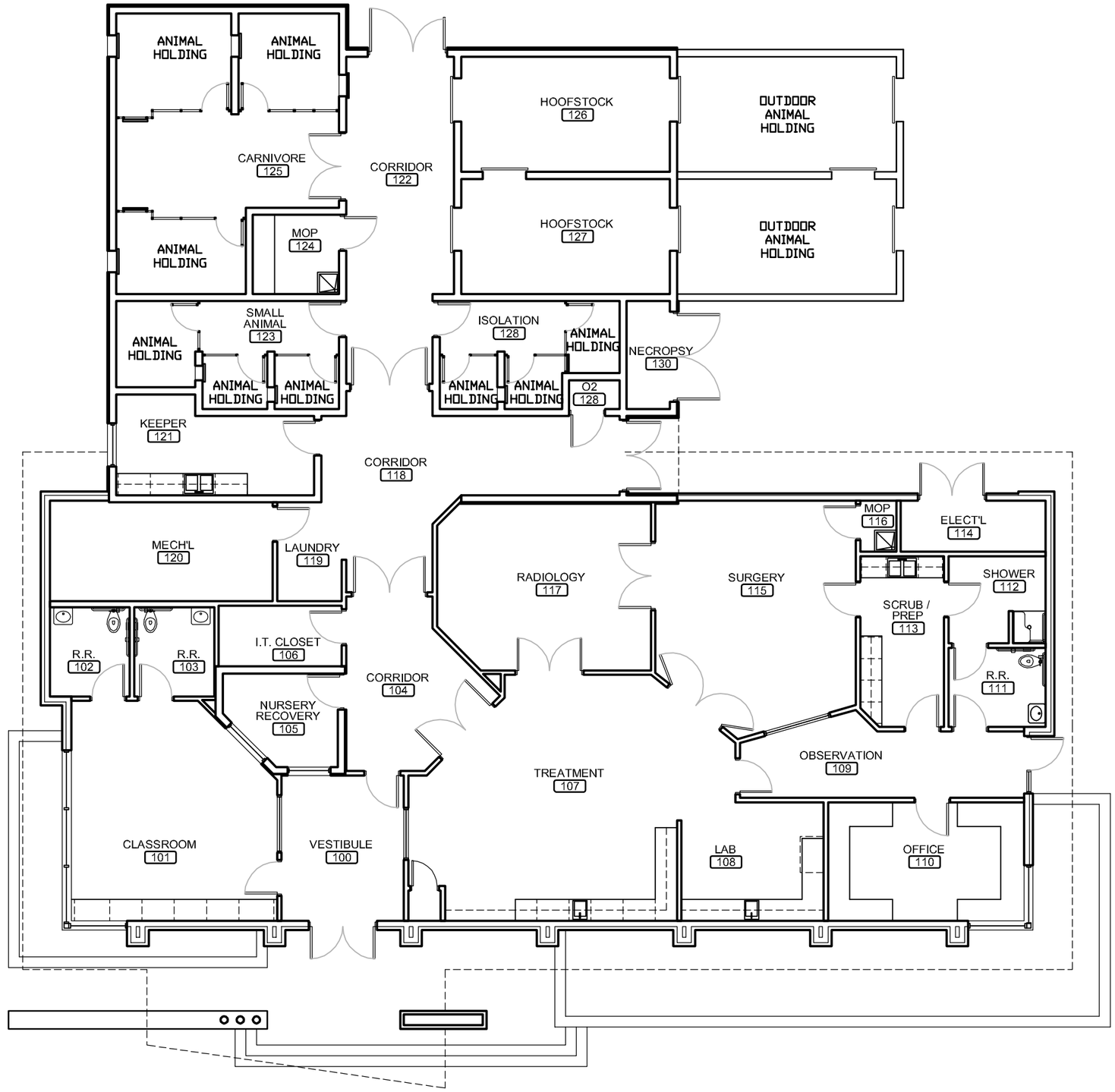

NORTH

BUILDING FLOOR PLAN

SCALE: 3/32" = 1'-0"

0 4' 8' 16'

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Building Elevations

A0.1

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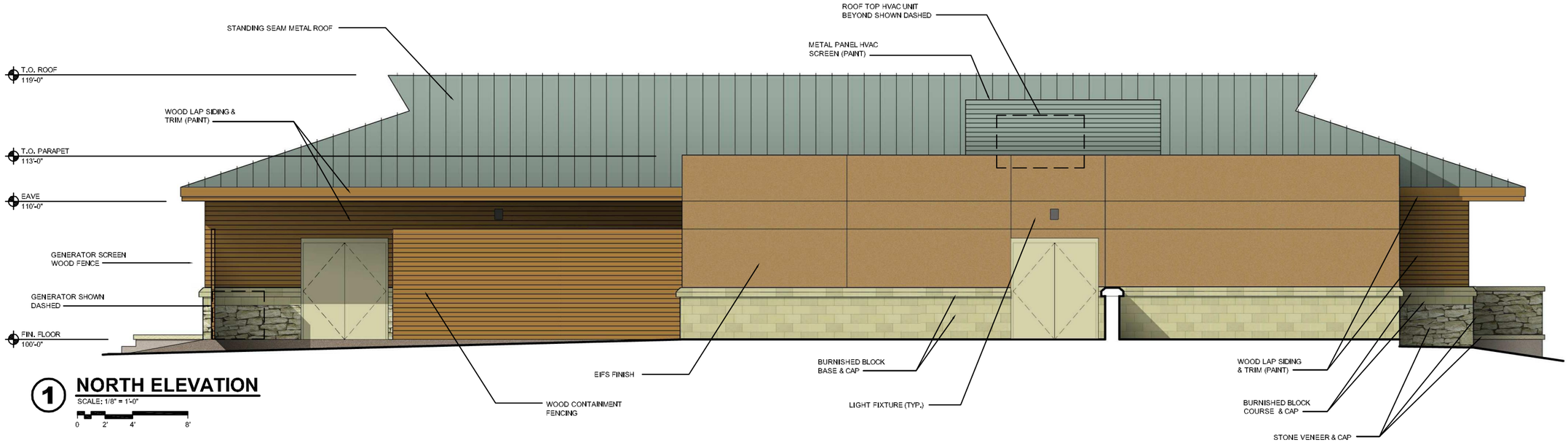
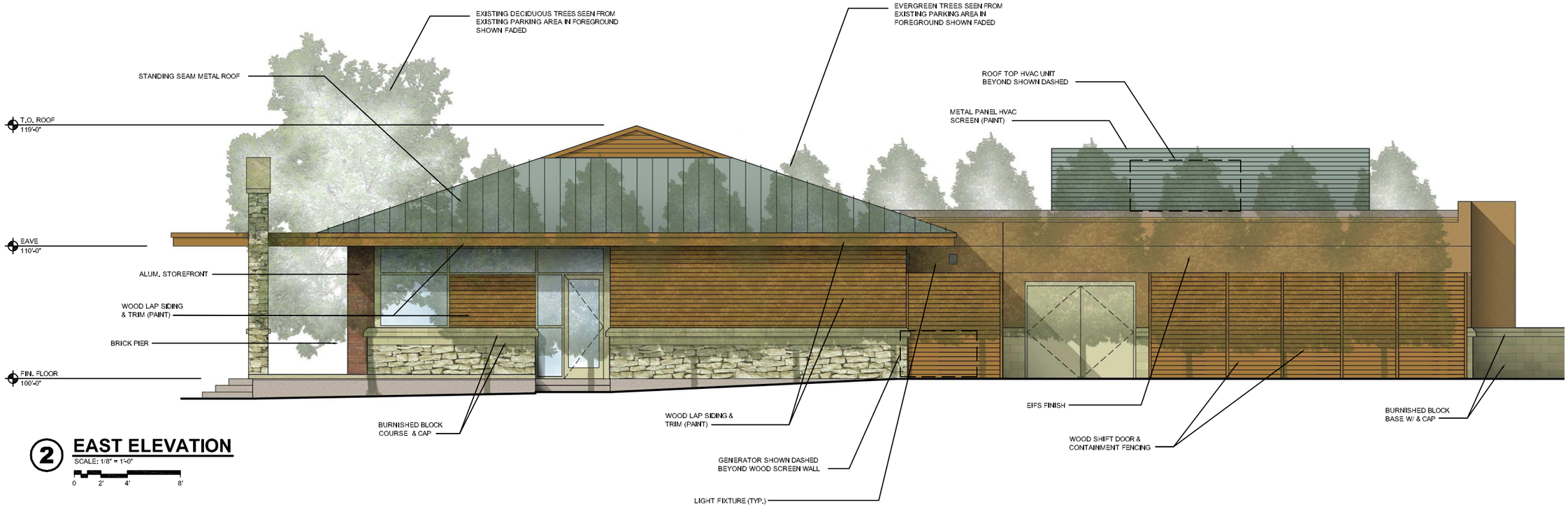


1 NORTH ELEVATION

SCALE: 1/8" = 1'-0"

0 2' 4' 8'



2 EAST ELEVATION

SCALE: 1/8" = 1'-0"

0 2' 4' 8'

WDM ARCHITECTS

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Henry Vilas Zoo Animal Health Center

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WDM No. 12014 drawn: DJ checked: SR

Building Elevations

A0.2

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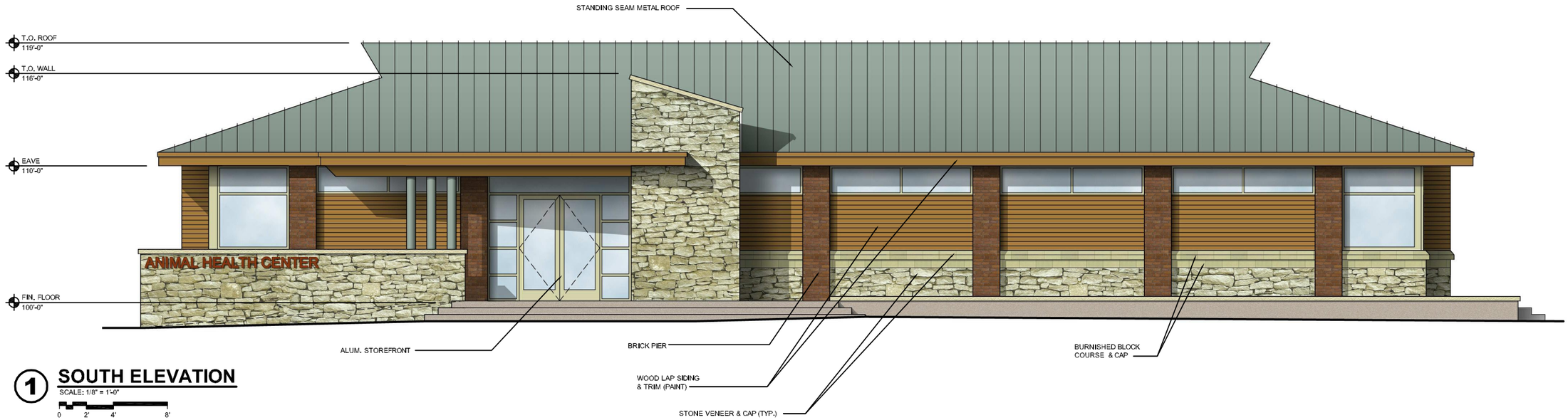
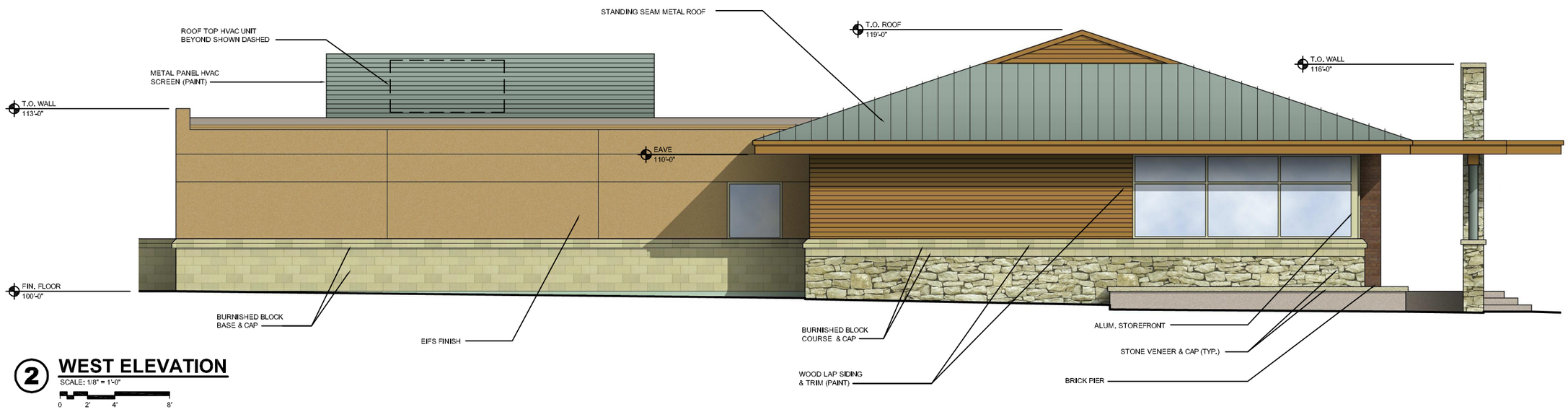


1 SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

0 2' 4' 8'



2 WEST ELEVATION

SCALE: 1/8" = 1'-0"

0 2' 4' 8'

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checked: SR

Building Elevations

A0.3

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Perspective View

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Perspective View

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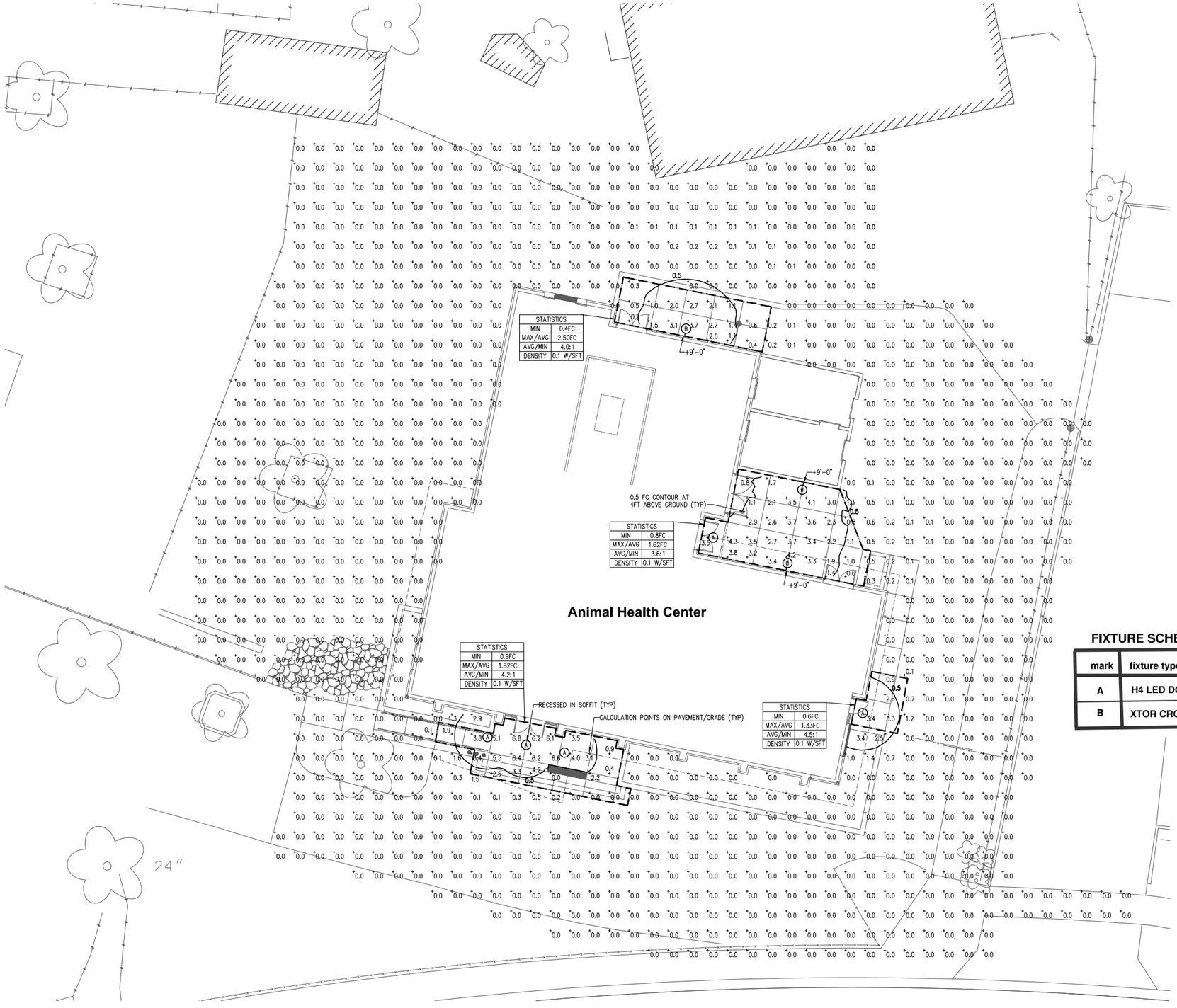

FIXTURE SCHEDULE

mark	fixture type	manufacturer
A	H4 LED DOWNLIGHT	HALO
B	XTOR CROSSTOUR LED	LUMARK

NORTH

A **SITE PLAN - PHOTOMETRIC STUDY**

1"= 10'-0"

0 5' 10' 20'

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SITE PLAN - PHOTOMETRIC STUDY

E0.1

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HALO®

H4 LED Downlight Series – LED Light Engines

The Halo H4 LED is a family of 4" aperture recessed downlights with H455 and H456 series housings designed for use with Halo EL4 Series LED Light Engines and compatible TL4 and TLS4 Series LED trims. Halo H4 LED housings have integral LED drivers that offer dimming as a standard feature.

The Halo LED EL4058xx Light Engines are designed for use in the LED dedicated housing Series H455x and H456x. Halo LED EL4058xx Series light engines deliver in the range of 534-700 lumens (depending upon the trim and selected color temperature); and the Series offers a selection of four color temperatures: 2700K, 3000K, 3500K, 4000K. Halo LED offers a superior optical design that yields productive beam lumens, good cutoff and low glare.

Catalog #		Type
Project		A
Comments		Date
Prepared by		

DESIGN FEATURES

MECHANICAL

(A) Upper Heat Sink

- Durable extruded aluminum construction.
- Conducts heat away from the LED keeping the junction temperatures below specified maximums, even when installed in insulated ceiling environments.

(B) Lower Heat Sink

- Durable die-cast aluminum construction.
- Precision keyed flange designed to lock with matching keyed slots in H4 trim rings.
- Works in conjunction with the upper heat sink for heat conduction away from the LED

MOUNTING

(C) Friction Blades

- Precision formed stainless steel spring blades provide retention of the EL series of light engines in the H455 and H456 series housings.
- Friction blade design allows the light engine to be installed in any position within the housing aperture (360 degrees).
- Tether security cable included on the light engine for attachment to the housing during installation, as recommended and when required by code.

ELECTRICAL

(D) LED Connection

- LED connector is a non-screw base connector offering easy installation with the H455 and H456 Series housings.
- LED connector meets California Title-24 high-efficacy luminaire requirement for a non-screw base socket, and where required to qualify as a high-efficacy luminaire.

COLOR SPECIFICATION & QUALITY STANDARDS

- Halo employs a tight chromaticity specification and LED color binning process to ensure LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) consistency over the useful life of the LED
- Halo LED chromaticity specification not only meets, but exceeds ENERGY STAR® SSL color standards (as per ANSIC 78.377-2008).
- Every Halo LED Module is quality tested and performance measured on the production line, and then serialized to register lumens, wattage, CRI and CCT
- Halo LED's serialized testing and measurement process further ensures color and lumen consistency to meet stringent Cooper Lighting specifications and exceed ENERGY STAR® SSL standards
- Halo LED Modules and light engines include color designation in the model number
- Example: EL406827

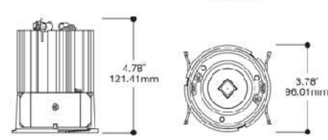
  8 27 — 2700°K nominal CCT; > 80 CRI

QUALIFICATION

- 534 - 700 lumens (depending upon color temperature and trim selected)
- Halo LED offers the choice of four correlated color temperatures: 2700°K, 3000°K, 3500°K, 4000°K
- 80 CRI
- L70/50 Lumen Maintenance 70% lumens/ 50,000 hours
- Up to 50 Lumens per Watt
- LED package consisting of an engineered array of multiple LEDs to create one virtual source, for a productive "cone of light"
- Designed for interchangeable trim choices, with selection from multiple reflector, baffle, and lens trim options
- H4 LED Light Engines are ENERGY STAR® Qualification as used with designated LED trims*
- Can be used to meet State of California Title 24 and International Energy Conservation Code – IECC High Efficacy requirements when used with designated LED trims*
- LED emits no ultraviolet and only minimal infrared wavelengths
- ROHS compliant

** Refer to Energy Code Summary and H4 LED trims specification sheet online www.cooperlighting.com*

Qualified and Compliant as designated.*



H4 LED Downlight Series

LED Light Engines

Available in 2700°K 3000°K 3500°K 4000°K Correlated Color Temperatures

2700°K nominal

EL405827

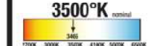
4" LED Light Engine, 2700°K

3000°K nominal

EL405830

4" LED Light Engine, 3000°K

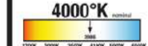
3500°K nominal



EL405835

4" LED Light Engine, 3500°K

4000°K nominal



EL405840

4" LED Light Engine, 4000°K

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March 30, 2012 9:07 AM

HALO®

EL4058xx
H4 LED LIGHT ENGINE

ORDERING INFORMATION

SAMPLE NUMBER: H455RTUNVD010 EL405827 TL400SC

Complete unit includes LED housing, light engine, and trim, ordered separately

H4 LED Housing	H4 LED Light Engine			Trim Options	Accessories (see product details for application information)
H456ICAT120D	EL405	8	35	TL400SC	

H4 LED Housing:
- **H456ICAT120D** = 4" Dedicated LED Insulated Ceiling AIR-TITE™ Housing, 120V Driver with standard Dimming
- **H455RICAT120D** = 4" Dedicated LED Insulated Ceiling AIR-TITE™ Remodel Housing, 120V Driver with standard Dimming
- **H455TUNVD010** = 4" Dedicated LED Non-IC AIR-TITE™ Housing, 120V-277V Driver with 0-10V Dimming
- **H455TCPUNVD010** = 4" Chicago Plenum Dedicated LED Non-IC AIR-TITE™ Housing, 120V-277V Driver with 0-10V Dimming
- **H455RTUNVD010** = 4" Dedicated LED Non-IC AIR-TITE™ Remodel Housing, 120V-277V Driver with 0-10V Dimming

H4 LED Light Engine:
- **EL405** = 4" LED Downlight Light Engine, 550 Design Lumens
- **8** = 80 CRI
- **27** = 2725°K; **30** = 3045°K; **35** = 3465°K; **40** = 3985°K

Trim Options:
- **TL400SC** = Specular Clear Reflector, White Ring
- **TL400H** = Haze Reflector, White Ring
- **TL400WH** = White Reflector, White Ring
- **TL400SN** = Satin Nickel Reflector, Satin Nickel Ring
- **TL400TBZ** = Tuscan Bronze Reflector, Tuscan Bronze Ring
- **TL400SBK** = Black Specular Reflector, White Ring
- **TL401WB** = White Baffle, White Ring
- **TL401EB** = Black Baffle, White Ring
- **TL402SCS** = Solite® Lens, Specular Clear Reflector and White Ring, Shower Rated
- **TL402HS** = Solite® Lens, Haze Reflector and White Ring, Shower Rated
- **TL402WHS** = Solite® Lens, White Reflector and White Ring, Shower Rated
- **TL402SNS** = Solite® Lens, Satin Nickel Reflector and Satin Nickel Ring, Shower Rated
- **TL402TBZS** = Solite® Lens, Tuscan Bronze Reflector and Tuscan Bronze Ring, Shower Rated
- **TL402SBKS** = Solite® Lens, Black Specular Reflector and White Ring, Shower Rated
- **TL403WBS** = Solite® Lens, White Baffle and White Ring, Shower Rated
- **TL403EBS** = Solite® Lens, Black Baffle and White Ring, Shower Rated
- **TLS408WHWB** = Square Baffle Trim, Solite® Lens, White Ring with White Baffle
- **TLS408WHBB** = Square Baffle Trim, Solite® Lens, White Ring with Black Baffle
- **TLS408SNBB** = Square Baffle Trim, Solite® Lens, Satin Nickel Ring with Black Baffle
- **TLS406TBZBB** = Square Baffle Trim, Solite® Lens, Tuscan Bronze Ring with Black Baffle
- **TL409WW** = Wall Wash, Semi-Specular Clear Reflector with White Ring
- **TL409WHWW** = Wall Wash, White Reflector with White Ring
- **TL422PS** = Polymer Baffle & Regressed Lens Shower Trim, White Baffle and Ring

Accessories — Thin Profile Designer Trim Rings
For use with Round TL4 trims (not compatible with Square TLS4 trims)
- **TRM400WH** = White
- **TRM400BK** = Black
- **TRM400SN** = Satin Nickel
- **TRM400TBZ** = Tuscan Bronze
- **TRM400PC** = Polished Chrome

Halo H4 LED Downlight Photometry

Representative photometric test reports are as illustrated for downlighting include open and lensed trims in combination with Halo H4 LED Light Engines in 3500°K color temperature. For relative lumen values with other color temperature options in Halo LED use the appropriate multiplier.

Color Temperature as tested: 3500°K				
Color Temperature	2700°K	3000°K	3500°K	4000°K
Multiplier	0.8905	0.9476	1.0000	1.0476

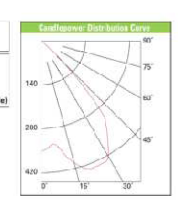
Specular Clear, Open
TL400SC

Spacing Criteria = 1.3
Lumens per Watt = 48.54 LpW
Test No. P20074
Test Model: EL405835 (3500K LED module)

Luminance (Average Candela/M²)

Degrees	Avg. 0° Luminance
45	19839
55	1290
65	1167
75	953
85	1415

Candlepower Distribution Curve



Candela Distribution

Degrees Vertical	Candela
0	349
5	331
15	399
25	433
35	363
45	114
55	6
65	4
75	2
85	1
90	0

Cone of Light

Distance to Illuminated Plane	Initial Nadir Foot Candles	Beam Diameter (ft)
5' 6"	12	10.3
7' 0"	7	13.1
8' 0"	6	15.0
9' 0"	4	16.9
10' 0"	4	18.3

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixture
0-30	346	N/A	50.5
0-40	573	N/A	83.6
0-60	679	N/A	99.0
0-90	686	N/A	100

Solite® is a registered trademark of AGC Flat Glass North America

COOPER Lighting
www.cooperlighting.com

Note: Specifications and Dimensions subject to change without notice.
Visit our web site at www.cooperlighting.com
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Cooper Lighting 5925 McLaughlin Rd. Mississauga, Ontario, Canada L5R 1B8 905.507.4000 FAX 905.568.7049

LUMARK®

Catalog #		Type
Project		B
Comments		Date
Prepared by		

DESCRIPTION

The patent pending Lumark Crosstour™ LED Wall Pack Series of luminaries provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for façade/canopy illumination, post/bollard and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks.

SPECIFICATION FEATURES

Construction
Slim, low profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and large design. The small housing is available in 10W and 20W. The large housing is available in the 30W model. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied lever-lock connectors. Back box includes three (3) half-inch, NPT threaded conduit entry points. The universal back box supports both the small and large forms and mounts to standard 3-1/2" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Not recommended for car wash applications.

Optical
Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Solid state LED Crosstour luminaries are thermally optimized with five (5) lumen packages in cool 5000K or neutral warm 3500K LED color temperature (CCT).

Electrical
LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 10W models operate in -40°C to 40°C [-40°F to 104°F]. 20W and 30W models operate in -30°C to 40°C [-22°F to 104°F]. Crosstour luminaires maintain greater than 70% of initial light output after 50,000 hours of operation. Three (3) half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 10W, 120V 50/60 Hz., 20W and 30W, 120-277V 50/60Hz.

Finish
Crosstour is protected with a Super TGIC carbon bronze or summit white polyester powder coat paint. Super TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life.

Warranty
Crosstour features a five-year limited warranty.

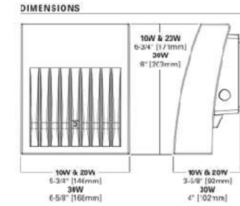
XTOR
CROSSTOUR LED

WALL / SURFACE MOUNT
POST / BOLLARD MOUNT
LOW LEVEL MOUNT
INVERTED MOUNT

SustainabLEDesign

DESIGNLIGHTS CONSORTIUM

DIMENSIONS



CERTIFICATION DATA
UL/cUL Wet Location Listed
IP66 Ingress Protection Rated
ADA Compliant
LM79 / LM80 Compliant
ROHS Compliant
ARRA Compliant
DLC Qualified Models
Lighting Facts® Approved
Title 24 Compliant
NOM Compliant Models

TECHNICAL DATA
40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA
Effective Projected Area: (Sq. Ft.)
XTOR1A/XTOR2A=0.34
XTOR3A =0.45

SHIPPING DATA:
Approximate Net Weight:
3.7 – 5.25 lbs. [1.7 – 2.4 kgs.]

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www.cooperlighting.com

ADH111091 pc
2012-01-16 08:42:31

XTOR CROSSTOUR LED

ORDERING INFORMATION

SAMPLE NUMBER: XTOR2A-N-WT-PC1

Series	LED Kelvin Color	Housing Color	Options	Accessories
XTOR2A	N			

Series
- XTOR1A=Small Door, 10W [1]
- XTOR2A=Small Door, 20W [2]
- XTOR3A=Large Door, 30W [2]

LED Kelvin Color [3]
- ___ = Bright White (Standard) 5000K
- N = Neutral Warm White, 3500K

Housing Color
- ___ = Carbon Bronze (Standard)
- WT = Summit White

Options (specify voltage) [4]
- PC1=Photocontrol 120 V
- PC2=Photocontrol 208-277 V

Accessories [5]
- WG/XTOR=Wireguard (fits both)

Notes:
1 120V only XTOR1A not available in 3500K.
2 Design Lights Consortium™ qualified (down mount only). Consult Design Lights Consortium website for all applications.
3 PC2 only available in 20W and 30W models.
4 PC1 and PC2 photo controls are factory installed. PC2 not available on XTOR1A models.
5 Order WG/XTOR wire guard separately.

STOCK ORDERING INFORMATION

10W Series	20W Series	30W Series
XTOR1A = 10W, 5000K, Carbon Bronze	XTOR2A = 20W, 5000K, Carbon Bronze	XTOR3A = 30W, 5000K, Carbon Bronze
XTOR1A-WT = 10W, 5000K, Summit White	XTOR2A-N = 20W, 3500K, Carbon Bronze	XTOR3A-N = 30W, 3500K, Carbon Bronze
XTOR1A-PC1 = 10W, 5000K, 120V PC, Carbon Bronze	XTOR2A-WT = 20W, Summit White	XTOR3A-WT = 30W, Summit White
	XTOR2A-PC1 = 20W, 120V PC, Carbon Bronze	XTOR3A-PC1 = 30W, 120V PC, Carbon Bronze

5 Days Quick-Ship

5-DAY QUICK SHIP ORDERING INFORMATION

10W Series	20W Series	30W Series
XTOR1A-WT-PC1 = 10W, 5000K, Summit White, 120V PC	XTOR2A-PC2 = 20W, 5000K, 208-277V PC, Carbon Bronze	XTOR3A-PC2 = 30W, 5000K, 208-277V PC, Carbon Bronze
	XTOR2A-WT-PC1 = 20W, 5000K, Summit White, 120V PC	XTOR3A-WT-PC1 = 30W, 5000K, Summit White, 120V PC
	XTOR2A-WT-PC2 = 20W, 5000K, Summit White, 208-277V PC	XTOR3A-WT-PC2 = 30W, 5000K, Summit White, 208-277V PC
	XTOR2A-N-WT = 20W, 3500K, Summit White	XTOR3A-N-WT = 30W, 3500K, Summit White
	XTOR2A-N-PC1 = 20W, 3500K, 120V PC, Carbon Bronze	XTOR3A-N-PC1 = 30W, 3500K, 120V PC, Carbon Bronze
	XTOR2A-N-PC2 = 20W, 3500K, 208-277V PC, Carbon Bronze	XTOR3A-N-PC2 = 30W, 3500K, 208-277V PC, Carbon Bronze
	XTOR2A-N-WT-PC1 = 20W, 3500K, Summit White, 120V PC	XTOR3A-N-WT-PC1 = 30W, 3500K, Summit White, 120V PC
	XTOR2A-N-WT-PC2 = 20W, 3500K, Summit White, 208-277V PC	XTOR3A-N-WT-PC2 = 30W, 3500K, Summit White, 208-277V PC

LUMENS - CRI / CCT TABLE

LED Information	XTOR1A	XTOR2A	XTOR2A-N	XTOR3A	XTOR3A-N
Delivered Lumens	719	1361	947	2243	1600
CCT (Kelvin)	5000	5000	3500	5000	3500
Color Rendering Index (CRI)	63	67	66	69	64

CURRENT DRAW

	XTOR1A	XTOR2A	XTOR3A
120V	.13A	0.2A	0.3A
208V	--	0.1A	0.15A
240V	--	0.15A	0.15A
277V	--	0.15A	0.15A

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NOTE: Specifications and dimensions subject to change without notice.
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COOPER Lighting

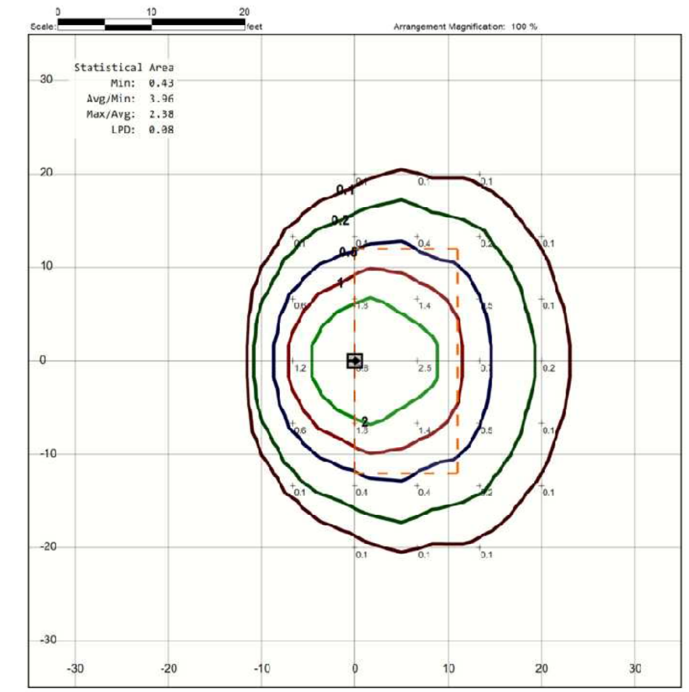
Date : 30 May 2012
Title : Fixture Type B Photometric Report
Desc : Enter the description here...

For : HVZ Animal Health Center
By : Alvine Engineering

Luminaire

IES Filename : XTOR2A-N.ies
Description : XTOR2A-N LUMARK CROSSTOUR LED WALL PACK - 20W - 3500K

Light Loss Factor : 1.00
Number of Lamps : 1
Lamp Lumens : -1 lms
Luminaire Watts : 20 W



FastOutdoor 1.36 Build: 721-0344 | © 2004-2012 Lighting Analysts, Inc. | Calculations based on IESNA methods and recommendations. | Results derived from content of photometric files.

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WDM No. 12014 drawn: JRA checked: GAN

FIXTURE CUT SHEETS

E0.2

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