

# URBAN DESIGN COMMISSION APPLICATION

# UDC

City of Madison  
Planning Division  
126 S. Hamilton St.  
P.O. Box 2985  
Madison, WI 53701-2985  
(608) 266-4635



## FOR OFFICE USE ONLY:

Paid \_\_\_\_\_ Receipt # \_\_\_\_\_

Date received \_\_\_\_\_

Received by \_\_\_\_\_

Aldermanic District \_\_\_\_\_

Zoning District \_\_\_\_\_

Urban Design District \_\_\_\_\_

Submittal reviewed by \_\_\_\_\_

Complete all sections of this application, including the desired meeting date and the action requested.

*If you need an interpreter, translator, materials in alternate formats or other accommodations to access these forms, please call the phone number above immediately.*

## 1. Project Information

Address: 1 Exact Lane - Madison WI, 53719

Title: Exact Sciences: Amenities Facility/ Building Re-Clad/ Parking Garage

## 2. Application Type (check all that apply) and Requested Date

UDC meeting date requested April 25, 2018

- New development       Alteration to an existing or previously-approved development  
 Informational       Initial approval       Final approval

## 3. Project Type

- Project in an Urban Design District  
 Project in the Downtown Core District (DC), Urban Mixed-Use District (UMX), or Mixed-Use Center District (MXC)  
 Project in the Suburban Employment Center District (SEC), 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 Residential Building Complex

### Signage

- Comprehensive Design Review (CDR)  
 Signage Variance (i.e. modification of signage height, area, and setback)

### Other

- Please specify \_\_\_\_\_

## 4. Applicant, Agent, and Property Owner Information

**Applicant name** Jody Shaw Company Potter Lawson  
**Street address** 749 University Row Suite 300 City/State/Zip Madison, WI 53703  
**Telephone** 608 274-2741 Email jodys@potterlawson.com

**Project contact person** Joel Schriever Company Exact Sciences  
**Street address** 441 Charmany Drive City/State/Zip Madison, WI 53719  
**Telephone** 608 284-5700 Email jschriever@exactsciences.com

**Property owner (if not applicant)** CG Growth  
**Street address** 441 Charmany Drive City/State/Zip Madison, WI 53719  
**Telephone** 608 284-5700 Email scoward@exactsciences.com

**5. Required Submittal Materials**

- Application Form**
- Letter of Intent**
  - If the project is within an Urban Design District, a summary of how the development proposal addresses the district criteria is required
  - For signage applications, a summary of how the proposed signage is consistent with the applicable CDR or Signage Variance review criteria is required.
- Development plans** (Refer to checklist provided below for plan details)
- Filing fee**
- Electronic Submittal\***

Each submittal must include fourteen (14) 11" x 17" collated paper copies. Landscape and Lighting plans (if required) must be full-sized. Please refrain from using plastic covers or spiral binding.

Both the paper copies and electronic copies must be submitted prior to the application deadline before an application will be scheduled for a UDC meeting. Late materials will not be accepted. A completed application form is required for each UDC appearance.

For projects also requiring Plan Commission approval, applicants must also have submitted an accepted application for Plan Commission consideration prior to obtaining any formal action (initial or final approval) from the UDC. All plans must be legible when reduced.

*\*Electronic copies of all items submitted in hard copy are required. Individual PDF files of each item submitted should be compiled on a CD or flash drive, or submitted via email to [udcapplications@cityofmadison.com](mailto:udcapplications@cityofmadison.com). The email must include the project address, project name, and applicant name. Electronic submittals via file hosting services (such as Dropbox.com) are not allowed. Applicants who are unable to provide the materials electronically should contact the Planning Division at (608) 266-4635 for assistance.*

**6. Applicant Declarations**

1. Prior to submitting this application, the applicant is required to discuss the proposed project with Urban Design Commission staff. This application was discussed with Janine Glaeser on 11/28/2017.
2. 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.

Applicant name Jody Shaw Relationship to property Architect  
 Authorized signature of **Property Owner** [Signature] Date 03/21/2018

**7. Application Filing Fees**

Fees are required to be paid with the first application for either initial or final approval of a project, unless the project is part of the combined application process involving the Urban Design Commission in conjunction with Plan Commission and/or Common Council consideration. Make checks payable to City Treasurer. Credit cards may be used for application fees of less than \$1,000.

Please consult the schedule below for the appropriate fee for your request:

- Urban Design Districts: \$350 (per §35.24(6) MGO).
- Minor Alteration in the Downtown Core District (DC) or Urban Mixed-Use District (UMX) : \$150 (per §33.24(6)(b) MGO)
- Comprehensive Design Review: \$500 (per §31.041(3)(d)(1)(a) MGO)
- Minor Alteration to a Comprehensive Sign Plan: \$100 (per §31.041(3)(d)(1)(c) MGO)
- All other sign requests to the Urban Design Commission, including, but not limited to: appeals from the decisions of the Zoning Administrator, requests for signage variances (i.e. modifications of signage height, area, and setback), and additional sign code approvals: \$300 (per §31.041(3)(d)(2) MGO)

A filing fee is not required for the following project applications if part of the combined application process involving both Urban Design Commission and Plan Commission:

- Project in the Downtown Core District (DC), Urban Mixed-Use District (UMX), or Mixed-Use Center District (MXC)
- Project in the Suburban Employment Center District (SEC), Campus Institutional District (CI), or Employment Campus District (EC)
- Planned Development (PD): General Development Plan (GDP) and/or Specific Implementation Plan (SIP)
- Planned Multi-Use Site or Residential Building Complex

## Introduction

The City of Madison's Urban Design Commission (UDC) has been created to:

- Encourage and promote high quality in the design of new buildings, developments, remodeling, and additions so as to maintain and improve the established standards of property values within the City.
- Foster civic pride in the beauty and nobler assets of the City, and in all other ways possible assure a functionally efficient and visually attractive City in the future.

## Types of Approvals

There are three types of requests considered by the UDC:

- Informational Presentation. Applicants may, at their discretion, request to make an Informational Presentation to the UDC prior to seeking any approvals to obtain early feedback and direction before undertaking detailed design. Applicants should provide details on the context of the site, design concept, site and building plans, and other relevant information to help the UDC understand the proposal and provide feedback. (Does not apply to CDR's or Signage Variance requests)
- Initial Approval. Applicants may, at their discretion, request initial approval of a proposal by presenting preliminary design information. As part of their review, the Commission will provide feedback on the design information what should be addressed at Final Approval stage.
- Final Approval. Applicants may request Final Approval of a proposal by presenting all final project details. Recommendations or concerns expressed by the UDC in the initial approval must be addressed at this time.

## Presentations to the Commission

Primarily, the UDC is interested in the appearance and design quality of projects. Emphasis should be given to the site plan, landscape plan, lighting plan, building elevations, exterior building materials, color scheme, and graphics.

When presenting projects to the UDC, applicants must fill out a registration slip provided in the meeting room and present it to the Secretary. Presentations should generally be limited to 5 minutes or as extended by motion by consent of the Commission. The Commission will withhold questions until the end of the presentation.

Applicants are encouraged to consider the use of various graphic presentation material including a locator map, photographs, renderings/model, scale drawings of the proposal in context with adjacent buildings/uses/signs, etc., as may be deemed appropriate to describe the project and its surroundings. Graphics should be mounted on rigid boards so that they may be easily displayed. **Applicants/presenters are responsible for all presentation materials, AV equipment and easels.**

# URBAN DESIGN DEVELOPMENT PLANS CHECKLIST

The items listed below are minimal application requirements for the type of approval indicated. Please note that the UDC and/or staff may require additional information in order to have a complete understanding of the project.

## 1. Informational Presentation

- Locator Map
- Letter of Intent (If the project is within a Urban Design District, a summary of how the development proposal addresses the district criteria is required)
- Contextual site information, including photographs and layout of adjacent buildings/structures
- Site Plan
- Two-dimensional (2D) images of proposed buildings or structures.

Providing additional information beyond these minimums may generate a greater level of feedback from the Commission.

### Requirements for All Plan Sheets

1. Title block
2. Sheet number
3. North arrow
4. Scale, both written and graphic
5. Date
6. Fully dimensioned plans, scaled at 1"= 40' or larger

**\*\* All plans must be legible, including the full-sized landscape and lighting plans (if required)**

## 2. Initial Approval

- Locator Map
- Letter of Intent (If the project is within a Urban Design District, a summary of how the development proposal addresses the district criteria is required)
- Contextual site information, including photographs and layout of adjacent buildings/structures
- Site Plan showing location of existing and proposed buildings, walks, drives, bike lanes, bike parking, and existing trees over 18" diameter
- Landscape Plan and Plant List (*must be legible*)
- Building Elevations in both black & white and color for all building sides (include material callouts)
- PD text and Letter of Intent (if applicable)

Providing additional information beyond these minimums may generate a greater level of feedback from the Commission.

## 3. Final Approval

All the requirements of the Initial Approval (see above), **plus:**

- Grading Plan
- Proposed Signage (if applicable)
- Lighting Plan, including fixture cut sheets and photometrics plan (*must be legible*)
- Utility/HVAC equipment location and screening details (with a rooftop plan if roof-mounted)
- PD text and Letter of Intent (if applicable)
- Samples of the exterior building materials (presented at the UDC meeting)

## 4. Comprehensive Design Review (CDR) and Variance Requests (*Signage applications only*)

- Locator Map
- Letter of Intent (a summary of how the proposed signage is consistent with the CDR or Signage Variance criteria is required)
- Contextual site information, including photographs of existing signage both on site and within proximity to the project site
- Site Plan showing the location of existing signage and proposed signage, dimensioned signage setbacks, sidewalks, driveways, and right-of-ways
- Proposed signage graphics (fully dimensioned, scaled drawings, including materials and colors, and night view)
- Perspective renderings (emphasis on pedestrian/automobile scale viewsheds)
- Graphic of the proposed signage as it relates to what the Ch. 31, MGO would permit



March 21, 2018

City of Madison  
Urban Design Commission  
126 South Hamilton Street  
Madison, WI 53703

Re: 1 Exact Lane, Madison WI 53711  
Amenities Facility, Exterior Re-clad, Parking Garage

Dear Commission Members:

Please accept this Letter of Intent, Application and attachments as our submittal for an initial and final presentation on the Amenities Facility, Exterior Re-clad of the existing office building, and Parking Garage for Exact Sciences.

**Project Team**

Owner:

Exact Sciences  
441 Charmany Drive  
Madison, WI 53719  
(608) 284-5700

Owner's Representative:

General Capital Group  
Steve Sirkis  
6938 N Santa Monica Blvd.  
Fox Point, WI 53217  
(414) 228-3509  
[ssirkis@generalcapitalgroup.com](mailto:ssirkis@generalcapitalgroup.com)

Architect:

Jody Shaw  
Potter Lawson, Inc.  
749 University Avenue, Suite 300  
Madison, Wisconsin 53705  
(608) 274-2741  
[Jodys@Potterlawson.com](mailto:Jodys@Potterlawson.com)

Civil Engineer:

Joseph Doyle  
Vierbicher Associates Inc.  
999 Fourier Dr # 201,  
Madison, WI 53717  
(608) 826-0532  
[jdoyle@vierbicher.com](mailto:jdoyle@vierbicher.com)

Landscape Architect:

Suzanne Vincent  
Vierbicher Associates Inc.  
999 Fourier Dr # 201,  
Madison, WI 53717  
(608) 826-0532  
[svin@vierbicher.com](mailto:svin@vierbicher.com)

Parking Consultant:

Loei Badreddine  
GREAF  
1010 E Washington Ave #202  
Madison, WI 53703  
(608) 242-1550  
[loei.badreddine@graef-usa.com](mailto:loei.badreddine@graef-usa.com)

Contractor:

Bob Hougard  
J.H. Findorff & Son  
300 S. Bedford St.  
Madison, WI 53703  
(608) 257-5321  
[bhougard@findorff.com](mailto:bhougard@findorff.com)

### **The Existing Conditions**

The Amenities Facility is an addition to the existing office building at 1 Exact Lane, previously known as 601 Rayovac Drive. The Amenities Facility is sited on the east and southeast sides of the existing office building. The north face of the Amenities Building faces the Beltline. The grades are predominantly flat with some basement level exposure on the north side that corresponds to the lowest level of the existing office building.

The Exterior Re-clad is the re-skinning of the existing building at 1 Exact Lane. The existing building is currently clad with precast concrete panels, metal panels and storefront glazing. The existing building is on the north end of the site, north of the Phase 1 Clinical Lab building and Phase 2 Production Lab, which were approved in previous submittals.

The Parking Garage is a new parking structure located east of the Amenities Facility and will face the Beltline and define the street edge along Forward Drive.

### **Staff and Neighborhood Input**

The Development Team has met with the City Staff on January 11, 2018 to review the project and schedule.

### **Project Overview**

Exact Sciences Corporation is a molecular diagnostics company focused on the early detection and prevention of the deadliest forms of cancer. The company has exclusive intellectual property protecting Cologuard, its non-invasive, molecular screening technology for the detection of colorectal cancer.

As described in previous submittals, the first phase of the Clinical Processing Center creates the Specimen Processing lab for the Cologuard test, and creates the shell space for potential future tests that are currently under research. The Phase 2 Production Lab creates the lab space used to produce the materials and solutions required in the Clinical Lab to perform the Cologard test.

The Amenities portion of this project provides the heart of the campus design in the form of a large Amenities Facility that includes onsite dining and catering for Exact Science employees, fitness programs, outdoor patio space and additional office space to support the Customer Service Center. The Amenities Facility is an addition to the existing office building at 1 Exact Lane and forms a direct connection to the Clinical Lab Facility and links the main Campus buildings together.

The Re-Clad portion of the project re-clads the existing office building and extends the rooftop mechanical screen which was submitted in the MEP Renovation submittal for Staff review and approval.

The parking structure will support the Clinical Lab and Production building and the Customer Service Center. The entrances and exits for the ramp will be located internally within the site. Access to these entrances and exits will be from Forward Drive.

The site is listed as an "SE" zoning district and the proposed uses are allowed, so no zoning conditional uses or variances are being requested.

### **Amenities Facility**

The Amenities Facility includes approximately 77,000 GSF of assembly, fitness and office space. As described above, this building is designed as an addition to the existing office building and shares the same address. The Amenities Facility will have an employee entrance on the east side that faces the parking area. The building will also have a pedestrian connection to the Clinical Lab on the south side of the new addition. Outdoor patio space will be included in this submittal that will serve as an extension of the interior dining space and links to the outdoor amenity spaces provided at the Clinical Lab.

Loading and trash will be between the Parking Garage and the Amenities Facility.

### **Re-Clad**

The Re-clad looks to remove the majority of the façade of the existing building and re-skin the building in an all glass façade. The façade will be broken up in two ways. Reflective glazing will be located on the four story volume defining the main mass of the building. At the stepped portion of the building, clear glazing will be placed from the window sill to the almost the top of the roof edge, minus a band of spandrel. The base of the building will be clad with a stone veneer.

No work is planned at the east end of the building and portions of the south façade (east of the main entrance) because of the proposed Amenities Facility.

### **Parking Garage**

The Parking Garage will consist of 6 levels, one of which is below grade and contain approximately 900 to 1,000 parking stalls. At the third floor level of the Amenities Facility there will be an enclosed sky walk that extends to the Parking Garage. The Parking Garage will have a roofing element over the top level to protect pedestrians and vehicles from falling ice from the nearby radio tower.

### **Working within the Urban Design District Number 2**

**Grading:** The UDD2 requires positive drainage that allows natural vegetation growth and appears natural. The new grades will be sloped to the existing grades where ever possible to reduce the potential for site retaining walls, and maintain a natural appearance.

**Landscape:** Shall be used to frame attractive views from roadways and to screen different uses from each other and to complement the architectural massing of the building. Species will be as prescribed by the Urban Design District Number 2.

**Structures:** Buildings will be placed on the site to reinforce the natural contours of the site with the natural slope of the site towards the south. The Amenities Facility will be within scale of the existing neighborhood development, only one story higher than the existing office building to provide a contrast to the horizontality of the existing office building. The Parking Garage will be clad utilizing materials in a similar nature to Buildings 1, 2, and the Amenities Facility.

**Lighting:** Building lighting will meet City of Madison ordinances and the Urban Design District Number 2 guidelines by providing glare free lighting in a minimal and attractive manner.

**Screening:** An extension of the roof top mechanical screen (from the MEP Renovation submittal) is planned to link to the Amenities Facility. Some exhaust stacks will be required for the onsite cooking and food service. These stacks will be grouped as much as possible to provide an orderly image in keeping with the aesthetics of the building. The loading and trash area will be screened from view of Forward Drive.

**Building Design:** Exterior building materials will use natural stone, metal panels, vertical louvers and glass to create a façade that works within the context of the existing community, and set the tone for future additions to the campus.

**Requested Approval**

With your recommendations on our conceptual Amenities Facility, Exterior Re-Clad and Parking Garage design, we intend to return for approval on April 25, 2018. The Development Team is requesting individual approvals for each of the projects within this submittal.

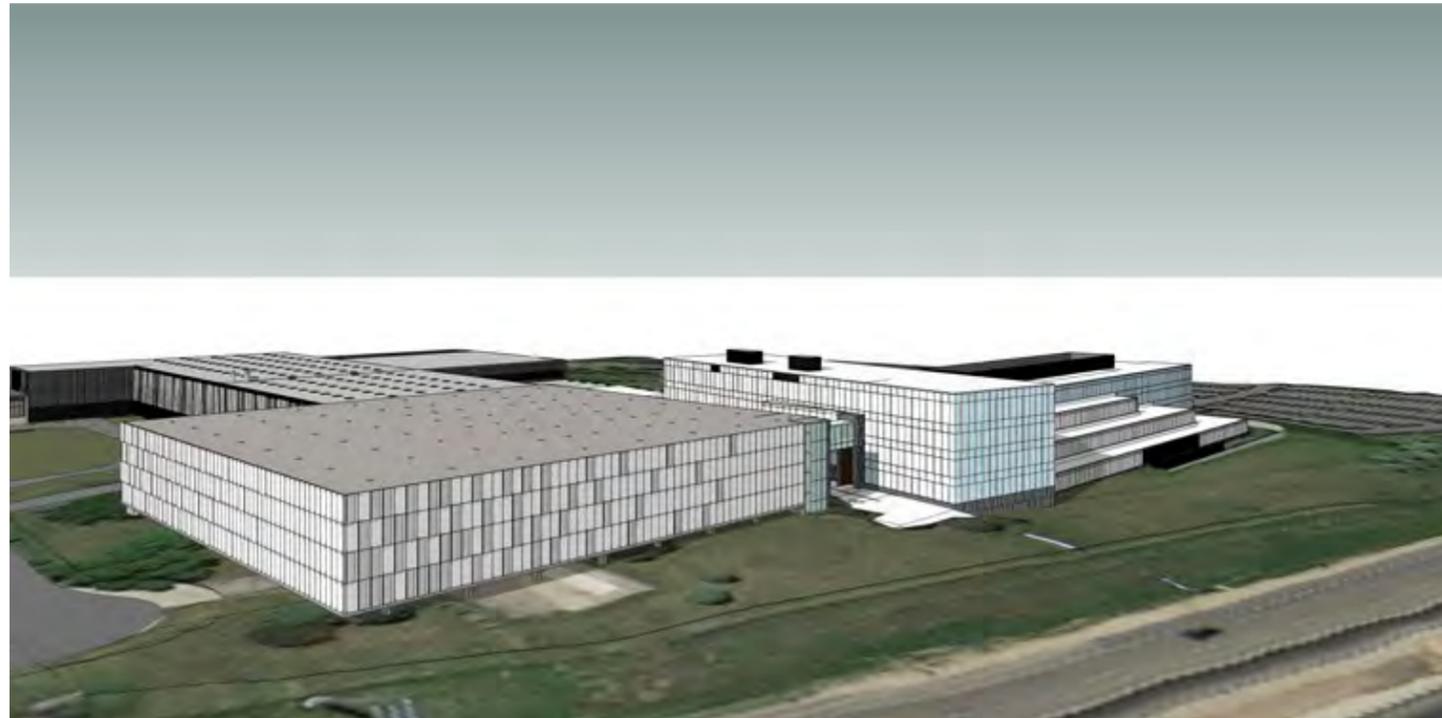
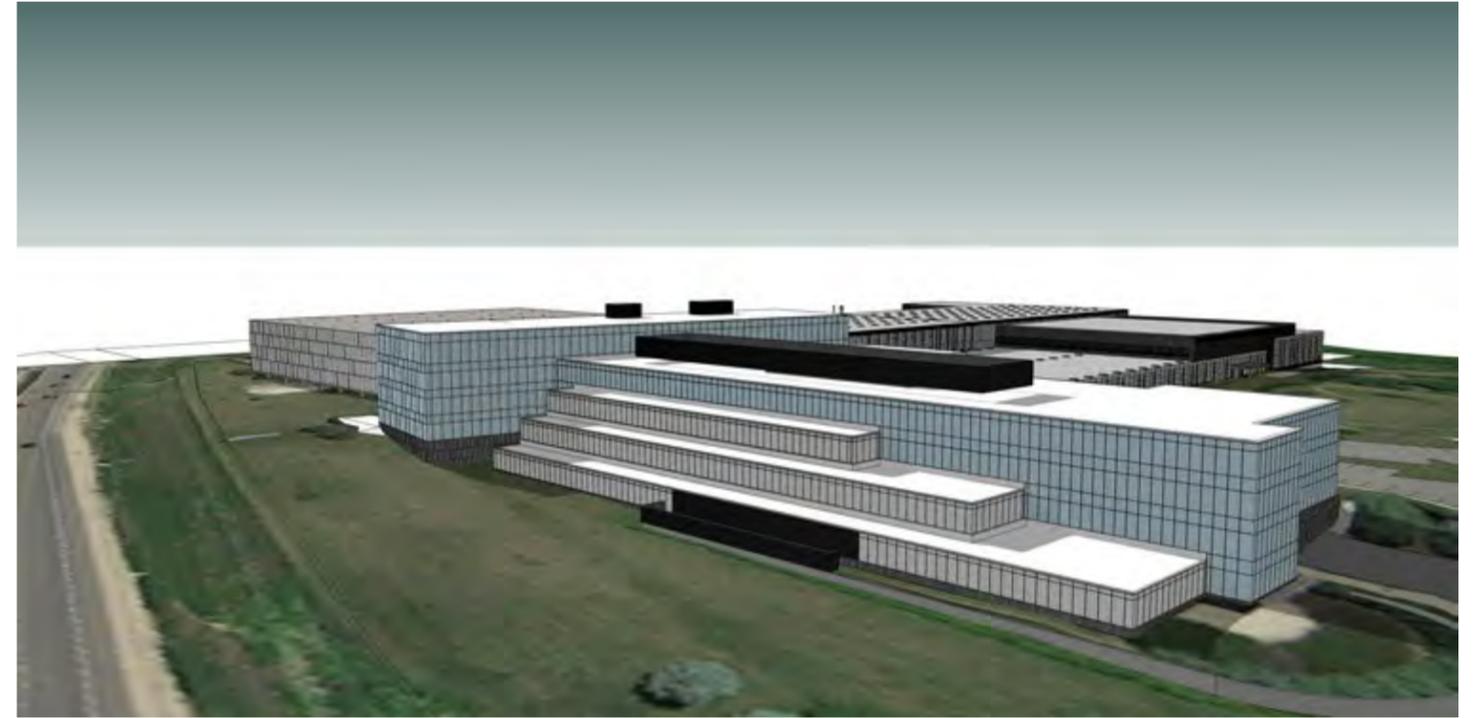
We look forward to providing Exact Sciences with the Amenities Facility, Parking Garage and Re-clad of their existing office building.

Regards,

A handwritten signature in black ink, appearing to read "Jody Shaw". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jody Shaw, AIA LEED AP  
Potter Lawson, Inc.





## Schematic Aerials

Exact Sciences - Office, Amenities, and Parking Ramp  
March 21, 2018 - UDC Initial/ Final Submittal

BIM 360://Exact Sciences/ES\_Bldg 3\_Architectural\_2017.01.06\_Central.rvt

# Amenities Facility

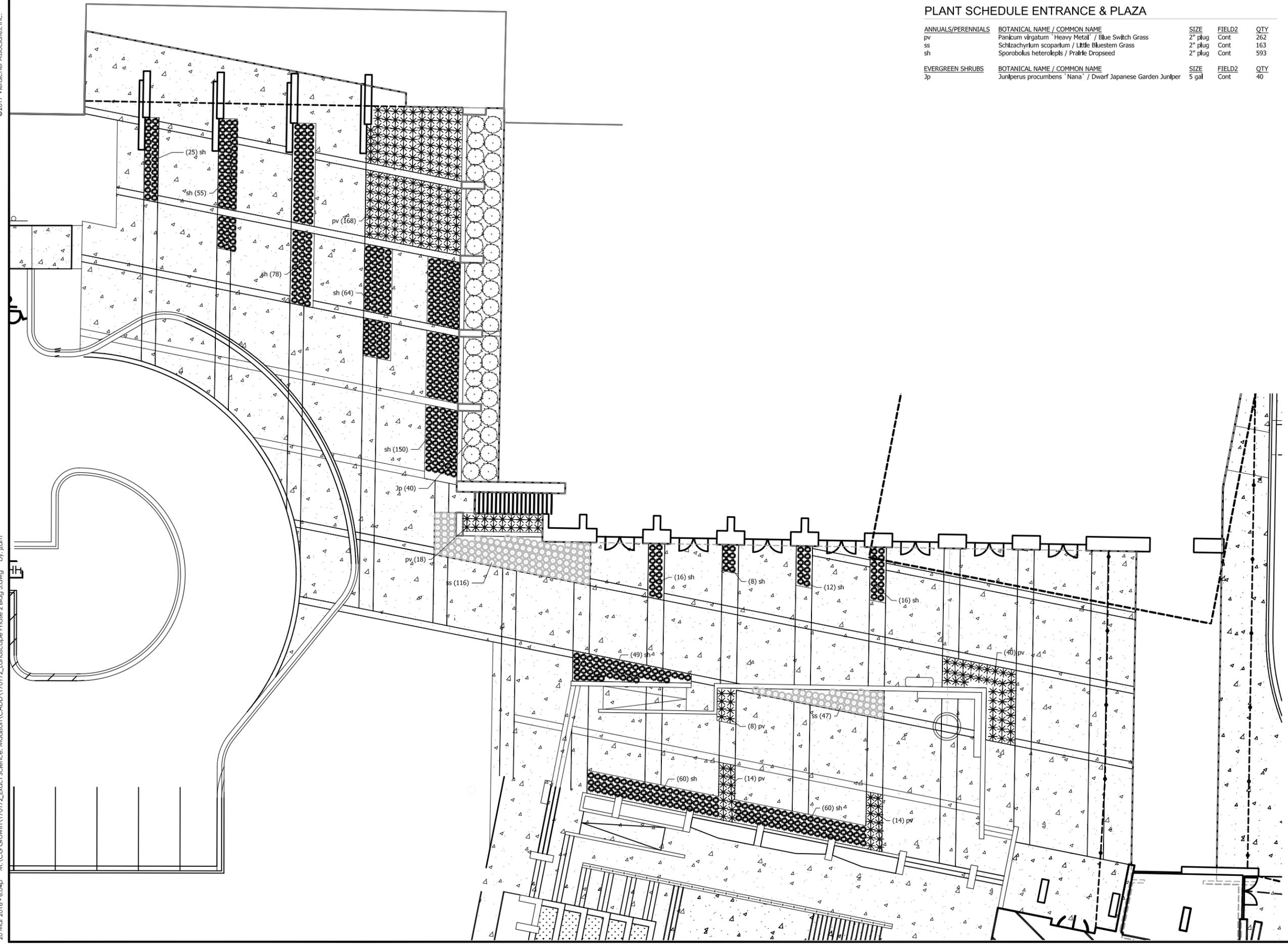


Potter  
Lawson

Success by Design

PLANT SCHEDULE ENTRANCE & PLAZA

ANNUALS/PERENNIALS	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	QTY
pv	Panicum virgatum "Heavy Metal" / Blue Switch Grass	2" plug	Cont	262
ss	Schizachyrium scoparium / Little Bluestem Grass	2" plug	Cont	163
sh	Sporobolus heterolepis / Prairie Dropseed	2" plug	Cont	593
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	QTY
Jp	Juniperus procumbens "Nana" / Dwarf Japanese Garden Juniper	5 gal	Cont	40



REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/21/2018

DRAFTER: SVN

CHECKED: SVN

PROJECT NO.: 170172

SHEET: 5 OF 6

DWG. NO.:

















## South Perspective 01

Exact Sciences - Office, Amenities, and Parking Ramp  
March 21, 2018 - UDC Initial/ Final Submittal

BIM 360://Exact Sciences/ES\_Bldg 3\_Architectural\_2017.01.06\_Central.rvt



## West Perspective

Exact Sciences - Office, Amenities, and Parking Ramp  
March 21, 2018 - UDC Initial/ Final Submittal

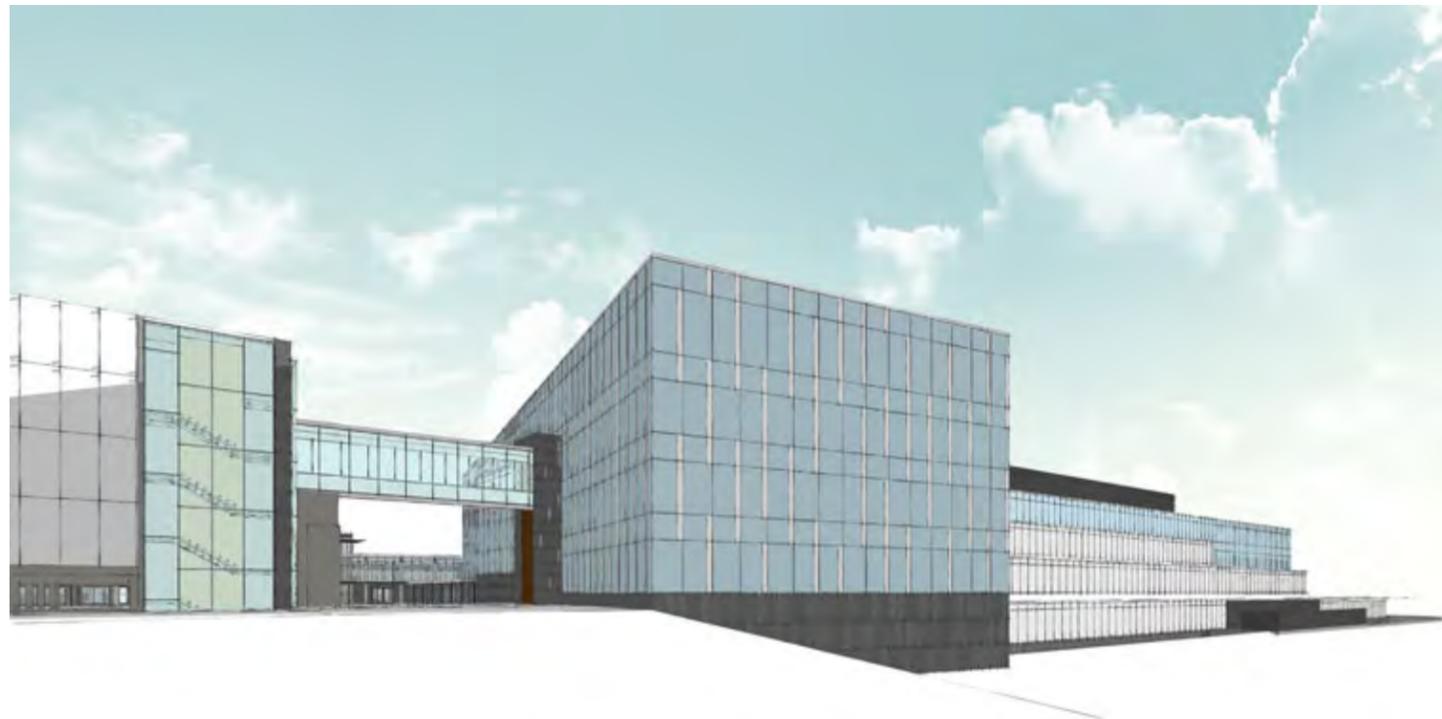
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## South Perspective 02

Exact Sciences - Office, Amenities, and Parking Ramp  
March 21, 2018 - UDC Initial/ Final Submittal

BIM 360://Exact Sciences/ES\_Bldg 3\_Architectural\_2017.01.06\_Central.rvt



## Schematic Perspectives

Exact Sciences - Office, Amenities, and Parking Ramp  
March 21, 2018 - UDC Initial/ Final Submittal

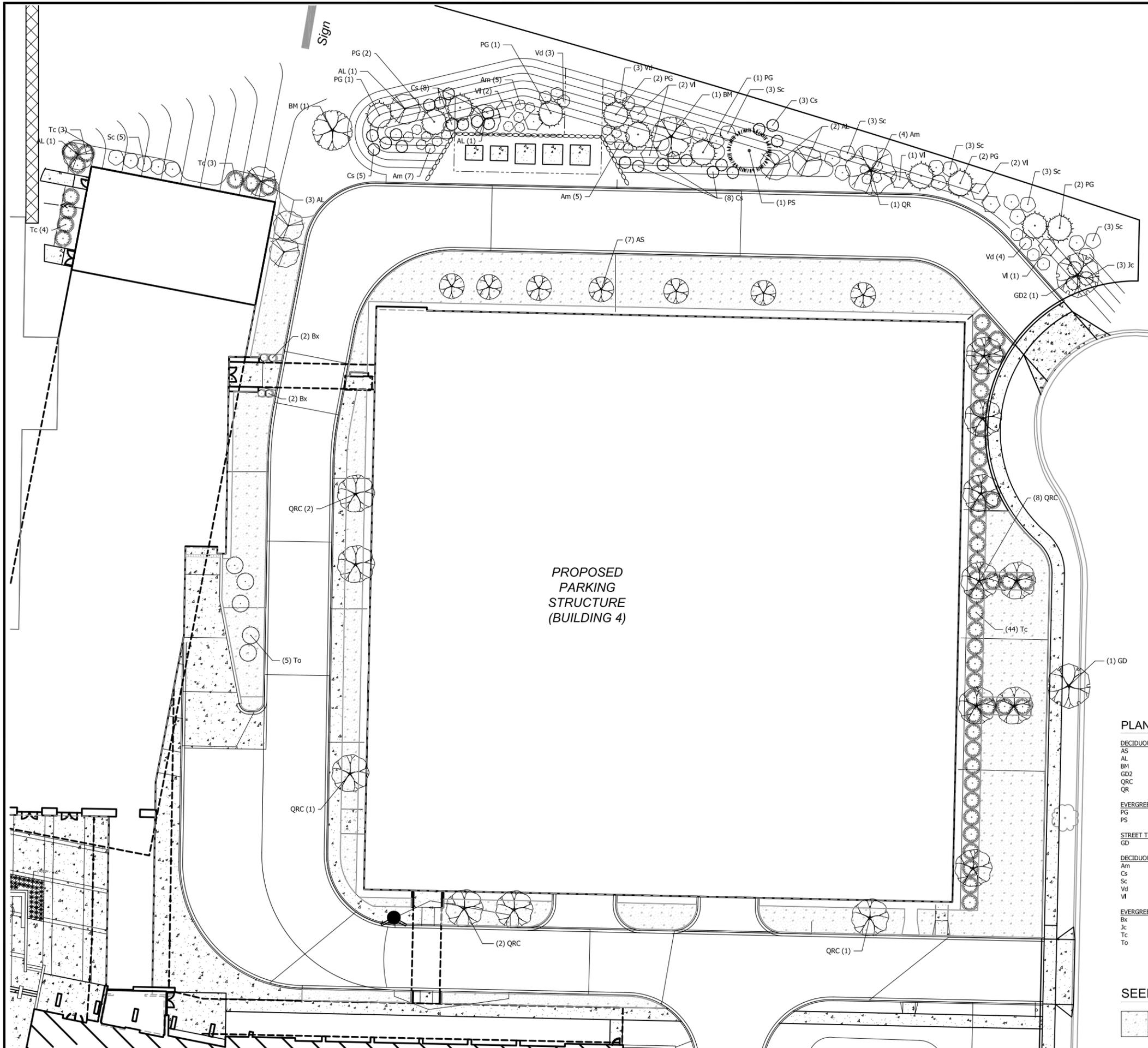
BIM 360://Exact Sciences/ES\_Bldg 3\_Architectural\_2017.01.06\_Central.rvt

# Parking Garage



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Lawson

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**PROPOSED  
PARKING  
STRUCTURE  
(BUILDING 4)**



**PLANT SCHEDULE BUILDING 4 AREA**

DECIDUOUS TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
AS	Acer saccharum 'Apollo'™ / Apollo Sugar Maple	B & B	2"Cal		7
AL	Amelanchier laevis / Allegheny Serviceberry	B & B	1.5"Cal		8
BM	Betula x 'Madison' / White Satin Birch	B & B		7' ht. multi stem	2
GD2	Gymnocladus dioica 'Espresso' / Espresso Kentucky Coffeetree	B & B	2.5"Cal		1
QRC	Quercus robur 'Crimschmidt'™ / Crimson Splre English Oak	B & B	2"Cal		14
QR	Quercus rubra / Red Oak	B & B	2"Cal		1
EVERGREEN TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
PG	Picea glauca / White Spruce	B & B		6' ht.	11
PS	Pinus strobus / White Pine	B & B		7' ht.	1
STREET TREES	BOTANICAL NAME / COMMON NAME	CONT	CAL	SIZE	QTY
GD	Gymnocladus dioica 'Espresso' / Espresso Kentucky Coffeetree	B & B	2.5"Cal		1
DECIDUOUS SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	FIELD3	QTY
Am	Aronia melanocarpa elata / Glossy Black Chokeberry	5 gal	Cont.		21
Cs	Cornus sericea 'Alleman's Compact' / Dwarf Red Twig Dogwood	5 gal	Cont.		24
Sc	Sambucus canadensis / Elderberry	5 gal	Cont.		20
Vd	Viburnum dentatum 'Christom' / Blue Muffin Viburnum	5 gal	Cont.		10
VI	Viburnum lentago / Nannyberry	5 gal	Cont.		8
EVERGREEN SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	FIELD2	FIELD3	QTY
Bx	Buxus x 'Green Mound' / Green Mound Boxwood	5 gal	Cont.		4
Jc	Juniperus chinensis 'Kilbays Compact' / Kilbays Compact Pfitzer Juniper	5 gal	Cont.		3
Tc	Taxus cuspidata 'Monko' / Emerald Spreader Japanese Yew	5 gal	Cont.		54
To	Thuja occidentalis 'Ball John' / Technito Arborvitae	10 gal	5' ht.		5

**SEEDING SCHEDULE BUILDING 4 AREA**

NO-MOW LAWN MIX	14,915 sf
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REVISIONS	NO.	DATE	REMARKS

SCALE: AS SHOWN

DATE: 03/21/2018

DRAWN: SVIN

CHECKED: SVIN

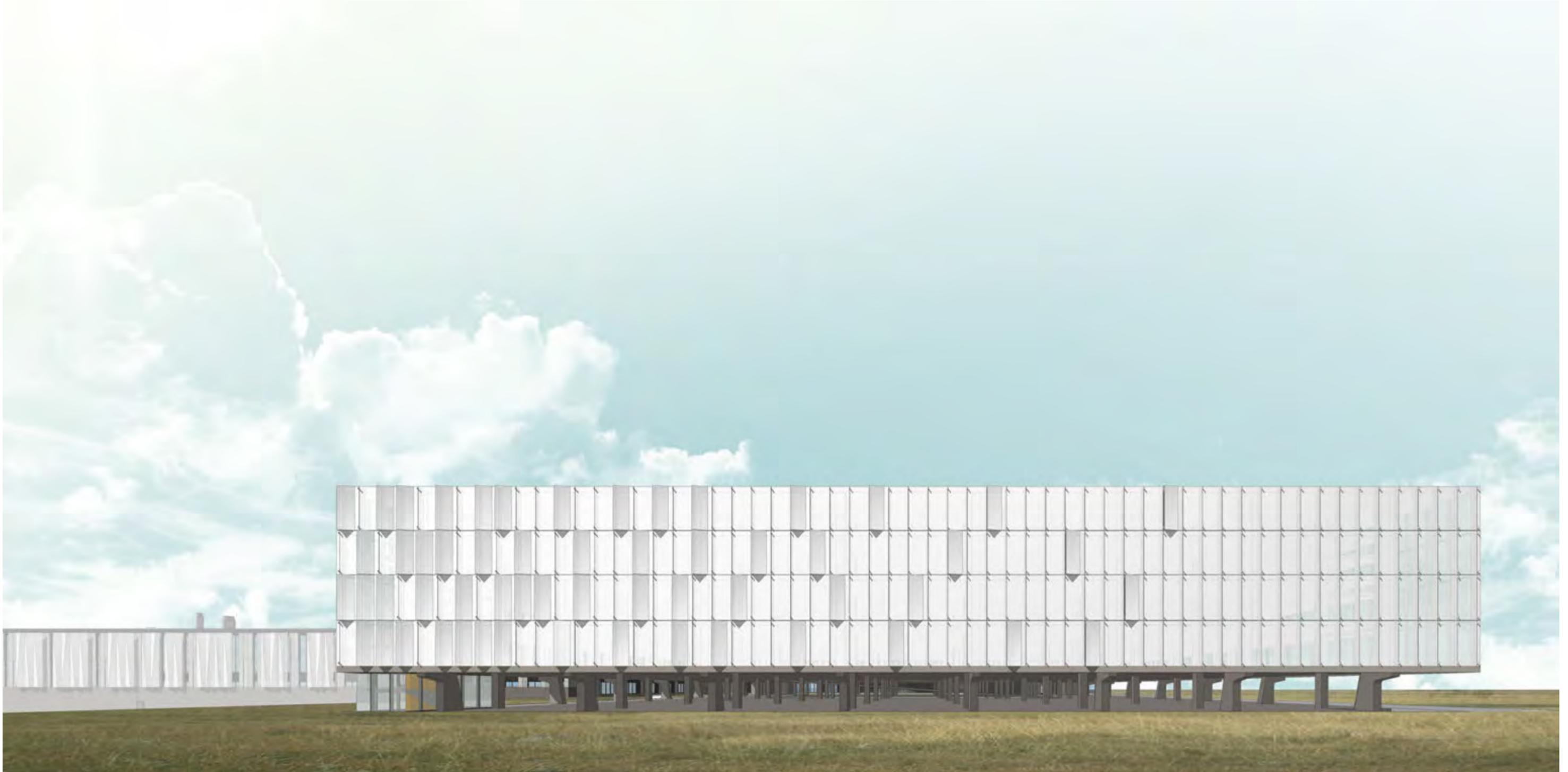
PROJECT NO.: 170172

SHEET: 6 OF 6

DWG. NO.:







## East Perspective

Building 4 - Parking Garage

March 21, 2018 - UDC Initial/ Final Submittal

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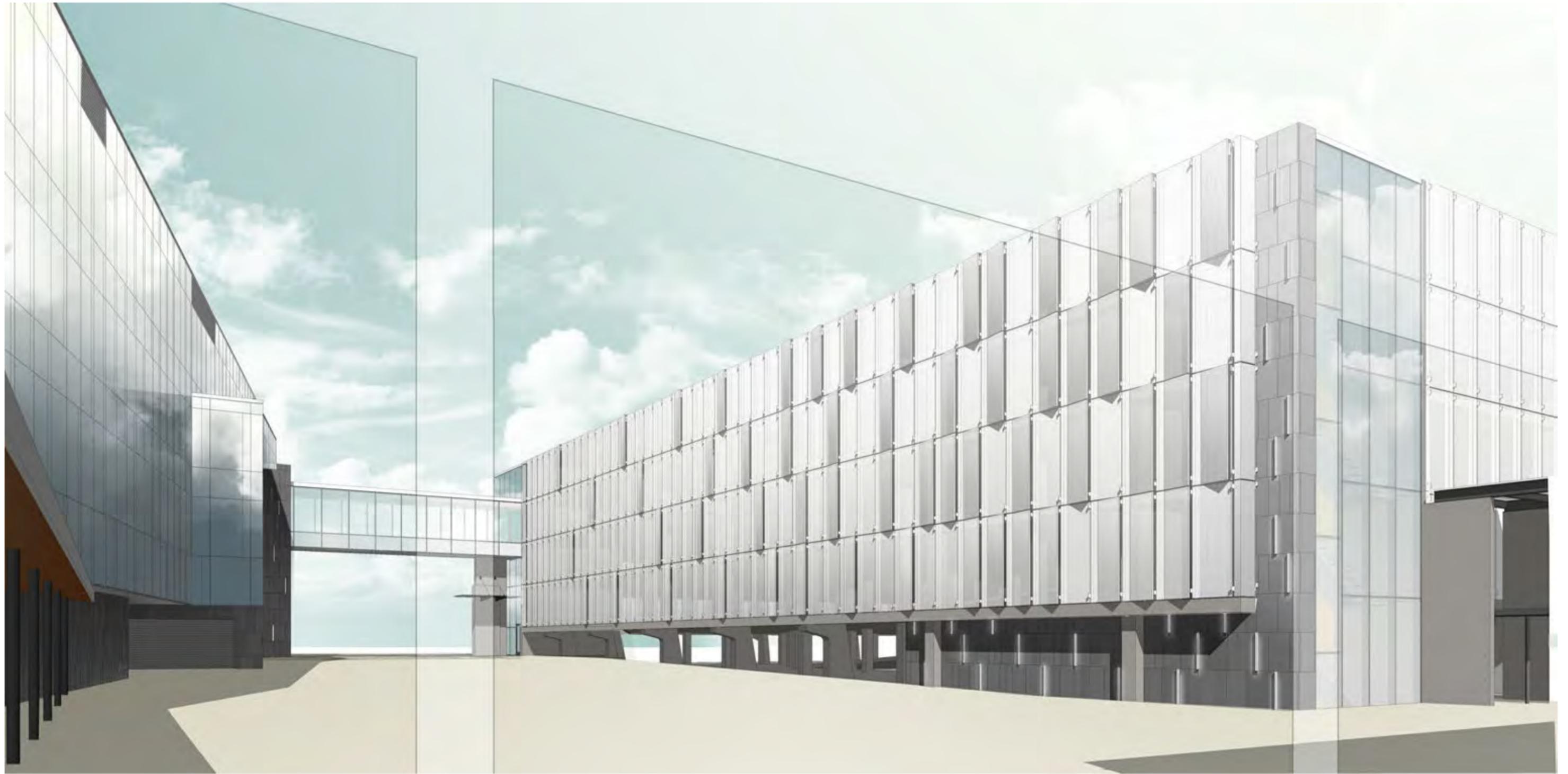


## South East Perspective

Building 4 - Parking Garage

March 21, 2018 - UDC Initial/ Final Submittal

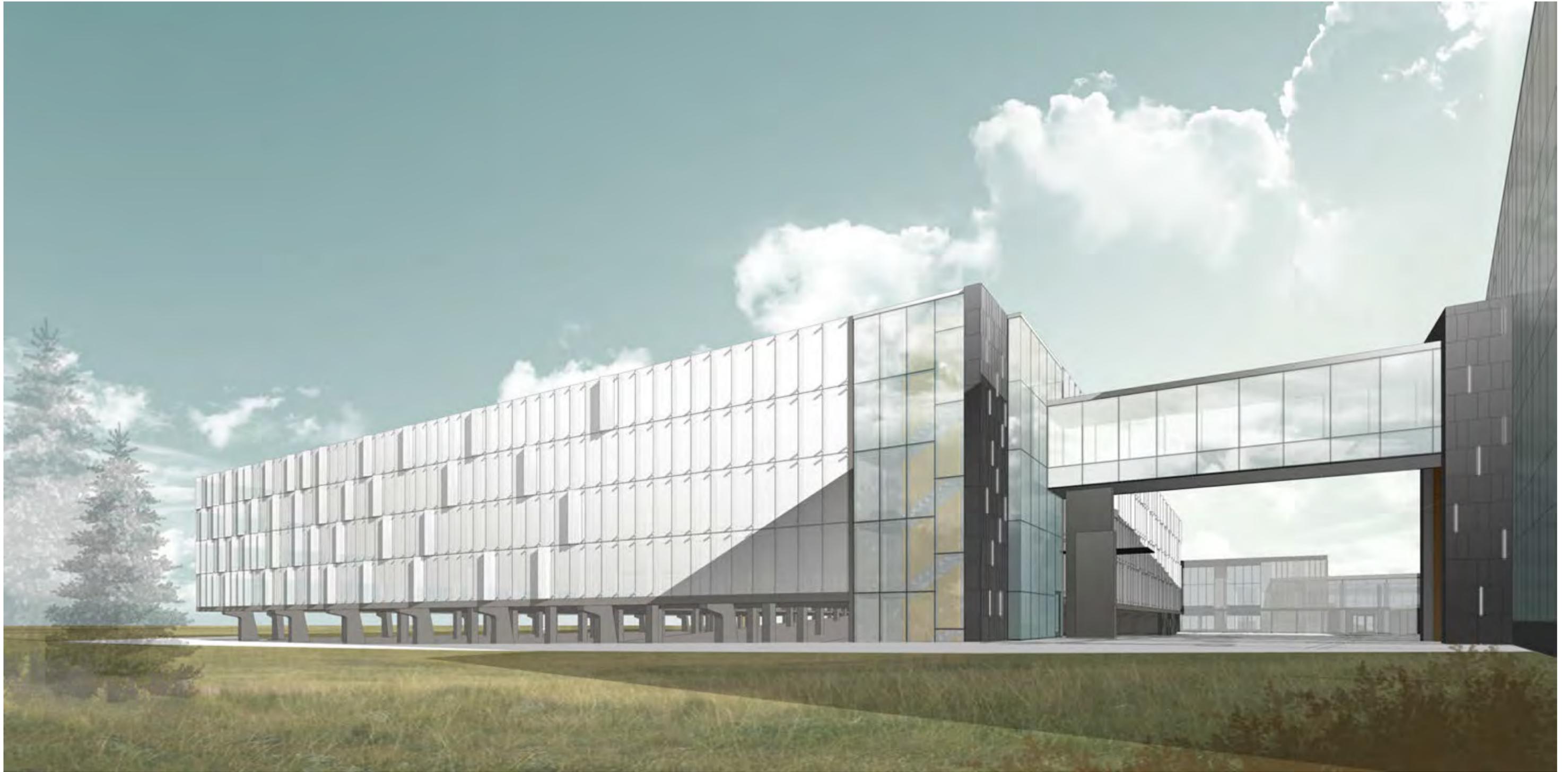
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## South West Perspective

Building 4 - Parking Garage  
March 21, 2018 - UDC Initial/ Final Submittal

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## North West Perspective

Building 4 - Parking Garage  
March 21, 2018 - UDC Initial/ Final Submittal

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## North East Perspective

Building 4 - Parking Garage

March 21, 2018 - UDC Initial/ Final Submittal

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# Exterior Re-Clad





## North West Perspective

1 Exact Lane - Exterior Re-Clad  
March 21, 2018 - UDC Initial/ Final Submittal

C:\Users\andrew\Documents\EX- Existing Building Re-Clad-Central\_andrew@potterlawson.com.rvt

**JUNO**

IC22LED\_G4\_06LM\_30K\_90CRI\_MVOLT

**6" IC 600 LUMEN  
LED DOWNLIGHT  
NEW CONSTRUCTION**

IC22LED (G4 06LM) RECESSED HOUSING

**LENSED TRIMS**

Project: \_\_\_\_\_

Fixture Type: \_\_\_\_\_

Location: \_\_\_\_\_

Contact/Phone: \_\_\_\_\_

**PRODUCT DESCRIPTION**

Dedicated LED, Air-Loc<sup>®</sup> sealed new construction housing with integral light engine

- Shallow housing allows for fit in 2 x 6 construction
- Can be completely covered with insulation
- Fully sealed housing stops infiltration and exfiltration of air, reducing heating and air cooling costs without the use of additional gaskets
- LED housing is designed to provide 50,000 hours of life and is compatible with many standard Juno trims
- 5 year limited warranty on LED components.

**ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT**

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury
- Comparable light output to 65W BR30 incandescent

**PRODUCT SPECIFICATIONS**

**LED Light Engine** LED array integrated to thermally conductive housing provides uninterrupted heat transfer to ensure long life of the LED

- Replaceable light engine mounts directly to housing and incorporates the latest generation, high lumen output LED array
- LEDs are binned within a 3-step MacAdam Ellipse exceeding ENERGY STAR<sup>®</sup> requirements for superior fixture to fixture color uniformity
- 2700K, 3000K, 3500K, or 4000K color temperatures available
- 90 CRI minimum.

**Optical System** Computer-optimized reflector design with high reflectance white finish coupled with a high transmission diffusing lens conceals the LEDs and produces uniform aperture luminance

- Wide flood distribution (>70°) shipped as standard with optional optic accessories available and sold separately.

**Aesthetic Trim Selections** Compatible with wide selection of existing Juno trims

- Shadow free, knife edge design blends seamlessly into ceiling.
- Trims are wet location approved for covered ceiling applications.

**LED Driver** Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz

- Power factor > 0.9 at 120V input
- 120 volt only driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers
- Universal voltage driver is dimmable with the use of most 0-10V wall box dimmers
- For a list of compatible dimmers, see [JUNOICLED-DIM](#)
- Mounted between the j-box and housing for easy access and cool operation.

**Life** Rated for 50,000 hours at 70% lumen maintenance.

**Labels** Certified to the high efficacy requirements of California T24 JA8-2016 with select trims

- UL listed for U.S. and Canada through-branch wiring, wet locations (covered ceilings)
- Union made
- UL and cUL.

**Testing** All reports are based on published industry procedures; field performance may differ from laboratory performance.

Product specifications subject to change without notice.

**HOUSING FEATURES**

**Housing** Designed for use in IC (insulated ceiling) or non-IC construction

- Aluminum housing sealed for Air-Loc<sup>®</sup> compliance
- Housing is vertically adjustable to accommodate up to a 2" ceiling thickness.

**Junction Box** Pre-wired junction box provided with (5) 1/2" and (1) 3/4" knockouts, (4) knockouts for 12/2 or 14/2 NM cable and ground wire

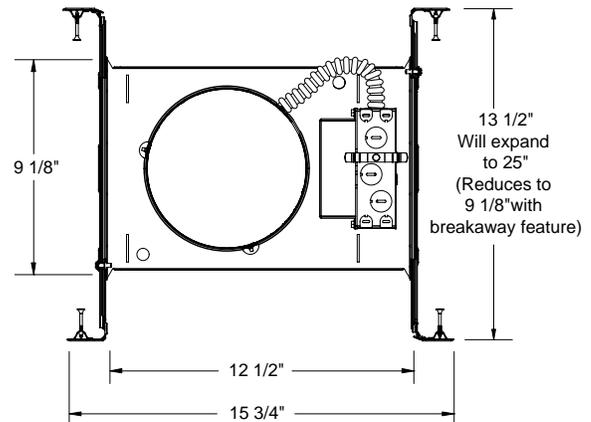
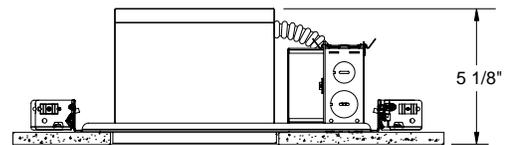
- UL listed and cUL listed for through-branch wiring, maximum 8 #12 branch circuit conductors
- Junction box provided with removable access plates
- Knockouts equipped with pryout slots
- Quick connect electrical connectors supplied as standard for fast, secure installation.

**Mounting Frame** 22-gauge die-formed galvanized steel mounting frame

- Rough-in section (junction box, mounting frame, housing and bar hangers) fully assembled for ease of installation.

**Real Nail 3 Bar Hangers** Telescoping Real Nail<sup>®</sup> 3 system permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings

- Includes removable nail for repositioning of fixture in wood joist construction
- Integral T-bar notch and clip for suspended ceilings
- Design covered under US Patent D552,969.

**DIMENSIONS**

6 7/8" CEILING CUTOUT

**ELECTRICAL DATA****Dedicated 120V Only Driver Option**

120V	
Input Power	8.6W (+/-5%)
Input Current	0.07A
Frequency	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15 Class B (residential)
Minimum starting temp	-25°C

**ELECTRICAL DATA****Universal Voltage**

	120V	277V
Input Power	8.7W (+/-5%)	8.9W (+/-5%)
Input Current	0.07A	0.04A
Frequency	50/60Hz	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15 Class A (commercial)	FCC Title 47 CFR, Part 15 Class A (commercial)
Minimum starting temp	-40°C	-40°C

# 6" IC 600 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

IC22LED (G4 06LM) RECESSED HOUSING

IC22LED\_G4\_06LM\_30K\_90CRI\_MVOLT

LENSED TRIMS

**ORDERING INFORMATION** Housing and trim can be ordered together or separate, but will always ship separately.

Example: IC22LED G4 06LM 27K 90CRI 120 FRPC

Series	Generation	Lumens	Color Temperature	CRI	Voltage	Driver
IC22LED 6" LED New Construction Downlight	G4 Generation 4	06LM 600 Nominal Lumens	27K 2700K 30K 3000K 35K 3500K 40K 4000K	90CRI 90+ CRI	120 120V MVOLT Multi-Volt (120-277)	FRPC Forward/Reverse Phase Cut ZT 0-10V Dimming Driver

Notes: Order 120 with FRPC only, Order MVOLT with ZT only.

## Trim/Description

	<b>20 WH</b> <b>20 PW</b>	Lensed Albalite Trim - White Trim Ring Lensed Albalite Trim - Plastic White Trim Ring
	<b>21 WH</b> <b>21 PW</b>	Lensed Drop Opal Trim - White Trim Ring Lensed Drop Opal Trim - Plastic White Trim Ring
	<b>22 WH</b>	Lensed Fresnel Trim - White Trim Ring
	<b>239 WH</b> <sup>1</sup>	Frosted Lens Trim - White Trim Ring
	<b>242 WH</b> <b>242 SC</b> <b>242 ABZ</b>	Frosted Lens with Clear Center Trim - White Trim Ring Frosted Lens with Clear Center Trim - Satin Chrome Trim Ring Frosted Lens with Clear Center Trim - Classic Aged Bronze Trim Ring
	<b>243 WH</b> <sup>*</sup>	Decorative Swirled Etched Opal Glass Trim - White Trim Ring
	<b>2330 WWH</b> <sup>*</sup> <b>2330 BWH</b> <sup>*</sup>	White Baffle Regress Frosted Dome Lens Trim - White Trim Ring Black Baffle Regress Frosted Dome Lens Trim - White Trim Ring
	<b>6101 WH</b> <sup>*</sup> <b>6101 SC</b> <sup>*</sup> <b>6101 ABZ</b> <sup>*</sup>	Lensed Beveled Frame Frosted Dome Lens Trim - White Trim Ring Lensed Beveled Frame Frosted Dome Lens Trim - Satin Chrome Trim Ring Lensed Beveled Frame Frosted Dome Lens Trim - Classic Aged Bronze Trim Ring

Trim Size: 2330 - 7 3/8" O.D.; 239, 242, 243 - 7 5/8" O.D.; 6101 - 7 3/4" O.D.; 20, 21, 22 - 8" O.D.

Note: In Canada when insulation is present, Type IC fixtures must be used.

**AIR-LOC** JUNO IC housings meet IECC Energy Code requirements per ASTM E283.  
Air-Loc<sup>®</sup> rated trims are pre-gasketed for minimum air leakage with IC housings.

UL Listed for use in wet location.

<sup>1</sup> 120V and Multi-Volt: T24 @ 35K and 40K only

\*Do not use reflector shipped with trim for LED housing.

## Accessories (ordered separately)

Catalog Number	Description
LEDOPTICG3 MFL	Medium Flood Optic (50°)
LEDOPTICG3 NFL	Narrow Flood Optic (37°)
LEDOPTICG3 SP	Spot Optic (10°)

To order, specify catalog number.

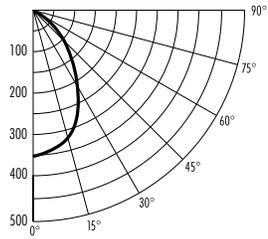
# 6" IC 600 LUMEN LED DOWNLIGHT NEW CONSTRUCTION

IC22LED (G4 06LM) RECESSED HOUSING  
LENSED TRIMS

## PHOTOMETRICS

### PHOTOMETRIC REPORT

**Test Report #:** PT10111804R  
**Catalog No:** IC22LED G4 06LM 35K with  
239 WH Trim and standard wide flood optic  
**Luminaire Spacing Criterion:** 1.02  
**Luminaire LPW:** 65



### CANDLEPOWER DISTRIBUTION (Candelas)

Degrees	Candelas
Vertical	0°
0	353
5	349
15	321
25	264
35	179
45	105
55	62
65	37
75	21
85	4
90	0

Multiplier: 27K - 0.89  
30K - 0.94  
40K - 1.03

### AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)  
Ceiling 80% Wall 50% Floor 20%

Spacing	RCR1	RCR3	RCR5
4.0'	37	30	25
5.0'	24	19	16
6.0'	17	13	11
7.0'	13	11	9
8.0'	11	9	7
9.0'	8	7	5
10.0'	6	5	4

### ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0 - 30°	243	N/A	43.6
0 - 40°	355	N/A	63.7
0 - 60°	493	N/A	88.5
0 - 90°	557	N/A	100.0

### INITIAL FOOTCANDLES (One Unit, 8.6W, 70.8° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4	22.1	5.7'
6	9.8	8.5'
8	5.5	11.4'
10	3.5	14.2'

### LUMINANCE (Average cd/m<sup>2</sup>)

Degrees	Average Luminance
45	8114
55	5878
65	4759
75	4342
85	2715

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.



# D-Series Size 1 LED Area Luminaire

d#series



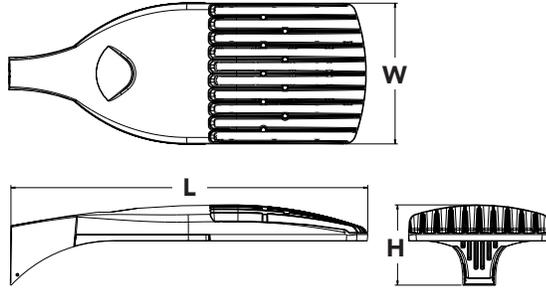
Catalog Number
Notes
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## Introduction

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 up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.



## Specifications

EPA:	1.01 ft <sup>2</sup> (0.09 m <sup>2</sup> )
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height:	7-1/2" (19.0 cm)
Weight (max):	27 lbs (12.2 kg)

## Ordering Information

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

DSX1LED	Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	Forward optics	30C 30 LEDs (one engine)	530 530 mA	30K 3000 K	T1S Type I short	MVOLT <sup>5</sup>	Shipped included
		40C 40 LEDs (two engines)	700 700 mA	40K 4000 K	T2S Type II short	120 <sup>5</sup>	SPA Square pole mounting
		60C 60 LEDs (two engines)	1000 1000 mA (1 A) <sup>2</sup>	50K 5000 K	T2M Type II medium	208 <sup>5</sup>	RPA Round pole mounting
	Rotated optics <sup>1</sup>	60C 60 LEDs (two engines)		AMBPC Amber phosphor converted <sup>3</sup>	T3S Type III short	240 <sup>5</sup>	WBA Wall bracket
					T3M Type III medium	277 <sup>5</sup>	SPUMBA Square pole universal mounting adaptor <sup>7</sup>
					T4M Type IV medium	347 <sup>6</sup>	RPUMBA Round pole universal mounting adaptor <sup>7</sup>
					TFTM Forward throw medium	480 <sup>6</sup>	Shipped separately
					T5S Type V short		KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) <sup>8</sup>

Control options	Other options	Finish (required)
Shipped installed	Shipped installed	DDBXD Dark bronze
PER NEMA twist-lock receptacle only (no controls) <sup>9</sup>	HS House-side shield <sup>19</sup>	DBLXD Black
PER5 Five-wire receptacle only (no controls) <sup>9,10</sup>	WTB Utility terminal block <sup>20</sup>	DNAXD Natural aluminum
PER7 Seven-wire receptacle only (no controls) <sup>9,10</sup>	SF Single fuse (120V, 277V, 347V) <sup>21</sup>	DWHXD White
DMG 0-10V dimming driver (no controls) <sup>11</sup>	DF Double fuse (208, 240, 480V) <sup>21</sup>	DDBTXD Textured dark bronze
DCR Dimmable and controllable via ROAM <sup>®</sup> (no controls) <sup>12</sup>	L90 Left rotated optics <sup>22</sup>	DBLBXD Textured black
DS Dual switching <sup>13,14</sup>	R90 Right rotated optics <sup>22</sup>	DNATXD Textured natural aluminum
PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc <sup>15</sup>	BS Bird spikes <sup>23</sup>	DWHGXD Textured white
PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc <sup>15</sup>		
PIR1FC3V Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc <sup>15</sup>		

Accessories	
Ordered and shipped separately.	
DLL127F 1.5 JU Photocell - SSL twist-lock (120-277V) <sup>24</sup>	
DLL347F 1.5 CUL JU Photocell - SSL twist-lock (347V) <sup>24</sup>	
DLL480F 1.5 CUL JU Photocell - SSL twist-lock (480V) <sup>24</sup>	
DSHORT SBK U Shorting cap <sup>24</sup>	
DSX1HS 30C U House-side shield for 30 LED unit <sup>19</sup>	
DSX1HS 40C U House-side shield for 40 LED unit <sup>19</sup>	
DSX1HS 60C U House-side shield for 60 LED unit <sup>19</sup>	
PUMBA DDBXD U* Square and round pole universal mounting bracket (specify finish) <sup>25</sup>	
KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) <sup>8</sup>	
DSX1BS U Bird spikes	

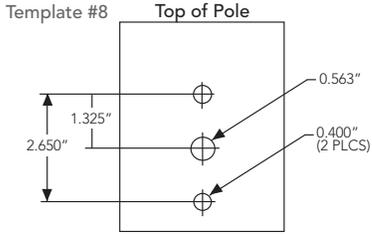
**NOTES**

- Rotated optics available with 60C only.
- Not available AMBPC.
- Only available with 530mA or 700mA.
- Not available with BS.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120V, 208V, 240V or 277V options only when ordering with fusing (SF, DF options).
- Not available with single board, 500mA product (30C 530 or 60C 530 DS). Not available with BL30, BL50 or PNMT options.
- Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
- Must order fixture with SPA option. 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.
- If ROAM<sup>®</sup> node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Not available with DCR. Node with integral dimming.
- DMG option for 347V or 480V requires 1000mA.
- Specifies a ROAM<sup>®</sup> enabled luminaire with 0-10V dimming capability; PER option required. Additional hardware and services required for ROAM<sup>®</sup> deployment; must be purchased separately. Call 1-800-442-6745 or email: sales@roamservices.net. N/A with PIR options, DS, PER5, PER7, BL30, BL50 or PNMT options. Node without integral dimming.

- 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 and PIR1FC3V specify the SensorSwitch SBGR-10-ODP control; PIRH and PIRH1FC3V specify the SensorSwitch SBGR-6-ODP control; see Outdoor Control Technical Guide for details. Dimming driver standard. Not available with PER5 or PER7. Ambient sensor disabled when ordered with DCR. Separate on/off required.
- Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PER5, PER7 or PNMT options. Not available with PIR1FC3V or PIRH1FC3V.
- Dimming driver standard. MVOLT only. Not available with 347V, 480V, DCR, DS, PER5, PER7, BL30 or BL50. Not available with PIR1FC3V or PIRH1FC3V. Separate on/off required.
- Dimming driver standard. Not available with PER5, PER7, DMG, DCR, DS, BL30, BL50 or PNMT, PIR, PIRH, PIR1FC3V or PIRH1FC3V.
- Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
- WTB not available with DS.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Available with 60 LEDs (60C option) only.
- Also available as a separate accessory; see accessories information.
- Requires luminaire to be specified with PER option. Ordered and shipped as a separate line item from Acuity Brands Controls.
- For retrofit use only.



## Drilling



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

<b>DM19AS</b>	Single unit	<b>DM29AS</b>	2 at 90°**
<b>DM28AS</b>	2 at 180°	<b>DM39AS</b>	3 at 90°**
<b>DM49AS</b>	4 at 90°**	<b>DM32AS</b>	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.  
\*\*Far round pole mounting (RPA) only.

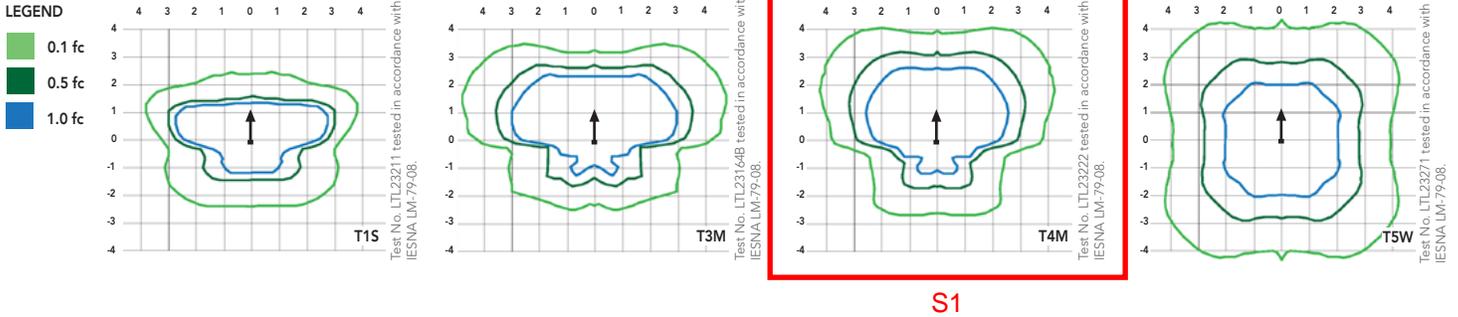
## Tenon Mounting Slipfitter\*\*

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

## 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').



(House Shield)

## 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
<b>25°C / 77°F</b>	<b>1.00</b>
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
<b>S1</b> 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	0.98	0.96	0.91
	DSX1 LED 60C 700			
	1.0	0.99	0.99	0.99

# 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. Contact factory for performance data on any configurations not shown here.

Forward Optics																							
LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
30C (30 LEDs)	530 mA	52 W	T1S	5,948	1	0	1	114	6,387	1	0	1	123	6,427	1	0	1	124	3,640	1	0	1	70
			T2S	6,132	1	0	1	118	6,585	2	0	2	127	6,626	2	0	2	127	3,813	1	0	1	73
			T2M	5,992	1	0	2	115	6,434	1	0	2	124	6,475	1	0	2	125	3,689	1	0	1	71
			T3S	5,985	1	0	1	115	6,427	1	0	2	124	6,467	1	0	2	124	3,770	1	0	1	73
			T3M	6,039	1	0	2	116	6,485	1	0	2	125	6,525	1	0	2	125	3,752	1	0	1	72
			T4M	6,121	1	0	2	118	6,573	1	0	2	126	6,614	1	0	2	127	3,758	1	0	1	72
			TFTM	6,030	1	0	2	116	6,475	1	0	2	125	6,515	1	0	2	125	3,701	1	0	1	71
			TSVS	6,370	2	0	0	123	6,840	2	0	0	132	6,883	2	0	0	132	3,928	2	0	0	76
			T5S	6,417	2	0	0	123	6,890	2	0	0	133	6,933	2	0	0	133	3,881	2	0	0	75
			T5M	6,428	3	0	1	124	6,902	3	0	1	133	6,945	3	0	1	134	3,930	2	0	1	76
			T5W	6,334	3	0	1	122	6,801	3	0	1	131	6,844	3	0	1	132	3,820	3	0	1	73
			BLC	4,735	1	0	1	91	5,085	1	0	2	98	5,116	1	0	1	98					
			LCCO	4,600	1	0	2	88	4,940	1	0	2	95	4,971	1	0	2	96					
			RCCO	4,600	1	0	2	88	4,940	1	0	2	95	4,971	1	0	2	96					
			T1S	7,554	1	0	1	111	8,112	2	0	2	119	8,163	2	0	2	120	4,561	1	0	1	67
			T2S	7,789	2	0	2	115	8,364	2	0	2	123	8,416	2	0	2	124	4,777	1	0	1	70
			T2M	7,610	1	0	2	112	8,172	2	0	2	120	8,223	2	0	2	121	4,622	1	0	2	68
			T3S	7,601	1	0	2	112	8,162	2	0	2	120	8,213	2	0	2	121	4,724	1	0	1	69
	T3M	7,670	1	0	2	113	8,236	2	0	2	121	8,288	2	0	2	122	4,701	1	0	2	69		
	T4M	7,774	1	0	2	114	8,348	2	0	2	123	8,400	2	0	2	124	4,709	1	0	2	69		
	TFTM	7,658	1	0	2	113	8,223	1	0	2	121	8,275	1	0	2	122	4,638	1	0	2	68		
	TSVS	8,090	2	0	0	119	8,687	3	0	1	128	8,742	3	0	1	129	4,922	2	0	0	72		
	T5S	8,150	2	0	0	120	8,751	3	0	0	129	8,806	3	0	0	130	4,863	2	0	0	72		
	T5M	8,164	3	0	1	120	8,767	3	0	2	129	8,821	3	0	2	130	4,924	3	0	1	72		
	T5W	8,044	3	0	1	118	8,638	3	0	2	127	8,692	3	0	2	128	4,787	3	0	1	70		
	BLC	6,028	1	0	2	89	6,473	1	0	2	95	6,514	1	0	2	96							
	LCCO	5,856	1	0	2	86	6,289	1	0	2	92	6,328	1	0	2	93							
	RCCO	5,856	1	0	2	86	6,289	1	0	2	92	6,328	1	0	2	93							
	T1S	10,331	2	0	2	98	11,094	2	0	2	106	11,163	2	0	2	106							
	T2S	10,652	2	0	2	101	11,438	2	0	2	109	11,510	2	0	2	110							
	T2M	10,408	2	0	2	99	11,176	2	0	3	106	11,246	2	0	3	107							
	T3S	10,395	2	0	2	99	11,163	2	0	2	106	11,233	2	0	2	107							
	T3M	10,490	2	0	2	100	11,264	2	0	2	107	11,335	2	0	2	108							
	T4M	10,632	2	0	2	101	11,417	2	0	2	109	11,488	2	0	2	109							
	TFTM	10,473	2	0	2	100	11,247	2	0	3	107	11,317	2	0	3	108							
	TSVS	11,064	3	0	1	105	11,881	3	0	1	113	11,955	3	0	1	114							
T5S	11,145	3	0	1	106	11,968	3	0	1	114	12,043	3	0	1	115								
T5M	11,165	3	0	2	106	11,989	4	0	2	114	12,064	4	0	2	115								
T5W	11,001	3	0	2	105	11,813	4	0	2	113	11,887	4	0	2	113								
BLC	7,960	1	0	2	76	8,548	1	0	2	81	8,601	1	0	2	82								
LCCO	7,734	1	0	2	74	8,305	1	0	2	79	8,357	1	0	2	80								
RCCO	7,734	1	0	2	74	8,305	1	0	2	79	8,357	1	0	2	80								

# 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. Contact factory for performance data on any configurations not shown here.

Forward Optics																										
LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)							
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW			
40C (40 LEDs)	530 mA	68 W	T1S	7,861	1	0	1	116	8,441	2	0	2	124	8,494	2	0	2	125	4,794	1	0	1	71			
			T2S	8,105	2	0	2	119	8,704	2	0	2	128	8,758	2	0	2	129	5,021	1	0	1	74			
			T2M	7,920	2	0	2	116	8,504	2	0	2	125	8,557	2	0	2	126	4,858	1	0	2	71			
			T3S	7,910	1	0	2	116	8,494	2	0	2	125	8,547	2	0	2	126	4,966	1	0	1	73			
			T3M	7,982	2	0	2	117	8,571	2	0	2	126	8,625	2	0	2	127	4,941	1	0	2	73			
			T4M	8,090	1	0	2	119	8,687	2	0	2	128	8,741	2	0	2	129	4,950	1	0	2	73			
			TFTM	7,969	1	0	2	117	8,558	2	0	2	126	8,611	2	0	2	127	4,875	1	0	2	72			
			TSVS	8,419	2	0	0	124	9,040	3	0	1	133	9,097	3	0	1	134	5,174	2	0	0	76			
			T5S	8,481	2	0	0	125	9,107	3	0	1	134	9,164	3	0	1	135	5,111	2	0	0	75			
			T5M	8,496	3	0	1	125	9,123	3	0	2	134	9,180	3	0	2	135	5,175	3	0	1	76			
			TSW	8,371	3	0	2	123	8,989	3	0	2	132	9,045	3	0	2	133	5,031	3	0	1	74			
			BLC	6,255	1	0	2	92	6,717	1	0	2	99	6,759	1	0	2	99								
			LCCO	6,077	1	0	2	89	6,526	1	0	2	96	6,566	1	0	2	97								
			RCCO	6,077	1	0	2	89	6,526	1	0	2	96	6,566	1	0	2	97								
						T1S	9,984	2	0	2	112	10,721	2	0	2	120	10,788	2	0	2	121	6,014	1	0	1	68
				T2S	10,294	2	0	2	116	11,054	2	0	2	124	11,123	2	0	2	125	6,299	2	0	2	71		
				T2M	10,059	2	0	2	113	10,801	2	0	3	121	10,869	2	0	3	122	6,094	2	0	2	68		
				T3S	10,046	2	0	2	113	10,788	2	0	2	121	10,855	2	0	2	122	6,229	1	0	2	70		
				T3M	10,137	2	0	2	114	10,886	2	0	2	122	10,954	2	0	2	123	6,198	2	0	2	70		
				T4M	10,275	2	0	2	115	11,033	2	0	2	124	11,102	2	0	2	125	6,209	1	0	2	70		
				TFTM	10,122	2	0	2	114	10,869	2	0	2	122	10,937	2	0	2	123	6,115	1	0	2	69		
				TSVS	10,693	3	0	1	120	11,482	3	0	1	129	11,554	3	0	1	130	6,490	2	0	0	73		
				T5S	10,771	3	0	1	121	11,566	3	0	1	130	11,639	3	0	1	131	6,411	2	0	0	72		
				T5M	10,790	3	0	2	121	11,587	4	0	2	130	11,659	4	0	2	131	6,492	3	0	1	73		
				TSW	10,632	3	0	2	119	11,417	4	0	2	128	11,488	4	0	2	129	6,311	3	0	2	71		
				BLC	7,963	1	0	2	89	8,551	1	0	2	96	8,605	1	0	2	97							
				LCCO	7,736	1	0	2	87	8,308	1	0	2	93	8,359	1	0	2	94							
				RCCO	7,736	1	0	2	87	8,308	1	0	2	93	8,359	1	0	2	94							
		700 mA	91 W	T1S	13,655	2	0	2	99	14,663	3	0	3	106	14,754	3	0	3	107							
						T2S	14,079	2	0	2	102	15,118	3	0	3	110	15,212	3	0	3	110					
						T2M	13,756	2	0	3	100	14,772	3	0	3	107	14,864	3	0	3	108					
						T3S	13,739	2	0	2	100	14,754	2	0	2	107	14,846	3	0	3	108					
						T3M	13,864	2	0	2	100	14,888	3	0	3	108	14,981	3	0	3	109					
						T4M	14,052	2	0	2	102	15,090	3	0	3	109	15,184	3	0	3	110					
						TFTM	13,842	2	0	3	100	14,864	2	0	3	108	14,957	2	0	3	108					
						TSVS	14,623	3	0	1	106	15,703	4	0	1	114	15,801	4	0	1	115					
						T5S	14,731	3	0	1	107	15,818	3	0	1	115	15,917	3	0	1	115					
						T5M	14,757	4	0	2	107	15,846	4	0	2	115	15,945	4	0	2	116					
						TSW	14,540	4	0	2	105	15,614	4	0	2	113	15,711	4	0	2	114					
						BLC	10,516	1	0	2	76	11,292	1	0	2	82	11,363	1	0	2	82					
						LCCO	10,216	2	0	3	74	10,971	2	0	3	80	11,039	2	0	3	80					
						RCCO	10,216	2	0	3	74	10,971	2	0	3	80	11,039	2	0	3	80					
				1000 mA	138 W	T1S	13,655	2	0	2	99	14,663	3	0	3	106	14,754	3	0	3	107					
						T2S	14,079	2	0	2	102	15,118	3	0	3	110	15,212	3	0	3	110					
						T2M	13,756	2	0	3	100	14,772	3	0	3	107	14,864	3	0	3	108					
			T3S			13,739	2	0	2	100	14,754	2	0	2	107	14,846	3	0	3	108						
			T3M			13,864	2	0	2	100	14,888	3	0	3	108	14,981	3	0	3	109						
			T4M			14,052	2	0	2	102	15,090	3	0	3	109	15,184	3	0	3	110						
			TFTM			13,842	2	0	3	100	14,864	2	0	3	108	14,957	2	0	3	108						
			TSVS			14,623	3	0	1	106	15,703	4	0	1	114	15,801	4	0	1	115						
			T5S			14,731	3	0	1	107	15,818	3	0	1	115	15,917	3	0	1	115						
			T5M			14,757	4	0	2	107	15,846	4	0	2	115	15,945	4	0	2	116						
			TSW			14,540	4	0	2	105	15,614	4	0	2	113	15,711	4	0	2	114						
			BLC			10,516	1	0	2	76	11,292	1	0	2	82	11,363	1	0	2	82						
			LCCO			10,216	2	0	3	74	10,971	2	0	3	80	11,039	2	0	3	80						
			RCCO			10,216	2	0	3	74	10,971	2	0	3	80	11,039	2	0	3	80						

# 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. Contact factory for performance data on any configurations not shown here.

Forward Optics																							
LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60C (60 LEDs)	530 mA	99 W	T1S	11,569	2	0	2	117	12,423	2	0	2	125	12,501	2	0	2	126	7,167	2	0	2	72
			T2S	11,928	2	0	2	120	12,809	3	0	3	129	12,889	3	0	3	130	7,507	2	0	2	76
			T2M	11,655	2	0	2	118	12,516	2	0	3	126	12,594	2	0	3	127	7,263	2	0	2	73
			T3S	11,641	2	0	2	118	12,500	2	0	2	126	12,579	2	0	2	127	7,424	2	0	2	75
			T3M	11,747	2	0	2	119	12,614	2	0	2	127	12,693	2	0	2	128	7,387	2	0	2	75
			T4M	11,906	2	0	2	120	12,785	2	0	2	129	12,865	2	0	2	130	7,400	2	0	2	75
			TFTM	11,728	2	0	2	118	12,594	2	0	3	127	12,673	2	0	3	128	7,288	1	0	2	74
			TSVS	12,390	3	0	1	125	13,305	3	0	1	134	13,388	3	0	1	135	7,734	3	0	1	78
			T5S	12,481	3	0	1	126	13,402	3	0	1	135	13,486	3	0	1	136	7,641	3	0	0	77
			T5M	12,503	3	0	2	126	13,426	4	0	2	136	13,510	4	0	2	136	7,737	3	0	2	78
			TSW	12,320	4	0	2	124	13,229	4	0	2	134	13,312	4	0	2	134	7,522	3	0	2	76
			BLC	9,212	1	0	2	93	9,892	1	0	2	100	9,954	1	0	2	101					
			LCCO	8,950	1	0	2	90	9,611	2	0	2	97	9,671	2	0	2	98					
			RCCO	8,950	1	0	2	90	9,611	2	0	2	97	9,671	2	0	2	98					
			T1S	14,694	2	0	2	112	15,779	3	0	3	120	15,877	3	0	3	121	8,952	2	0	2	68
	T2S	15,150	3	0	3	116	16,269	3	0	3	124	16,370	3	0	3	125	9,377	2	0	2	72		
	T2M	14,803	2	0	3	113	15,896	3	0	3	121	15,995	3	0	3	122	9,072	2	0	2	69		
	T3S	14,785	2	0	2	113	15,877	3	0	3	121	15,976	3	0	3	122	9,273	2	0	2	71		
	T3M	14,919	2	0	2	114	16,021	3	0	3	122	16,121	3	0	3	123	9,227	2	0	2	70		
	T4M	15,122	2	0	2	115	16,238	3	0	3	124	16,340	3	0	3	125	9,243	2	0	2	71		
	TFTM	14,896	2	0	3	114	15,996	2	0	3	122	16,096	2	0	3	123	9,103	2	0	2	69		
	TSVS	15,736	3	0	1	120	16,898	4	0	1	129	17,004	4	0	1	130	9,661	3	0	1	74		
	T5S	15,852	3	0	1	121	17,022	4	0	1	130	17,129	4	0	1	131	9,544	3	0	1	73		
	T5M	15,880	4	0	2	121	17,052	4	0	2	130	17,159	4	0	2	131	9,665	3	0	2	74		
	TSW	15,647	4	0	2	119	16,802	4	0	2	128	16,907	4	0	2	129	9,395	4	0	2	72		
	BLC	11,728	1	0	2	90	12,594	1	0	2	96	12,672	3	0	3	97							
	LCCO	11,394	2	0	3	87	12,235	2	0	3	93	12,311	2	0	3	94							
	RCCO	11,394	2	0	3	87	12,235	2	0	3	93	12,311	2	0	3	94							
	T1S	20,095	3	0	3	96	21,579	3	0	3	103	21,714	3	0	3	104							
	T2S	20,720	3	0	3	99	22,249	3	0	3	106	22,388	3	0	3	107							
	T2M	20,245	3	0	3	97	21,740	3	0	3	104	21,876	3	0	3	105							
	T3S	20,220	3	0	3	97	21,713	3	0	3	104	21,849	3	0	3	105							
	T3M	20,404	3	0	3	98	21,910	3	0	4	105	22,047	3	0	4	105							
	T4M	20,681	3	0	3	99	22,207	3	0	4	106	22,346	3	0	4	107							
	TFTM	20,372	3	0	3	97	21,876	3	0	4	105	22,013	3	0	4	105							
	TSVS	21,521	4	0	1	103	23,110	4	0	1	111	23,254	4	0	1	111							
	T5S	21,679	4	0	1	104	23,280	4	0	1	111	23,425	4	0	1	112							
	T5M	21,717	4	0	2	104	23,321	5	0	3	112	23,466	5	0	3	112							
	TSW	21,399	4	0	3	102	22,979	5	0	3	110	23,122	5	0	3	111							
	BLC	15,487	2	0	2	74	16,630	2	0	2	80	16,734	2	0	3	80							
	LCCO	15,046	2	0	3	72	16,157	2	0	3	77	16,258	2	0	3	78							
	RCCO	15,046	2	0	3	72	16,157	2	0	3	77	16,258	2	0	3	78							

# 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. Contact factory for performance data on any configurations not shown here.

L90 and R90 Rotated Optics																							
LEDs	Drive Current (mA)	System Watts	Dist. Type	30K (3000 K, 70 CRI)					40K (4000 K, 70 CRI)					50K (5000 K, 70 CRI)					AMBPC (Amber Phosphor Converted)				
				Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
60C (60 LEDs)	530 mA	99 W	T1S	11,569	2	0	2	117	12,423	2	0	2	125	12,501	2	0	2	126	7,167	2	0	2	72
			T2S	11,928	2	0	2	120	12,809	3	0	3	129	12,889	3	0	3	130	7,507	2	0	2	76
			T2M	11,655	2	0	2	118	12,516	2	0	3	126	12,594	2	0	3	127	7,263	2	0	2	73
			T3S	11,641	2	0	2	118	12,500	2	0	2	126	12,579	2	0	2	127	7,424	2	0	2	75
			T3M	11,747	2	0	2	119	12,614	2	0	2	127	12,693	2	0	2	128	7,387	2	0	2	75
			T4M	11,906	2	0	2	120	12,785	2	0	2	129	12,865	2	0	2	130	7,400	2	0	2	75
			TFTM	11,728	2	0	2	118	12,594	2	0	3	127	12,673	2	0	3	128	7,288	1	0	2	74
			TSVS	12,390	3	0	1	125	13,305	3	0	1	134	13,388	3	0	1	135	7,734	3	0	1	78
			T5S	12,481	3	0	1	126	13,402	3	0	1	135	13,486	3	0	1	136	7,641	3	0	0	77
			T5M	12,503	3	0	2	126	13,426	4	0	2	136	13,510	4	0	2	136	7,737	3	0	2	78
			TSW	12,320	4	0	2	124	13,229	4	0	2	134	13,312	4	0	2	134	7,522	3	0	2	76
			BLC	9,212	1	0	2	93	9,892	1	0	2	100	9,954	1	0	2	101					
			LCCO	8,950	1	0	2	90	9,611	2	0	2	97	9,671	2	0	2	98					
			RCCO	8,950	1	0	2	90	9,611	2	0	2	97	9,671	2	0	2	98					
			T1S	14,694	2	0	2	112	15,779	3	0	3	120	15,877	3	0	3	121	8,952	2	0	2	68
			T2S	15,150	3	0	3	116	16,269	3	0	3	124	16,370	3	0	3	125	9,377	2	0	2	72
			T2M	14,803	2	0	3	113	15,896	3	0	3	121	15,995	3	0	3	122	9,072	2	0	2	69
			T3S	14,785	2	0	2	113	15,877	3	0	3	121	15,976	3	0	3	122	9,273	2	0	2	71
	T3M	14,919	2	0	2	114	16,021	3	0	3	122	16,121	3	0	3	123	9,227	2	0	2	70		
	T4M	15,122	2	0	2	115	16,238	3	0	3	124	16,340	3	0	3	125	9,243	2	0	2	71		
	TFTM	14,896	2	0	3	114	15,996	2	0	3	122	16,096	2	0	3	123	9,103	2	0	2	69		
	TSVS	15,736	3	0	1	120	16,898	4	0	1	129	17,004	4	0	1	130	9,661	3	0	1	74		
	T5S	15,852	3	0	1	121	17,022	4	0	1	130	17,129	4	0	1	131	9,544	3	0	1	73		
	T5M	15,880	4	0	2	121	17,052	4	0	2	130	17,159	4	0	2	131	9,665	3	0	2	74		
	TSW	15,647	4	0	2	119	16,802	4	0	2	128	16,907	4	0	2	129	9,395	4	0	2	72		
	BLC	11,728	1	0	2	90	12,594	1	0	2	96	12,672	3	0	3	97							
	LCCO	11,394	2	0	3	87	12,235	2	0	3	93	12,311	2	0	3	94							
	RCCO	11,394	2	0	3	87	12,235	2	0	3	93	12,311	2	0	3	94							
	T1S	20,095	3	0	3	96	21,579	3	0	3	103	21,714	3	0	3	104							
	T2S	20,720	3	0	3	99	22,249	3	0	3	106	22,388	3	0	3	107							
	T2M	20,245	3	0	3	97	21,740	3	0	3	104	21,876	3	0	3	105							
	T3S	20,220	3	0	3	97	21,713	3	0	3	104	21,849	3	0	3	105							
	T3M	20,404	3	0	3	98	21,910	3	0	4	105	22,047	3	0	4	105							
	T4M	20,681	3	0	3	99	22,207	3	0	4	106	22,346	3	0	4	107							
	TFTM	20,372	3	0	3	97	21,876	3	0	4	105	22,013	3	0	4	105							
	TSVS	21,521	4	0	1	103	23,110	4	0	1	111	23,254	4	0	1	111							
T5S	21,679	4	0	1	104	23,280	4	0	1	111	23,425	4	0	1	112								
T5M	21,717	4	0	2	104	23,321	5	0	3	112	23,466	5	0	3	112								
TSW	21,399	4	0	3	102	22,979	5	0	3	110	23,122	5	0	3	111								
BLC	15,487	2	0	2	74	16,630	2	0	2	80	16,734	2	0	3	80								
LCCO	15,046	2	0	3	72	16,157	2	0	3	77	16,258	2	0	3	78								
RCCO	15,046	2	0	3	72	16,157	2	0	3	77	16,258	2	0	3	78								

## 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 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 (IP65). Low EPA (1.01 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 3000 K, 4000 K and 5000 K (70 CRI) or optional 3000 K (70 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 L99/100,000 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 (template #8). 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](http://www.designlights.org) to confirm which versions are qualified.

### WARRANTY

5-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.





# KBR8 LED

## LED Specification Bollard

Catalog  
Number

Notes

Type

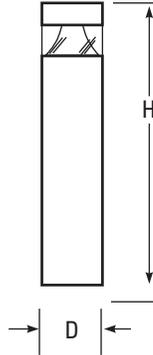
Hit the Tab key or mouse over the page to see all interactive elements.

### Specifications

8" Round  
(20.3 cm)

**Height:** 40"  
(101.6 cm)

**Weight (max):** 27 lbs  
(12.25 kg)



### Introduction

The KBR8 Bollard is a stylish, fully integrated LED solution for walkways. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 70% in energy savings over comparable 100W metal halide luminaires, the KBR8 Bollard is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

### Ordering Information

**EXAMPLE: KBR8 LED 16C 700 40K SYM MVOLT DDBXD**

KBR8 LED														
Series	LEDs	Drive current		Color temperature		Distribution		Voltage	Control options	Other options	Finish <i>(required)</i>			
KBR8 LED	Asymmetric 12C 12 LEDs <sup>1</sup>	350	350 mA	30K	3000 K	ASY	Asymmetric <sup>1</sup>	MVOLT <sup>5</sup>	Shipped installed	Shipped installed	DWHXD	White		
		450	450 mA <sup>3,4</sup>	40K	4000 K								SYM	Symmetric <sup>2</sup>
		530	530 mA	50K	5000 K			208 <sup>5</sup>	DMG	0-10V dimming driver (no controls)	DF	Double fuse (208, 240V) <sup>4,7</sup>		
		700	700 mA	AMBPC	Amber phosphor converted			240 <sup>5</sup>					ELCW	Emergency battery backup <sup>6</sup>
	Symmetric 16C 16 LEDs <sup>2</sup>			AMBLW	Amber limited wavelength <sup>3,4</sup>			277 <sup>5</sup>			H30	30" overall height		
								347 <sup>4</sup>			H36	36" overall height	DBLBXD	Textured black
											FG	Ground-fault festoon outlet	DNATXD	Textured natural aluminum
											L/AB	Without anchor bolts (3 bolt base)	DWHGXD	Textured white
											L/AB4	4 bolt retrofit base without anchor bolts <sup>8</sup>		

### Accessories

Ordered and shipped separately.

MRAB U Anchor bolts for KBR8 LED<sup>8</sup>

### NOTES

- 1 Only available in the 12C, ASY version.
- 2 Only available in the 16C, SYM version.
- 3 Only available with 450 AMBLW version.
- 4 Not available with ELCW.
- 5 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), or photocontrol (PE option).
- 6 Not available with 347V. Not available with fusing. Not available with 450 AMBLW.
- 7 Single fuse (SF) requires 120, 277, or 347 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
- 8 MRAB U not available with L/AB4 option.



## Performance Data

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	System Watts	3000 K					4000 K					5000 K					Limited Wavelength Amber					
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	
Asymmetric 3 Engines (12 LEDs)	350	16	641	40	1	1	1	809	51	1	1	1	870	54	1	1	1						
	530	22	947	43	1	1	1	1,191	54	1	1	1	1,282	58	1	1	1						
	700	31	1,214	40	1	1	1	1,527	51	1	1	1	1,646	55	1	1	1						
	Amber 450	16																324	20	0	1	0	
Symmetric 4 Engines (16 LEDs)	350	20	888	44	1	0	0	1,116	56	1	0	0	1,203	60	1	0	0						
	530	28	1,254	45	1	0	0	1,598	57	1	0	1	1,719	61	1	0	1						
	700	39	1,608	41	1	0	1	2,022	52	1	0	1	2,180	56	2	0	1						
	Amber 450	20																374	19	0	0	0	

**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.

## 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	1.00	0.98	0.97	0.95

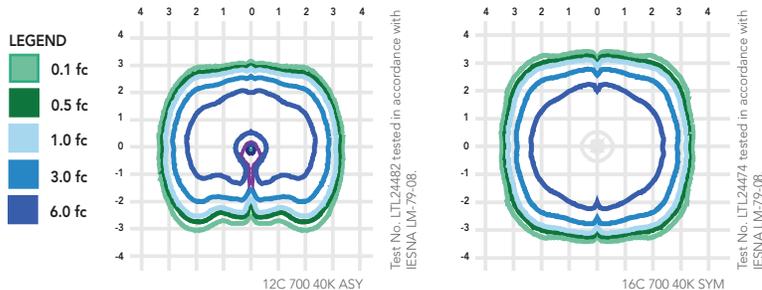
## Electrical Load

Light Engines	Drive Current (mA)	System Watts	Current (A)				
			120	208	240	277	347
12C	350	16W	0.158	0.118	0.114	0.109	0.105
	530	22W	0.217	0.146	0.136	0.128	0.118
	700	31W	0.296	0.185	0.168	0.153	0.139
	Amber 450	16W	0.161	0.120	0.115	0.110	0.106
16C	350	20W	0.197	0.137	0.128	0.121	0.114
	530	28W	0.282	0.178	0.162	0.148	0.135
	700	39W	0.385	0.231	0.207	0.185	0.163
	Amber 450	20W	0.199	0.139	0.130	0.123	0.116

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [KBR8 Bollard homepage](#).

Isofootcandle plots for the KB LED Bollards. Distances are in units of mounting height (3').



## FEATURES & SPECIFICATIONS

### INTENDED USE

The rugged construction and clean lines of the KBA bollard is ideal for illuminating building entryways, walking paths, and pedestrian plazas, as well as any other location requiring a low mounting height light source with fully cutoff illumination.

### CONSTRUCTION

One-piece 8-inch round extruded aluminum shaft with thick side walls for extreme durability, a high-impact clear acrylic lens and welded top cap. Die-cast aluminum mounting ring allows for easy leveling even in sloped locations and a full 360-degree rotation for precise alignment during installation. Three 1/2" x 11" anchor bolts with double nuts and washers and 3/4" bolt circle template ensure stability. Overall height is 42" standard.

### FINISH

Exterior parts are protected by a zinc-infused super durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering for maximum retention of gloss and luster. A tightly controlled multi-stage process ensures a minimum 3-mil thickness for a finish that can withstand the elements without cracking or peeling. Available in both textured and non-textured finishes.

### OPTICS

Two fully cutoff optical distributions are available: symmetrical and asymmetrical. IP66 sealed LED light engine provides smoothly graduated illumination without any uplight. Light engines are available in standard 4000 K (>70 CRI) or optional 3000 K (>80 CRI) or 5000 K (67 CRI). Limited-wavelength amber LEDs are also available.

### ELECTRICAL

Light engines consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (L95/100,000 hours at 700mA at 25°C). Class 2 electronic drivers are designed for an expected life of 100,000 hours with < 1% failure rate. Electrical components are mounted on a removable power tray.

### LISTINGS

CSA certified to U.S. and Canadian standards. Light engines are IP66 rated. Rated for -40°C minimum ambient. Cold-weather emergency battery backup rated for -20°C minimum ambient.

### WARRANTY

Five-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx).

**Note:** Specifications subject to change without notice.

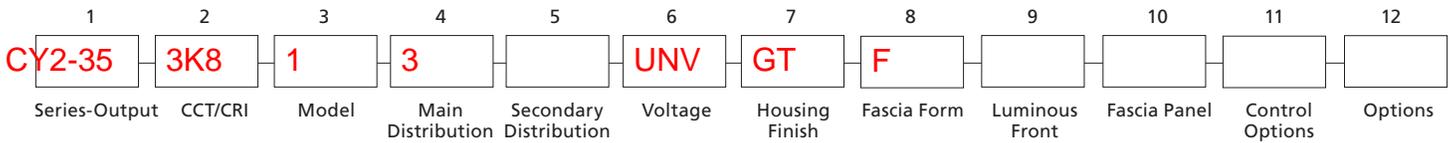


## FEATURES

- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- IES Type I, II, III & IV Distributions
- Wall Graze, Spot and Pencil Distributions
- Multiple Fascia Options and Finishes
- 0-10V dimming
- IP-66 Housing & Optical System
- 120-277, 347 and 480V
- 3000K, 4000K & 5000K CCT
- 10kA Surge Protection
- Fascia Forms F and E are ADA compliant for use in low mounting height applications (80 inches or less)
- IDA approved, downlight only, 3000K and warmer CCTs
- Occupancy Sensor & Wireless Control Options



## ORDERING CODE



### SERIES-OUTPUT (Base)

CY2-25	25w, 2500 nominal lumens
CY2-35	40w, 3500 nominal lumens
CY2-45	50w, 4500 nominal lumens

### CCT-CRI

2K8	2700K, 80CRI
3K7	3000K, 70CRI
3K8	3000K, 80CRI
4K7	4000K, 70CRI
4K8	4000K, 80CRI
5K7	5000K, 70CRI

### MODEL (Light Engine)

1	DownLight Only
2	50/50 Down/Up, <b>Down/Up distributions must match</b>
3	90/10 Down/Up
4	25/25/25/25 Split, <b>Down/Up/Side distributions must match</b>
5	70/10/10/10 Split, <b>Top/Side distributions must match</b>

Contact factory for custom distributions,  
See Distribution Matrix on page 2 for restrictions.

### MAIN DISTRIBUTION (Down)

1	IES Type I
2	IES Type II
3	IES Type III
4	IES Type IV
SP	15° Spot/Column
WG	60° Wall Graze
1D	Type 1 Diffused
2D	Type 2 Diffused
3D	Type 3 Diffused
4D	Type 4 Diffused

### SECONDARY DISTRIBUTION (Up, Sides)

1	IES Type I
2	IES Type II
3	IES Type III
4	IES Type IV
SP	15° Spot/Column
WG	60° Wall Graze
PB*	Pencil Beam
1D	Type 1 Diffused

\* PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended.  
See Distribution Matrix on page 2 for restrictions.

### SECONDARY DISTRIBUTION (Up, Sides)

2D	Type 2 Diffused
3D	Type 3 Diffused
4D	Type 4 Diffused

\* PB distribution is available for 90/10 and 70/10/10/10 models only. Not all combinations are recommended.  
See Distribution Matrix on page 2 for restrictions.

### VOLTAGE

UNV	120-277V
347	347V
480	480V

### BASE HOUSING FINISH

#### Standard Colors

AGN	Antique Green
BL	Black
BLT	Matte Black
CRT	Corten
DB	Dark Bronze
DGN	Dark Green
GT	Graphite
LG	Light Grey
MAL	Matte Aluminum
MDB	Metallic Bronze
MG	Medium Grey
TT	Titanium
VBU	Verde Blue
WDB	Weathered Bronze
WH	Arctic White

#### Premium Colors

SFM	Seafoam
SHK	Shamrock
SPP	Salt and Pepper
WCP	Weathered Copper
RAL	Provide a RAL 4 digit color number
CUSTOM	Please provide color chip for matching
COLOR	

### FASCIA FORM

F	Flat
R	Radius/Curved
T	Triangle/Wedge
E	Rounded Edge
C	Circle/Curved
CB	Cylinder Balanced
CT	Cylinder Tall
CBM	Custom Building Material Mount
	Ghost Fascia

### LUMINOUS FRONT

BLANK	Standard None
RGBW	RGBW Luminous Front
LFSW	Static White Luminous Front

RGBW and LFSW luminous fronts are only available with open, four square and perforated fascia panels

### FASCIA PANEL

FPP	Full Panel Painted
FPS	Full Panel Stainless Steel
FPC	Full Panel Copper
OPP	Open Panel Painted
OPS	Open Panel Stainless Steel
OPC	Open Panel Copper
4PP	4-Square Panel Painted
4PS	4-Square Panel Stainless Steel
4PC	4-Square Panel Copper
PPP	Perforated Panel Painted
PPS	Perforated Panel Stainless Steel
PPC	Perforated Panel Copper

Flat and Radius Fascia forms only. Painted panels by default match base housing finish/color. Consult factory for custom panel finishes.

### CONTROL OPTIONS

PCU	Universal Button Photocell (120-277V)
SCP	Programmable Occupancy Sensor
SWP	SiteSync Wireless
SWPM	SiteSync Wireless w/Occupancy Sensor

WIR	wiSCAPE
WIRSC	wiSCAPE w/Occupancy Sensor

Occupancy sensors not available with CB, T, E or C fascia forms

### OPTIONS

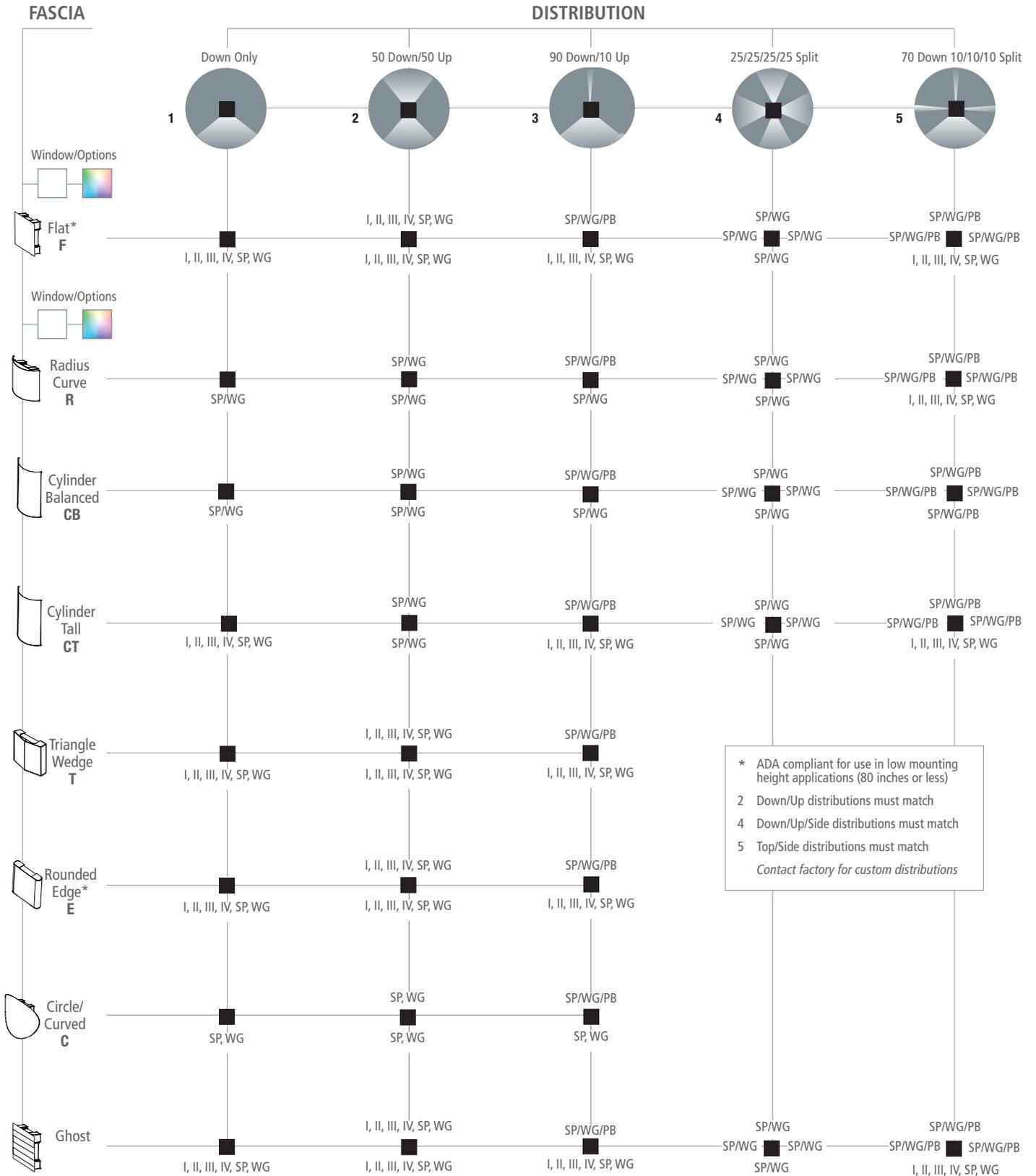
EM	Battery Backup Unit -20°C
SF	Single Fuse (120, 277, 347)
DF	Double Fuse (208, 240, 480)

Battery Backup not available with Triangle and Rounded Edge Fascia Forms.

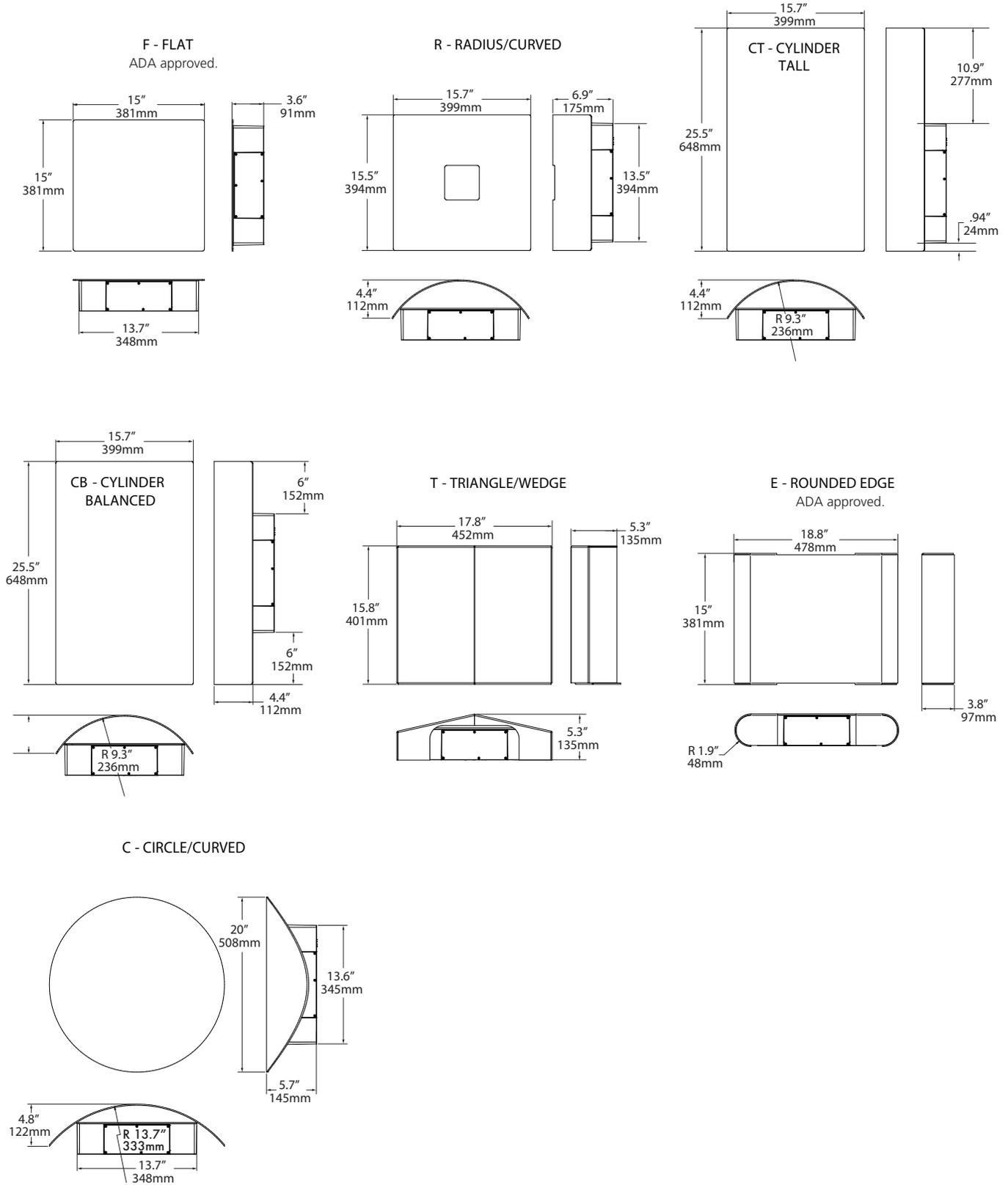


JOB	_____
TYPE	_____
NOTES	_____

## Distribution Matrix



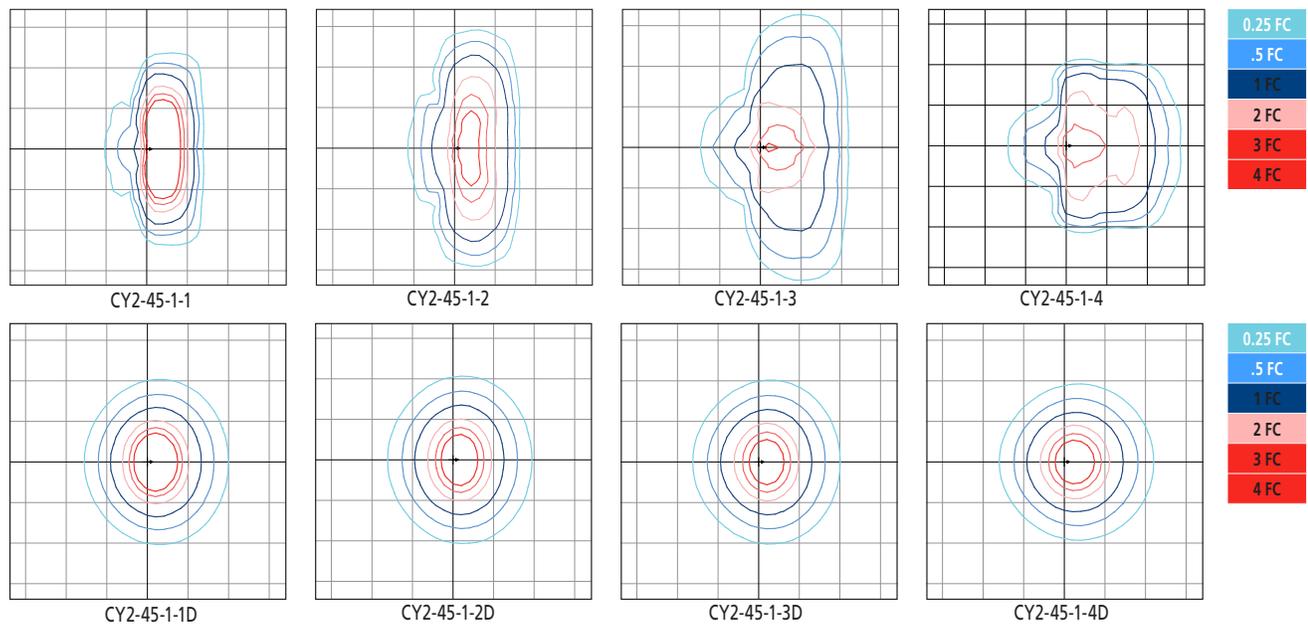
Drawings



## LUMINAIRE PERFORMANCE

Downlight only			Configuration														
Nominal Output (Lm)	Average System Wattage	Distribution	Bright White (5000K)			Neutral White (4000K)			Warm White (3000K)								
			Delivered Lumens	Efficacy (Lm/W)	BUG Rating B U G	Delivered Lumens	Efficacy (Lm/W)	BUG Rating B U G	Delivered Lumens	Efficacy (Lm/W)	BUG Rating B U G						
2,500	26	Type 1	2836	109	0	0	0	2596	100	0	0	0	2499	96	0	0	0
		Type 2	2570	99	1	0	1	2353	90	1	0	1	2265	87	1	0	1
		Type 3	2739	107	1	0	1	2507	96	1	0	1	2413	93	1	0	1
		Type 4	2512	97	0	0	1	2299	88	0	0	1	2213	85	0	0	0
		Wall Graze	2795	107	2	0	0	2558	98	2	0	0	2462	95	2	0	0
		Spot/Column	2371	91	2	0	0	2171	83	2	0	0	2089	80	2	0	0
		Type 1 Diffused	2488	96	1	0	1	2278	88	1	0	1	2193	84	1	0	1
		Type 2 Diffused	2274	87	1	0	1	2082	80	1	0	1	2004	77	1	0	1
		Type 3 Diffused	2163	83	1	0	1	1980	76	1	0	1	1906	73	1	0	1
		Type 4 Diffused	2197	84	1	0	1	2011	77	1	0	1	1936	74	1	0	1
3,500	40	Type 1	4011	100	1	0	0	3672	92	1	0	0	3534	88	1	0	0
		Type 2	3635	91	1	0	1	3328	83	1	0	1	3203	80	1	0	0
		Type 3	3874	97	1	0	1	3546	89	1	0	1	3413	85	1	0	1
		Type 4	3553	89	1	0	1	3252	81	1	0	1	3131	78	1	0	1
		Wall Graze	3953	99	2	0	0	3618	90	2	0	0	3483	87	2	0	0
		Spot/Column	3354	84	3	0	0	3070	77	3	0	0	2955	74	3	0	0
		Type 1 Diffused	3519	88	1	0	1	3222	81	1	0	1	3101	78	1	0	1
		Type 2 Diffused	3217	80	1	0	1	2945	74	1	0	1	2835	71	1	0	1
		Type 3 Diffused	3059	76	1	0	1	2800	70	1	0	1	2695	67	1	0	1
		Type 4 Diffused	3107	78	1	0	1	2844	71	1	0	1	2738	68	1	0	1
4,500	52	Type 1	4982	97	1	0	1	4561	88	1	0	0	4390	84	1	0	0
		Type 2	4675	90	1	0	1	4280	82	1	0	1	4119	79	1	0	1
		Type 3	4812	95	1	0	1	4405	86	1	0	1	4240	82	1	0	1
		Type 4	4569	88	1	0	1	4183	80	1	0	1	4026	77	1	0	1
		Wall Graze	5083	99	3	0	0	4653	89	3	0	0	4479	86	3	0	0
		Spot/Column	4313	84	3	0	0	3948	76	3	0	0	3800	73	3	0	0
		Type 1 Diffused	4526	88	2	0	1	4143	80	1	0	1	3988	77	1	0	1
		Type 2 Diffused	4137	80	1	0	1	3787	73	1	0	1	3645	70	1	0	1
		Type 3 Diffused	3934	76	1	0	1	3601	69	1	0	1	3466	67	1	0	1
		Type 4 Diffused	3996	77	1	0	1	3658	70	1	0	1	3521	68	1	0	1

## ISOLINE TEMPLATES 15' Mounting Height, 15' Grid Spacing



ELECTRICAL CHARACTERISTICS

Lumen Package	System Wattage (W)	Line Voltage		Input				Min. Power Factor	Max THD (%)	Dimming Range	Source/Sink Current (mA)		Absolute voltage range on 0-10v (+) Purple	
		VAC	Hz	120	277	347	480				Min.	Max.	Min.	Max.
2,500	26	120	50/60	0.2	0.1	0.1	0.1	>0.9	20	10% to 100%	0 mA	1 mA	0V	10V
3,500	40			0.3	0.1	0.1	0.1							
4,500	52			0.4	0.2	0.1	0.1							

TM-21 LIFETIME CALCULATION (500mA)

Lumen Package	Ambient Environment °C	Projected Lumen Maintenance (Khrs)					Reported L70
		15	25	50	60 (TM-21)	100	
4,500	25	95%	94%	90%	89%	83%	>60Khrs.
	40	93%	91%	84%	82%	73%	



JOB	_____
TYPE	_____
NOTES	_____

**HOUSING**

- Main housing shroud shall be of fabricated 5052-H32 aluminum alloy
- Housing mounting interface shall have a stamped silicone gasket.
- Luminaire housing shall be free of any visible heat fins, hardware or fasteners.
- Bracketry and hardware shall be stainless steel.

**OPTICAL ARRAY**

- LEDs shall be mounted to a metal printed circuit board assembly (MCPCB) with a uniform conformal coating over the panel surface and electrical features.
- Optical lenses shall be clear injection molded PMMA acrylic.
- Optical array shall be recessed in order to shield each LED optic across the length of the aperture.
- Optical array shall be sealed for IP66 rating.
- Secondary lens is impact resistant 5/32" tempered glass.

**ELECTRICAL**

- Drivers shall be in direct contact with the die-cast aluminum housing across the entire surface area of the widest face for maximum thermal transfer.
- "Thermal Shield", primary side, thermister provides protection for the sustainable life of LED module and electronic components.
- Drivers shall have greater than a 0.9 power factor, less than 20% harmonic distortion, and be suitable for operation in -40°C to 40°C ambient environments
- Luminaires shall have integral surge protection that shall be U.L. recognized and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J. Surge protection device shall be wired in series.
- Drivers shall be U.L recognized.
- Drivers shall not be compatible with current sourcing dimmers, consult factory for current list of known compatible dimming systems approved dimmers include Lutron Diva AVTV, Lutron Nova NFTV and NTFTV.
- Integral battery backup provides emergency path of egress lighting for the required 90 minutes for -20°C ambient environments.

**SPECIFICATIONS**

- Luminaire shall be capable of operating at 100% brightness in a 40°C environment. Both driver and optical array shall have integral thermal protection that will dim the luminaire upon detection of temperatures in excess of 85°C.
- Luminaires not configured with a control system shall be provided with 0-10 purple and gray dimming leads.



**CONTROLS**

- Optional universal voltage (120-277V) button photocontrol for dusk to dawn energy savings. Photocontrol is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.
- Wireless enabled fixtures shall support bi-directional radio frequency (RF) communications utilizing IEEE 802.15.4 operating in the 2.4GHZ ISM band.
- Up to 1000' wireless range may be reduced by physical obstructions between lighting fixtures.
- Occupancy Sensor shall programmable and use passive infrared (PIR) sensing technology that reacts to changes in infrared energy (moving body heat) within the coverage area. Careful consideration must be given to obstructions that may block the sensor's line of sight.
- Factory default settings for SCP option shall be:
  - High mode: 10V
  - Low mode: 1V
  - Ramp-up rate: disabled
  - Fade-down rate: disabled
  - Photocell: Off
  - Sensitivity: Full
  - Time Delay: Fade to low: 5 minutes
  - Time Delay: Fade to off: 1 hour
- The SCP enables any wall mounted luminaire, in excess of 30 watts, to meet California Title 24 requirements with integral 10KA surge protection for added reliability and serviceability.

For more detail: [http://www.aal.net/products/sensor\\_control\\_programmable](http://www.aal.net/products/sensor_control_programmable)

- Hubbell Control Solution's wiSCAPE™ In-Fixture Module is a bi-directional wireless RF device that allows an individual fixture to be managed, monitored and metered. The wiSCAPE In-Fixture Module communicates wirelessly over a robust 2.4GHz ISM (Industrial, Scientific and Medical) certified meshed radio signal. The wiSCAPE Fixture Module drastically simplifies control and automation of projects, especially in retrofit environments, and challenges the legacy world of wired-systems. wiSCAPE wireless control technology easily adapts to complex automation situations for quick, simple and economical commissioning. The On-Fixture Module is compatible with A-25-7H option.

- SiteSync™ wireless control system for reduction in energy and maintenance cost while optimizing light quality 24/7. See ordering information or visit [www.hubbellighting.com/products/sitesync](http://www.hubbellighting.com/products/sitesync) for more details.

**BLUETOOTH®**

- RGBW option includes integral Bluetooth module, built into driver, that permits the adjustment of luminous front color when paired with Hubbell Remote App via cellular/tablet device.
- Bluetooth Low Energy (BLE) or Bluetooth Smart compatible for both iOS (iOS8 and forward) and Android (Gingerbread and forward) handheld software applications. Compatible with phones and tablets.
- Free Bluetooth Apps are available for Apple iOS and Google Android mobile devices and are downloadable via the internet at Apple App Store or Google Play.

**MOUNTING AND INSTALLATION**

- JUNCTION BOX: Standard with zinc-plated, quick-mount junction box plate that mounts directly to 4" J-Box
- Mounting plate features a one-piece EPDM gasket on back side of plate to firmly seal fixture to wall surface, forbidding entry of moisture and particulates.
- Fixture attaches by two Allen-head hidden fasteners for tamper resistance.
- Optional mounting arrangements utilize a die-cast mounting adaptor to allow for surface conduit and through branch wiring.

**SERVICING**

- Housing shall be able to hang freely in an open service position for inspection of internal wire connections. Once in service position, the housing shall be able to be removed for service by lifting the assembly up off the rear mounting plate and disconnecting the wiring plugs.
- Driver assembly shall be mounted to a prewired internal tray with quick disconnects for removal.

**FUSING**

**SF** for 120, 277, and 347 Line volts  
**DF** for 208, 240, and 480 Line volts  
 High temperature fuse holders factory installed inside the fixture housing.  
 Fuse is included.



JOB	_____
TYPE	_____
NOTES	_____

**FINISH**

- Luminaire finish shall consist of a five stage pretreatment regimen with a polymer primer sealer, oven dry off, and top coated with a thermoset super TGIC polyester powder coat finish.
- Luminaire finish shall meet the AAMA 605.2 performance specification which includes passing a 3000 hour salt spray test for corrosion resistance.

**CERTIFICATION**

- Luminaire shall be listed with UL for outdoor, wet location use, UL1598, UL 8750 and Canadian CSA Std. C22.2 no.250.
- IP66 rated assembly
- IDA approved, 3000K and warmer CCTs only.
- DesignLights Consortium® (DLC) qualified. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org).
- ANSI C136.31-2010 4G Vibration tested and compliant.
- Complies with "Americans with Disabilities Act" or "ADA" on select versions for low mounting height applications (fixtures extend maximum of 4 inches from wall for mounting heights of 80 inches or less).

**WARRANTY / TERMS AND CONDITIONS OF SALE**

Download:

Five year limited warranty (for more information visit: [http:// www.hubbelling.com/resources/warranty/](http://www.hubbelling.com/resources/warranty/))

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JOB	_____
TYPE	_____
NOTES	_____



# Amenities Facility • Exterior Re-Clad • Parking Garage

Exact Sciences - 1 Exact Lane - Madison

Initial/ Final Submittal  
March 21, 2018





Note: See prior submittals for additional context information.

**Aerial View**

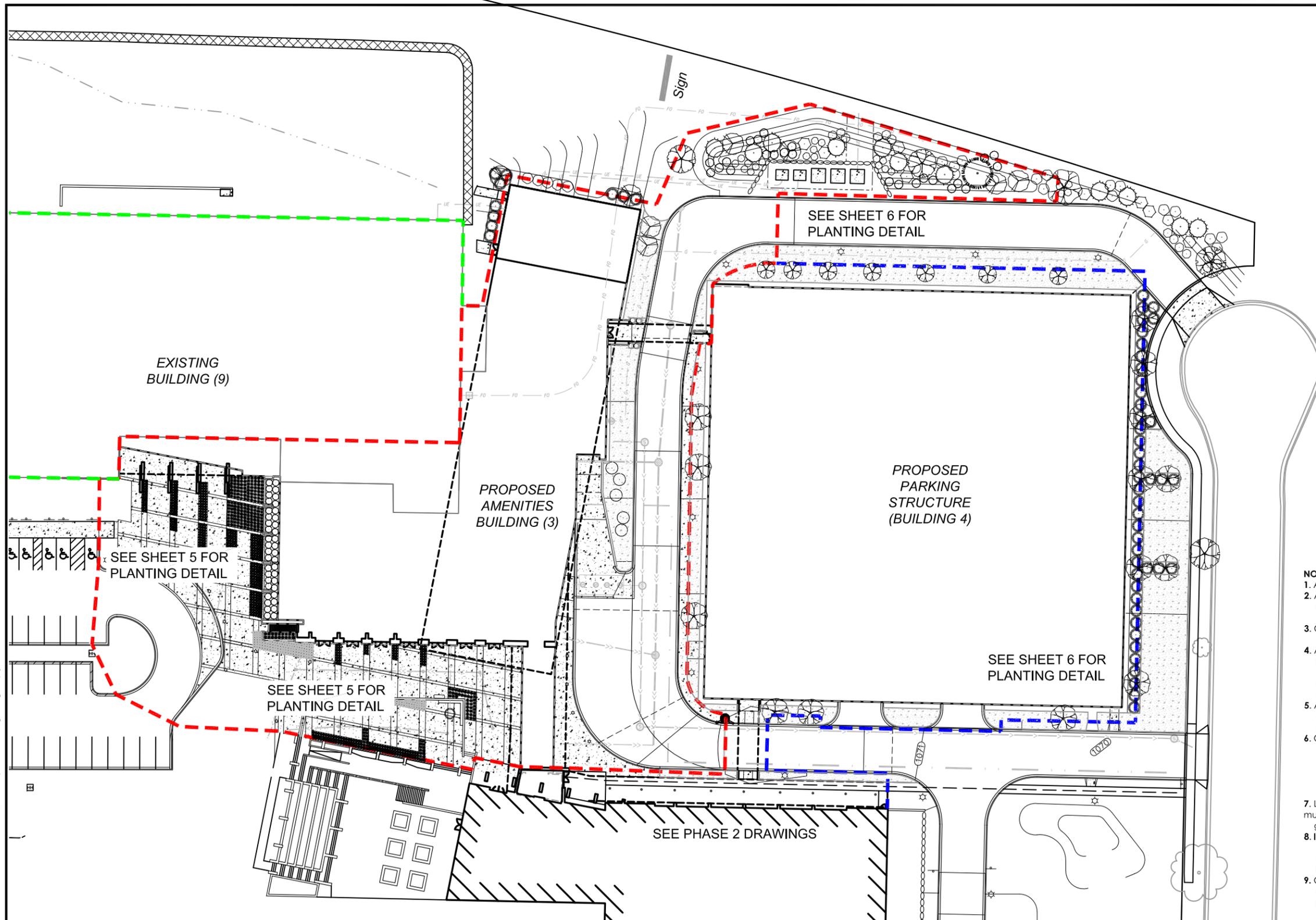
**Exact Sciences - 1 Exact Lane - Madison**  
2017.01  
March 21, 2018 - UDC Initial/ Final Submittal











**PROJECT LIMITS LEGEND**

- 1 EXACT LANE RECLAD EXISTING BLDG PROJECT LIMITS
- 1 EXACT LANE AMENITIES BLDG 3 PROJECT LIMITS
- PARKING STRUCTURE PROJECT LIMITS

- NOTES:**
1. All plantings shall conform to quality requirements as per ANSI Z60.1.
  2. All plant material shall be true to the species, variety and size specified, nursery grown in accordance with good horticultural practices, and under climactic conditions similar to those of the project site.
  3. Contact Landscape Architect, in writing, to request and plant material substitutions due to availability issues.
  4. All disturbed areas, unless otherwise noted, to be seeded with Madison Parks Mix by Olds Seed Company or equivalent, per manufacturer's specified application rates. All seeded areas are to be watered daily to maintain adequate soil moisture for proper germination. After vigorous growth is established, apply 1/2" water twice weekly until final acceptance.
  5. All plants shall be guaranteed to be in healthy and flourishing condition during the growing season following installation. All plant material shall be guaranteed for one year from the time of installation.
  6. Contractor shall provide a suitable amended topsoil blend for all planting areas where soil conditions are unsuitable for plant growth. Topsoil shall conform to quality requirements as per Section 625.2(1) of the Standard Specifications for Highway Construction. Provide a minimum of 12" of topsoil in all planting areas and 6" of topsoil in areas to be seeded/sodded.
  7. Landscape beds to be mulched with undyed shredded hardwood bark mulch to 3" depth min. Edge with commercial grade aluminum landscape edging.
  8. Install 24" wide stone maintenance strip around perimeter of building where no landscape beds are shown. Mulch with 1.5" washed stone to 3" depth over weed barrier fabric. Edge with commercial grade aluminum landscape edging.
  9. Contractor shall contact City Forester Brad Hofmann (bhofmann@cityofmadison.com or 266-4816) at least one week prior to planting to schedule inspection of the nursery stock and review planting specifications with the landscape installer.
  10. Contractor shall install tree protection fencing in the area between the curb and sidewalk and extend it at least 5 feet from both sides of the tree along the length of the terrace. No excavation is permitted within 5 feet of the outside edge of a tree trunk. If excavation within 5 feet of any tree is necessary, contractor shall contact City Forestry (266-4816) prior to excavation to assess the impact to the tree and root system. Tree pruning shall be coordinated with City Forestry prior to the start of construction. Tree protection specifications can be found in section 107.13 of City of Madison Standard Specifications for Public Works Construction: <http://www.cityofmadison.com/business/pw/documents/stdspecs/2013/part1.pdf>. Any tree removals that are required for construction after the development plan is approved will require at least a 72 hour wait period before a tree removal permit can be issued by forestry, to notify the alder of the change in the tree plan.

NO.	DATE	REVISIONS	REMARKS

SCALE: AS SHOWN

DATE: 03/21/2018

DRAFTER: SVIN

CHECKED: SVIN

PROJECT NO.: 170172

SHEET: 4 OF 6

DWG. NO.:

