IV.B.

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Architectural Review Board Staff Report

Meeting Date: June 9, 2022

From: Alyssa Ahner, Planner

Location: 18341 Wings Corporate Dr.

Description: **Wings Corporate Estates, Lot 3 (Knoebel Construction) SDSP:** A Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations, and Architect's Statement of Design for a 1.56-acre tract of land zoned "PI" – Planned Industrial District located north of the intersection of Wings Corporate Drive and Buzz Westfall Drive (18W440078).

PROPOSAL SUMMARY

CD Companies, on behalf of Knoebel Construction, has submitted a request for a new two-story, 68,119 square-foot office/warehouse building on Lot 3 of the Wings Corporate Estates development. The vast majority of the building—roughly 60,000 square feet—will be utilized as warehouse space while just over 8,600 square feet is proposed as office space.

The Site Development Section Plan depicts parking to the north and south of the building, as well as pedestrian connectivity and landscaping throughout the site. The building is primarily comprised of tilt-up concrete, brick veneer, glass and metal paneling. Several lighting fixtures are proposed—some of which are alternatives to flat-lensed, fully shielded fixtures.

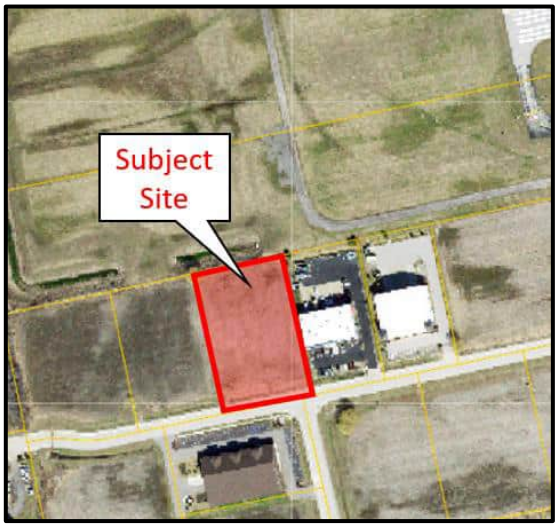

Figure 1: Subject Site

HISTORY OF SUBJECT SITE

2006—City approves Ordinance 2237, changing the zoning of the subject site from "NU"—Non-Urban District to "PI"—Planned Industrial District. A Site Development Concept Plan was approved the same year.

2008—Record Plat was approved, dividing the development into 21 lots.

2021—Lots 14 and 16 are rezoned into a separate "PI" District and consolidated through a Boundary Adjustment Plat, reducing the total number of lots in this development to twenty (20).

STAFF ANALYSIS

General requirements for Site Design:

The Unified Development Code's Architectural Review Design Standards are broken down into two (2) areas of review: Site Design and Building Design.

The general requirements for Site Design include Site Relationships, Topography and Parking, Circulation and Access and Retaining Walls. The General Requirements for Building Design include, Scale, Design Materials and Colors, Landscape Design and Screening, Signage and Lighting. Additionally, the UDC also provides specific requirements for development in Chesterfield Valley. These areas as they pertain to this request are outlined in the sections below.

A. Site Relationships

Lot 3 is one (1) of twenty (20) lots within the Wings Corporate Estates development, and abuts Spirit of St. Louis Airport to the north. This would be the eighth (8th) building approved within the development, with the other buildings ranging from 9,660 sq. ft. to 81,711 sq. ft.—most of which are office-warehouse uses. The proposed 68,119 sq. ft. office/warehouse building is in line with the scale and use of surrounding properties.

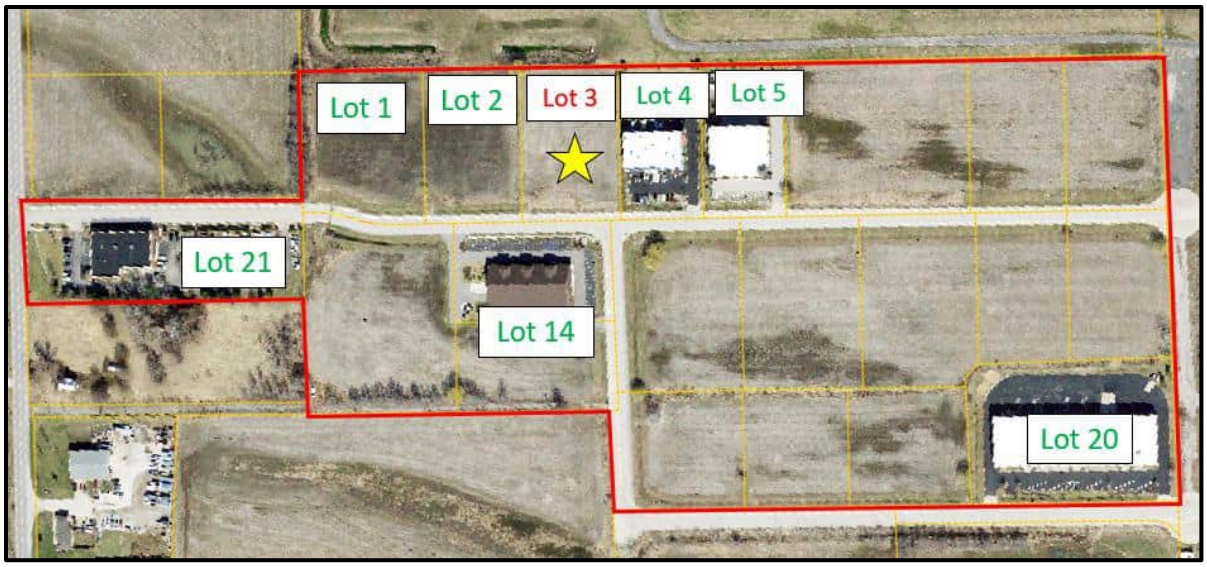

Figure 2: Approved buildings (Wings)

B. Circulation System & Access

Vehicular access to the site is gained via one (1) curb cut from Wings Corporate Dr., located on the eastern end of the property. The internal drive connects both north and south parking areas and the loading area located on the north side of the building.

Pedestrian pathways are provided from each parking area to the building with an additional walkway connecting the front and rear of the building on the site's western edge. The Site Development Concept Plan for the Wings Corporate Estates subdivision was approved with no sidewalks shown on the north side of Wings Corporate Drive. Therefore, no sidewalk is required along the frontage of this site. A charging station will be placed in the parking lot just north of the building to accommodate electric vehicles.

Figure 3: Site Plan

C. Topography & Parking

Topography is generally flat with almost no vegetation on site. Parking for this use is split between two (2) areas located north and south of the building. Loading spaces are located on the north side of the building as well. The amount of parking exceeds the maximum allowed by code. As such, the applicant will submit a request for Modification of Parking Standards prior to Planning Commission approval. The applicant is currently working through this process with city staff.

D. Retaining Walls

The plan depicts a retaining wall as part of the bio-retention area along the northern property line. The wall will reach 5'0" in height and is comprised of interlocking blocks.

E. Scale

As noted before, the scale of the 68,119 sq. ft. building is similar in scale to the surrounding lots. The building is set back from the front property line and located in the center of the lot, which will have a 0.18 Floor-Area Ratio (FAR), well below the maximum of 0.55. The footprint of the building and parking area still allow for 39% of open space to be maintained, which complies with the minimum requirement of 30%.

F. Design, Materials, & Colors

The building features a two-story design with pedestrian scale, reaching 32'10" in height, including a second-story terrace on the south and east elevations and floor-to-ceiling windows at the ground level. Raised atrium skylight windows rise above the second floor at the top of the building as well. The material palette includes a blend of dark colored thin brick veneer at the base of the building, with black composite metal paneling and curtain wall

glazing also featured on the first floor. Around the back of the building, the east and north elevations feature grey fiber cement paneling. Vertical perforated clear anodize aluminum tubes appear in front of black glazing on the south elevation of the building. On the second floor, curtain wall glazing breaks up the massing of fiber cement paneling around the building and the terrace will utilize a cable-railing system. Glazing and black metal paneling cap off the second-floor skylight. Rooftop enclosures made of perforated and corrugated metal are located on the east and west sides of the building's roof. The building's pedestrian entrances will feature black aluminum storefront doors while the overhead doors on the north elevation will be made of steel.

Figure 4: South Elevation

Figure 5: East Elevation

The 6'8"-tall enclosure located in the northwest corner of the property will use the same brick veneer found on the building, with CMU construction beneath. The gates will be comprised of natural-colored corrugated steel to match the rooftop enclosures. A separate gate will allow for equipment such as forklifts to be stored in the enclosure as well.

Pedestrian walkways will be made of concrete, brick pavers and flagstone with gravel along the pathway west of the building.

G. Landscape Design & Screening

The Landscape Plan features a variety of deciduous, evergreen and ornamental plantings throughout the site. No landscape buffer is required for this site, which is consistent with the surrounding lots. All plantings comply with the Unified Development Code.

H. Lighting

The Lighting Plan depicts several types of lighting to be used for this site, including parking standards, bollards, wall-packs, up-lighting, and track lighting. Fixtures S4, S6 and S7 are not considered flat-lensed and fully shielded, and will require approval from Planning Commission in conjunction with this request. Fixture S8 was included in the packet. However, this is considered signage and as such will not be reviewed with this request as this will be reviewed by a separate process.

Figure 6: Lighting Fixtures

I. Specific Requirements for Chesterfield Valley

The UDC also provides specific criteria for development in the valley. Pertinent to this project, the following criteria apply:

- Utilize architectural elements from the front facade on the side and rear of the structure.
- Screen trash enclosures and construct with materials consistent to the building.
- Screen loading areas and construct with material consistent to the building.

SOUTH ELEVATION RENDERINGS

DEPARTMENTAL INPUT

Be advised, this project is still going through development review by City Staff and will not proceed to the Planning Commission until all outstanding items have been addressed. All recommendations made by the ARB will be included in Staff's report to the Planning Commission. Staff requests review and recommendation on the Site Development Section Plan for Wings Corporate Estates, Lot 3.

MOTION

The following options are provided to the Architectural Review Board for consideration relative to this application:

1) "I move to forward the Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations, and Architect's Statement of Design for Wings Corporate Estates, Lot 3, as presented, with a recommendation for approval (or denial) to the Planning Commission."

2) "I move to forward the Site Development Section Plan, Landscape Plan, Lighting Plan, Architectural Elevations, and Architect's Statement of Design for Wings Corporate Estates, Lot 3, to the Planning Commission with the following recommendations…"

Attachments

1. Architectural Review Packet Submittal

5/13/2022

KNOEBEL CONSTRUCTION, INC.

ARCHITECTURAL REVIEW BOARD PACKAGE

Resubmittal May 26, 2022

NEW CORPORATE OFFICE BULDING

SAINT LOUIS, MO

“Your fully integrated Architectural and Egineering design team”

FACET
ARCHITECTURAL DESIGN

CD COMPANIES

CASCO CIVIL

CASCO

R5

ME1

TABLE OF CONTENTS

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St. Louis, MO 63143

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ARCHITECTURAL STATEMENT OF DESIGN

Our design for the new Knoebel Construction Corporate Headquarters project, located at 18333 Wings Corporate Drive, seeks to provide a functional, comfortable, and inspiring office home for the Knoebel staff and brand, simultaneously consolidating and expanding existing functions to accommodate business growth, in an architecturally dynamic setting that continuously showcases the skills, talents, and ambitions of the impressive Knoebel team of builders and professionals. The architectural design strategy developed from several early conversations with Knoebel company ownership, regarding their desires and vision for the new facility, and how it would help define and reinforce the company identity internally, on the site, in the neighborhood, the Chesterfield area, and the larger region.

A key factor in the client's decision to remain on Wings Corporate Drive, and to build a new facility immediately adjacent to their existing home, is the nearby Spirit of St Louis airport, and more specifically, the occasional air shows held at the field. Knoebel's owner, Matt Mabie, told the design team about the fantastic staff and client gatherings he schedules to coincide with the airshows, and he challenged us to respond with a design that could enhance that experience year-round. This concept coincided with his desire to provide programmed outdoor spaces for relaxation and recreation, and to provide an enhanced experience overall, inside and out. The aesthetics of aviation- planes and airports both- also provided key inspiration.

The aviation influences can be found throughout the design, most notably in the dramatic central atrium space and structure. The glazed atrium connects both floors of the building, touching the ground prominently and signifying entry at the front doors, and gesturing skyward towards the street frontage and the flight paths of the arriving and departing aircraft. The generous second-floor outdoor terrace also faces the street and the runways, and is intended to provide an excellent viewing platform for gatherings large and small, enjoying the sky shows.

Many factors were considered while siting the new building, including- locations of surrounding context structures; required car and delivery circulation on site; safe and pleasant pedestrian pathways to the main entrance and around the site; convenient, efficient and visually pleasing parking areas; preservation of greenspace for plantings and curated landscape elements; and the provision of multi-function outdoor public space for staff recreation and gatherings. The bulk of the employee parking is located at the rear of the site, behind the building, connected to the front-side visitor and ADA parking by a single paved lane that also serves as the route for delivery vehicles to the dock doors in back. The winding path to the front door passes through a carefully designed landscape with both perennial and annual plantings, rock and pebble gardens, and a quietly illuminated water feature. The employee parking in back is connected to the main and secondary entrances with dedicated paved pathways. The front façade of the new building and the visitor/ADA parking in front line up with the existing adjacent Knoebel HQ building, respect all setback requirements, and provide a continuous street presence.

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Landscape forms and plantings of various shapes, sizes, and colors have been grouped and positioned to soften and screen vehicular parking areas, to help guide and direct pedestrian circulation around the building, and to provide visual interest to a relatively flat property. The plants and other landscape materials such as pebbles and pavers have been chosen for colors and textures that respond to the building's materials and formal language.

The scale of the new building responds sympathetically to the few surrounding context structures, all of which appear to be two-story designs as well, including the existing Knoebel HQ facility next door. The height of the overall building conforms to code requirements, with the main second-story parapet held as low as the functional floor-to-floor needs will facilitate, allowing the atrium roof profile and clerestory glazing to feature as the prominent visual element from all viewing angles. Roof top HVAC units have been sized in favor of 'more and smaller', both to minimize visual impact and for improved interior zone functions, and will be attractively screened with perforated/corrugated metal panels on all sides, including those facing the atrium glazing. The massing strategy for the project included the necessity of integrating the RTUs and screening from the onset, recognizing that this consideration should never be an afterthought.

Another key design imperative transmitted to the team from the client was the need to provide increased and better-considered articulation to the building massing, scale, and façade compositions, in contrast to the 'flat' appearance of the tilt-up panels defining their current home. To this end, the team has designed and considered all of the building facades with equal care, each responding to its particular functional needs (entry, loading, exterior views, etc), and each making the most of the opportunities for expression the site and functional prerequisites provide. Each face of the building is articulated with a unique composition of protruding and receding elements, generally consisting of expressed glazed spaces, often enclosing areas of 'public' use, like conference rooms etc. The main south-facing frontage in particular projects a welcoming and engaging presence to the street, including the second-floor exterior terrace, the torqued conference room volume, the glazed first floor staff gathering area corner, and the artistic building-illumination installation defining the main entry procession path. Though predominantly selected to be clear and unobtrusive, the extensive glazing systems have been specified with a range of differential features, including expressed vs. concealed mullions, framed vs. 'framing' apertures, and digitally printed frit patterns where needed to minimize glare and solar heat gain.

The extensive glazed areas are offset by efficient, expressive, and attractive masonry rain-screen façade systems on all four elevations, in roughly equal and purposefully distributed areas of thin-brick masonry and fiber-cement panels. The factory precise and significantly lighter-per-square-foot rain screen façade systems help make the building's structural system more efficient for gravity and seismic loading, and represent a lesser burden of embodied energy. The design of the fiber cement panel patten is highly articulated, provides a high-degree of visual interest, and is featured prominently on the main entrance monolith element, and along the drive aisle at the east side of the site. Composite metal panels act as the interstitial connector at instances of

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material and volumetric intersection, and enclose and define many structural and massing edge lines.

Rather than conceal the primary structural elements as is typically done, the design team decided to express the steel columns, beams, and joists where possible, including outside the envelope at the exterior terrace, to emphasize the skill and capacity of the resident general contracting team. These expressed structural elements help to bound and define the character of the spaces where they are visible, and also provide opportunities to integrate and conceal some necessary services, including light sources etc. The rhythm of the structural elements also helps introduce a clear and legible visual order to the overall massing and various components of the plan and facades.

As previously stated, the design for the new Knoebel Construction headquarters seeks to provide an exciting, efficient, attractive, and comfortable new home for the growing number of staff, and an inspirational and unique experience for visitors and customers. We believe that our design is sensitive to and respectful of the local context and sets a new precedent for quality for future development nearby.

Thank you for your time and consideration.

Sincerely,

Carl P. Karlen, AIA
Design Principal

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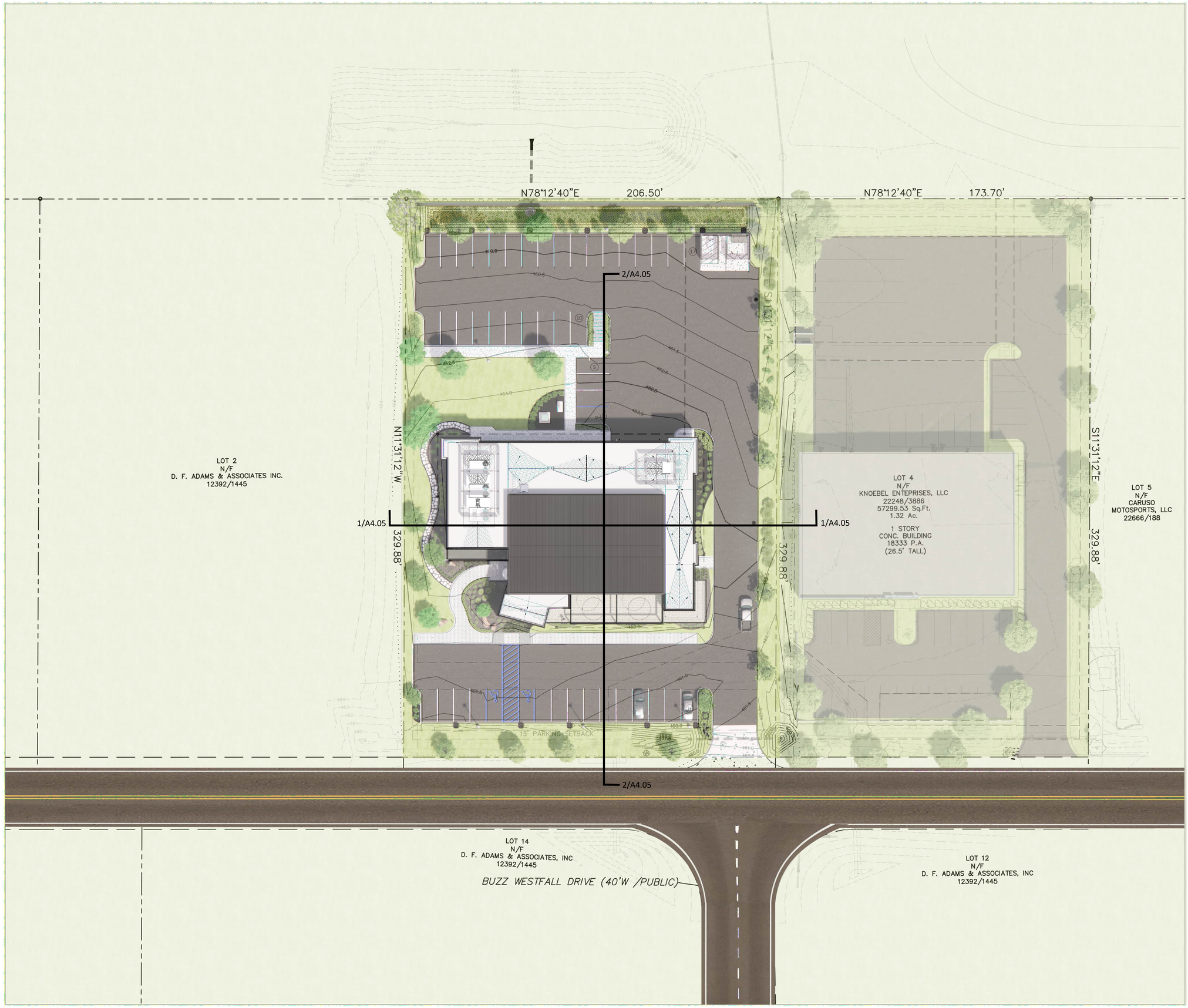
SECTION 1 | CIVIL & LANDSCAPE

CASCO CIVIL



0 10' 20' 40'
SCALE: 1" = 20'

PARKING ANALYSIS

PARKING SPACES REQUIRED:

3.3 SPACES/1,000 SF OFFICE SPACE

SF OFFICE SPACE= 8,607 TOTAL
8,607/1,000 SF X 3.3 SPACES
= 29 (28.4) SPACES REQUIRED

PARKING SPACES PROVIDED:

44 STANDARD SPACES (9'X19')
\+ 3 ADA ACCESSIBLE SPACES
= 47 TOTAL SPACES PROVIDED

DEVELOPMENT ANALYSIS

OPEN SPACE REQUIRED

30% OF SITE (1.56 ACRES)
30% OF 1.56 ACRES = 0.47 ACRES

OPEN SPACE PROVIDED = 0.61 ACRES (39.1%)

PROPOSED DEVELOPMENT DENSITY

37,465 SF ALLOWED @ 55% FAR
21,340 SF ACTUAL @ 31.3% FAR

CASCO CIVIL
A CASCO Diversified Corporation Company
12 Summit Drive, Suite 100, St. Louis, MO 63146 T: 314.821.1300

OWNER
KNOEBEL CONSTRUCTION, INC
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005
(888) 828-4328

CIVIL ENGINEER
CASCO CIVIL
12 SUMMIT DR., STE. 100
ST. LOUIS, MO 63146
(314) 821-1300

ARCHITECT
FACET ARCHITECTURAL DESIGN
12 SUMMIT DR., STE. 100
ST. LOUIS, MO 63146
(314) 821-1300

STRUCTURAL ENGINEER
TBD
12 SUMMIT DR., STE. 100
ST. LOUIS, MO 63146
(314) 821-1300

MECHANICAL, ELECTRICAL & PLUMBING ENGINEER
TBD
12 SUMMIT DR., STE. 100
ST. LOUIS, MO 63146
(314) 821-1300

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

CONSTR. DOC. & REVISIONS

No.	Description	Date

CASCO DIVERSIFIED CORPORATION
ENGINEERING
Registration No.: 000613
Expiration Date: 12/31/23

STATE OF MISSOURI
CONNOR M. ENDRES
NUMBER PE-2020034914
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD
Connor M. Endres
License NO. PE-2020034914
Expiration Date 12/31/22

Drawn/Checked	CME/ALA
Project Number	2100720
Bid Date	--/--/--
Permit Date	4/29/22
For Construction	--/--/--

Site Plan

C1.0

DATE: 05-13-2022
22MSD-00182 / MSD BASE MAP 17U

PM 4/29/22 11:49:45 AM

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

WINGS CORPORATE ESTATES, LOT 3 - SITE DEVELOPMENT SECTION PLAN

RECORDED IN PLAT BOOK 356 PAGES 79 THROUGH 81, IN U.S. SURVEYS 363 AND 133, TOWNSHIP 45
NORTH-RANGE 3 EAST, ST. LOUIS COUNTY, MISSOURI

TABLE OF ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS USED

AI	AREA INLET	N	NORTH
ASPH	ASPHALT	NE	NORTHEAST
ATG	ADJUST TO GRADE	NW	NORTHWEST
BB	BOTTOM OF BANK ELEVATION	PB	PLAT BOOK
BC	BOTTOM OF CURB ELEVATION	PERM	PERMANENT
BFP	BACKFLOW PREVENTER	PG	PAGE
BLDG	BUILDING	PGS	PAGES
BM	BENCHMARK	PL	PROPERTY LINE
BOT	BOTTOM	PR	PROPOSED
BS	BOTTOM OF SLOPE ELEVATION	PVC	POLYVINYL CHLORIDE
BW	BOTTOM OF WALL ELEVATION	PVMT	PAVEMENT
CI	CURB INLET	R	RADIUS
CL	CENTER LINE	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	REC	RECORD
CO	CLEAN OUT	(R)	RECORD
CONC	CONCRETE	ROW	RIGHT OF WAY
DB	DEED BOOK	R/W	RIGHT OF WAY
DIP	DUCTILE IRON PIPE	S	SOUTH
DS	DOWNSPOUT	(S)	SURVEY
E	EAST	SE	SOUTHEAST
ELEV	ELEVATION	SF	SQUARE FEET
EM	ELECTRIC METER	SURV	SURVEY
EOP	EDGE OF PAVEMENT	SW	SOUTHWEST
ESMT	EASEMENT	T	TRANSFORMER
EX	EXISTING	TBR	TO BE REMOVED
FDC	FIRE DEPARTMENT CONNECTION	TB	TOP OF BANK ELEVATION
FF	FINISHED FLOOR ELEVATION	TC	TOP OF CURB ELEVATION
FL	FLOW LINE ELEVATION	TFP	TRANSFORMER PAD
FO	FIBER OPTIC	TS	TOP OF SLOPE ELEVATION
GEN	GENERATOR	TW	TOP OF WALL ELEVATION
GTI	GRATE TOP INLET	TYP	TYPICAL
GM	GAS METER	UGFO	UNDERGROUND FIBER OPTIC LINE
GV	GAS VALVE	UIP	USE IN PLACE
HC	HANDICAPPED	VCP	VITRIFIED CLAY PIPE
HHE	ELECTRIC HAND HOLE	W	WEST
HHTS	TRAFFIC SIGNAL HAND HOLE	WM	WATER METER
HHSL	SIGNAL LIGHT HAND HOLE	WV	WATER VALVE
IRR	IRRIGATION		
ICVR	IRRIGATION CONTROL VALVE RECLAIMED		
MAX	MAXIMUM		
MH	MANHOLE		
MIN	MINIMUM		
MSD	METROPOLITAN ST. LOUIS SEWER DISTRICT		

GENERAL NOTES

1. THE SITEWORK ON THIS PROJECT SHALL MEET OR EXCEED ALL STANDARDS AND SPECIFICATIONS REQUIRED BY THE CITY OF CHESTERFIELD.
2. CASCO DIVERSIFIED CORPORATION HAS NOT PERFORMED ANY INVESTIGATION REGARDING UNDERGROUND CONDITIONS, HAZARDOUS WASTES, OR UTILITIES AFFECTING THE SITE SHOWN HEREIN.
3. ALL DIMENSIONS ARE FROM THE FACE OF CURB UNLESS OTHERWISE NOTED.
4. ALL DISTURBED AREAS OUTSIDE OF PAVEMENT AND BUILDING PAD AREAS SHALL RECEIVE 4" OF SUITABLE TOPSOIL. CONTRACTOR SHALL SEED, MULCH, FERTILIZE AND MAINTAIN ALL DISTURBED AREAS OUTSIDE OF PAVEMENT UNTIL SUFFICIENT VEGETATIVE GROWTH HAS BEEN ESTABLISHED PER THE SWPPP. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS REQUIRED TO ESTABLISH PERMANENT SOIL STABILIZATION.
5. ALL SURVEY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A LICENSED PROFESSIONAL SURVEYOR IN THE STATE OF MISSOURI AT THE CONTRACTOR'S OWN EXPENSE.
6. ALL TRENCHES EXCAVATED UNDERNEATH AREAS TO BE PAVED SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL AND COMPACTED TO MEET REQUIREMENTS OF THE GEOTECHNICAL REPORT AND CITY OF CHESTERFIELD REQUIREMENTS.
7. CONTRACTOR SHALL INSTALL ALL UNDERGROUND PIPING AND CONDUITS PER THE REQUIREMENTS OF THE RESPECTIVE MANUFACTURERS AND THE CITY OF CHESTERFIELD.
8. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, NEITHER THE OWNER NOR THE ENGINEER WILL BE RESPONSIBLE FOR COMPLIANCE WITH ALL LOCAL, STATE, AND FEDERAL SAFETY MEASURES AND REGULATIONS. CONTRACTOR SHALL COMPLY WITH ALL OSHA REGULATIONS AND SAFETY MEETING REQUIREMENTS. THE CONTRACTOR SHALL BE COMPLETELY AND SOLELY RESPONSIBLE FOR JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PROPERTY AND PERSONS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, MAINTAINING, AND IMPLEMENTING ALL SAFETY DEVICES AND PRACTICES DURING CONSTRUCTION.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PUBLIC AND PRIVATE PROPERTY ADJACENT TO THE WORK. CONTRACTOR SHALL EXERCISE DUE CARE AND CAUTION TO AVOID DAMAGE TO SUCH PROPERTY. CONTRACTOR SHALL REPLACE OR RESTORE TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL CONDITION AT THE CONTRACTOR'S OWN EXPENSE, ALL IMPROVEMENTS WITHIN OR ADJACENT TO THE AREA OF WORK WHICH ARE NOT DESIGNATED FOR REMOVAL OR ADJUSTMENT AND WHICH ARE DAMAGED OR REMOVED AS A RESULT OF THE CONTRACTOR'S ACTIONS.
10. CONTRACTOR SHALL CONTINUALLY MONITOR JOB SITE CONDITIONS. CONDITIONS REQUIRING CONSTRUCTION DIFFERENT THAN THAT SHOWN ON ON THE PLANS SHALL BE REPORTED TO THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING PRESENCE AND LOCATIONS (VERTICALLY AND HORIZONTALLY) OF ALL UTILITIES. IN NO WAY DOES THE ENGINEER OR THE OWNER SUGGEST, IMPLY, OR CONFIRM THAT UTILITIES SHOWN ARE INCLUSIVE OF ALL UTILITIES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING IN PLACE ALL UTILITIES. ANY DAMAGE OR LOSS TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. SHOULD ANY DAMAGE OCCUR AS A RESULT OF THE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REPLACE OR REPAIR THE DAMAGES TO THE FULL SATISFACTION OF THE UTILITY OWNER AT THE CONTRACTOR'S OWN EXPENSE. THE CONTRACTOR SHALL AGREE TO DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER AND THE ENGINEER FROM ANY AND ALL DAMAGES OR LOSS.
12. UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS, AND INFORMATION, AND THEREFORE, DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, NUMBER OF, OR LOCATION OF THESE FACILITIES, STRUCTURES, AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION, OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.
13. ALL PROPOSED UTILITIES ARE TO BE LOCATED UNDERGROUND.
14. ANY GROUND-MOUNTED ELECTRICAL BOXES MUST BE ADEQUATELY SCREENED FROM VIEW. SEE LANDSCAPING PLAN FOR ANY SCREENING BY VEGETATION.

CONSTRUCTION NOTES

GRADING:
1. ALL CONTOURS SHOWN ON THESE PLANS ARE BASED ON U.S.G.S. DATA.
2. ALL GRADING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OFCHESTERFIELD.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE THE GRADE TO THE DESIGN ELEVATIONS.
4. NO SLOPES SHALL BE GRADED STEEPER THAN 3:1 (HORIZONTAL : VERTICAL), AND SHALL BE SEEDED AND MULCHED.
5. ONLY THE DESIGNATED CONSTRUCTION ACCESS ROUTE MAY BE USED TO MOVE EQUIPMENT IN AND OUT. NO OTHER ACCESS POINT WILL BE PERMITTED.
6. ALL SILTATION MEASURES MUST BE IN PLACE BEFORE ANY OPERATIONS THAT DISTURB THE NATURAL GRADE COMMENCES. THIS INCLUDES GRUBBING OR STUMP REMOVAL. THE CITY OF CHESTERFIELD SHALL BE NOTIFIED UPON COMPLETION OF ALL SILTATION AND EROSION FACILITIES AND SHALL INSPECT AND APPROVE SUCH FACILITIES PRIOR TO THE COMMENCEMENT OF ANY CLEARING OR GRADING ACTIVITIES.
7. SILTATION AND CONTROL FACILITIES MUST BE MAINTAINED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. THIS INCLUDES REMOVAL OF MUD FROM SILTATION BASINS AND REPLACEMENT OF CITY OF CHESTERFIELD APPROVED EROSION CONTROL DEVICES. MUD SHALL NOT BE PERMITTED TO MIGRATE OFF THE SITE. DAMAGE OR FAILURE OF SILTATION AND EROSION CONTROL FACILITIES SHALL BE REPAIRED. DAMAGE OR FAILURE OF SILTATION AND EROSION CONTROL FACILITIES SHALL BE REPAIRED IMMEDIATELY BUT NOT LONGER THAN 24 HOURS AFTER NOTIFICATION. IF PROPOSED MEASURES FAIL TO ADEQUATELY PROTECT THE ADJOINING PROPERTY ADDITIONAL FACILITIES SHALL BE INSTALLED AS DIRECTED.
8. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY THE CONTRACTOR TO PROTECT OFF-SITE PROPERTY FROM EROSION OR SILTATION. THE ENGINEER SHALL NOT BE LIABLE FOR DAMAGE CAUSED BY EROSION OR SILTATION DUE TO DEFECTIVE SILTATION CONTROL DEVICES.
9. MUD WILL NOT BE PERMITTED TO BE CARRIED OFF SITE ONTO PUBLIC STREETS. A TEMPORARY WASH FACILITY SHALL BE PROVIDED TO REMOVE MUD FROM VEHICLE TIRES BEFORE ENTERING THE PUBLIC STREETS.
10. MEASURES SHALL BE TAKEN TO CONTROL DUST AS NECESSARY.
11. IT SHALL BE THE GRADING CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE SOILS ENGINEER OF WORK IN PROGRESS AND TO COMPLY WITH SPECIFICATIONS SET BY THE SOILS ENGINEER WITH REGARD TO COMPACTION, SURFACE PREPARATION AND PLACEMENT OF FILL.
12. ALL STUMPS, LIMBS, AND OTHER DEBRIS ARE TO BE REMOVED FROM THE SITE.
13. ALL DRAINAGE SWALES SHALL BE SODDED.
14. ALL FILL AREAS, INCLUDING TRENCH BACKFILLS, UNDER BUILDINGS, PROPOSED STORM AND SANITARY SEWER LINES, PUBLIC RIGHT OF WAY AND PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHO T-180 COMPACTION TEST", (A.S.T.M. D- 1557) UNLESS OTHERWISE REQUIRED IN THE SOILS REPORT FOR THIS PROJECT.

MSD NOTES

STANDARD CONSTRUCTION:
ALL STORM AND SANITARY SEWER STRUCTURES AND APPURTENANCES TO BE DEDICATED TO MSD, OR TO BE PRIVATE UNDER MSD INSPECTION, SHALL CONFORM TO THE METROPOLITAN ST. LOUIS SEWER DISTRICT, STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES, 2009. THAT WILL INCLUDE STANDARD DETAILS SHOWN THEREIN, AND SHALL INCLUDE ALL SUBSEQUENT CHANGES MADE THERETO.

SOME RECENT CHANGES CONCERN PIPE FIELD TESTING AND PERFORMANCE, AND INCLUDE THE FOLLOWING:

PART 4 – PIPE SEWER CONSTRUCTION
SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING – DELETE THE FIRST SENTENCE AND THE FOLLOWING REPLACEMENT APPLIES:
ALL SANITARY AND COMBINED SEWERS SHALL SUSTAIN A MAXIMUM LEAKAGE LIMIT OF 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.
SECTION B, PIPE FIELD TESTS, PARAGRAPH 2, REACH INTEGRITY TESTING, SUBPARAGRAPH C, INFILTRATION/EXFILTRATION TESTING – DELETE THE SIXTH SENTENCE, CONCERNING LEAKAGE LIMITS, AND THE FOLLOWING REPLACEMENT APPLIES:
THE MEASUREMENTS OF LEAKAGE SHALL NOT EXCEED 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY, AS REQUIRED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATIONS.
SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH A, VACUUM TESTING – AFTER THE FIRST SENTENCE, THE FOLLOWING ADDITION APPLIES:
THE VACUUM TEST MUST BE PERFORMED PRIOR TO BACK FILLING AROUND THE MANHOLE UNLESS THE CONTRACTOR PROVIDED DOCUMENTATION FROM THE PRECAST MANHOLE MANUFACTURER STATING THAT THE MANHOLE MAY BE VACUUM TESTED AFTER BACK FILLING HAS TAKEN PLACE. THE CONTRACTOR MUST SUBMIT THIS DOCUMENTATION PRIOR TO BACK FILLING AROUND ANY MANHOLE.
SECTION B, PIPE FIELD TESTS, PARAGRAPH 4, MANHOLE TESTING, SUBPARAGRAPH b, EXFILTRATION TESTING – DELETE THE SECOND SENTENCE, CONCERNING LEAKAGE LIMITS AND THE FOLLOWING ADDITION APPLIES:
FOR EXFILTRATION TESTING THE ALLOWABLE LEAKAGE LIMIT IS 100 GALLONS/INCH OF PIPE DIAMETER/MILE OF LINE/DAY WHEN THE AVERAGE HEAD ON THE TEST SECTION IS THREE FEET (3') OR LESS.

IF REINFORCED CONCRETE PIPE IS USED FOR SANITARY OR COMBINED SEWERS LARGER THAN 27", ALL PIPE AND JOINTS SHALL CONFORM TO ASTM C 361. IN ADDITION, IF THE DIAMETER IS LARGER THAN 48", THE JOINT TYPE MUST INCLUDE A GASKET THAT IS CONFINED IN A GROOVE IN THE SPIGOT OF THE PIPE.

ST. LOUIS COUNTY NOTES

1. ALL PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED TO ST. LOUIS COUNTY STANDARDS
2. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH ST. LOUIS COUNTY AND MSD STANDARDS
3. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
4. ALL PROPOSED ACCESS TO ST. LOUIS COUNTY ROADS FOR NEW DEVELOPMENT SHALL MEET MINIMUM ST. LOUIS COUNTY SIGHT DISTANCE REQUIREMENTS.
5. ANY ENTITY THAT PERFORMS WORK ON ST. LOUIS COUNTY MAINTAINED PROPERTY SHALL PROVIDE THE COUNTY WITH A CERTIFICATE OF INSURANCE EVIDENCING GENERAL LIABILITY COVERAGE (BODILY INJURY AND PROPERTY DAMAGE) IN THE AMOUNTS SPECIFIED AS THE LIMITS OF LIABILITY SET BY THE STATE FOR PUBLIC ENTITIES. SUCH CERTIFICATE SHALL INCLUDE "ST. LOUIS COUNTY" AS AN ADDITIONAL INSURED AND SHALL BE PROVIDED PRIOR TO THE ISSUANCE OF ANY PERMIT. CERTIFICATE SHALL PROVIDE FOR A 30 DAY POLICY CANCELLATION NOTICE TO ST. LOUIS COUNTY. UPON REQUEST, THE COUNTY WILL PROVIDE THE SPECIFIC AMOUNTS FOR BOTH PER PERSON AND PER OCCURRENCE LIMITS.
6. ALL ABOVE-GROUND UTILITIES OR OTHER POTENTIAL OBSTRUCTIONS WITHIN THE ST. LOUIS COUNTY ROAD RIGHT-OF-WAY, SHALL HAVE A MINIMUM SETBACK, AS DIRECTED BY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION, AS PRESCRIBED IN SECTION 5.10 OF THE ST. LOUIS COUNTY DESIGN CRITERIA MANUAL "ROADSIDE DESIGN REQUIREMENTS".
7. NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL) WITHIN ST. LOUIS COUNTY RIGHT-OF-WAY UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT, WHICH HAS BEEN APPROVED BY ST. LOUIS COUNTY, AND DESIGNED IN FULL COMPLIANCE WITH ROADSIDE SAFETY STANDARDS.
8. PRIOR TO "SPECIAL USE PERMIT" ISSUANCE BY THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION, A SPECIAL CASH ESCROW OR SPECIAL ESCROW SUPPORTED BY AN IRREVOCABLE LETTER OF CREDIT, MAY BE REQUIRED TO BE ESTABLISHED WITH THE ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION TO GUARANTEE COMPLETION OF THE REQUIRED ROADWAY IMPROVEMENTS.
9. THE PERMIT PROCESS REQUIRES IMPROVEMENT PLAN SUBMITTAL TO THE DEPARTMENT OF TRANSPORTATION.

N (N.T.S.)

PERTINENT INFORMATION

PROPERTY ADDRESS:	LOT 3 – WINGS CORPORATE DRIVE
MUNICIPALITY:	CITY OF CHESTERFIELD
STATE:	MISSOURI
ZIP CODE:	63005
TOTAL SITE AREA:	1.560 ACRES (68,119 SF)
AREA OF DISTURBANCE:	1.469 ACRES (64,000 SF)
CURRENT ZONING:	P-I PLANNED INDUSTRIAL
INTENDED USE:	PLANNED INDUSTRIAL
LOCATOR NUMBER:	18W440078

SHEET INDEX

DIFFERENTIAL CALCULATIONS

PRE-DEVELOPMENT DIFFERENTIAL CALCULATION
15-YEAR FREQUENCY, 20-MINUTE TOC

DRAINAGE AREA	TOTAL AREA (sf)	TOTAL AREA (ac)	PERCENT IMPERVIOUS	P.I. FACTOR	Q_{15} (cfs)
GRASS	68,230	1.566	5%	1.70	2.66
TOTAL	68,230	1.566		SITE TOTAL =	2.66

POST-DEVELOPMENT DIFFERENTIAL CALCULATION
15-YEAR REQUENCY, 20-MINUTE TOC

DRAINAGE AREA	TOTAL AREA (sf)	TOTAL AREA (ac)	PERCENT IMPERVIOUS	P.I. FACTOR	Q_{15} (cfs)
ROOF(CONNECTED)	12,340	0.283	100%	4.20	1.19
PAVEMENT	30,680	0.704	100%	3.54	2.49
GRASS	25,210	0.579	5%	1.70	0.98
TOTAL	68,230	1.566		SITE TOTAL =	4.67

RUNOFF DIFFERENTIAL = 2.00

STORM WATER MANAGEMENT NOTES

PROJECT AREA OF DISTURBANCE = 1.56 ACRES
PROJECT RUNOFF DIFFERENTIAL = +2.00 CFS

WATER QUALITY IS REQUIRED. ANY FUTURE LAND DISTURBANCE AND/OR INCREASE IN IMPERVIOUS AREA ON THIS SITE MAY REQUIRE ADDITIONAL STORM WATER MANAGEMENT PER MSD REGULATIONS IN PLACE AT THIS TIME (INCLUDING TOTAL LAND DISTURBANCE AND/OR IMPERVIOUSNESS ADDED ON THESE PLANS).

THE CONTRACTOR SHALL STAY WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHENEVER POSSIBLE.

FLOOD ZONE NOTE

THIS PROPERTY IS LOCATED IN A ZONE X AND AN AREA WITH REDUCED FLOOD RISK DUE TO LEVEE PER NATIONAL FLOOD HAZARD LAYER FIRMETTE, MAP NO. 29189C0145K, DATED 2/4/2015.

LEGEND OF SYMBOLS

EXISTING		PROPOSED
	UTILITY POLE	
	GUY WIRE	
	WALL	
	TREE	
	TREE LINE	
	BUILDING	
T	TELEPHONE LINE	T
OHE	ELECTRIC LINE (OVERHEAD)	OHE
UGE	ELECTRIC LINE (UNDERGROUND)	UGE
FO	FIBER OPTIC CABLE	FO
W	WATER LINE	W
WM	WATER MAIN LINE	WM
G	GAS LINE	G
CA	CABLE LINE	CA
SAN	SANITARY LINE	SAN
	STORM LINE	
FM	FORCE MAIN	FM
	MANHOLE WITH STORM SEWER	
	GRATE INLET WITH STORM SEWER	
	AREA INLET WITH STORM SEWER	
	MANHOLE WITH SANITARY SEWER	
(S)	STORM STRUCTURE NUMBER	(S)
(S)	SANITARY STRUCTURE NUMBER	(S)
	LIGHT	
	FIRE DEPARTMENT CONNECTION	
	FIRE HYDRANT	
	GAS VALVE	
GM	GAS METER	GM
	CLEAN OUT	
	WATER VALVE	
WM	WATER METER	WM
EM	ELECTRIC METER	EM
565	CONTOUR	565
565.19	SPOT ELEVATION	565.19
TC 565.19	SPOT ELEVATION AT TOP OF CURB	TC 565.19
BC 565.19	SPOT ELEVATION AT BOTTOM OF CURB	BC 565.19
FL 565.19	SPOT ELEVATION AT FLOWLINE OF GUTTER	FL 565.19
TW 565.19	SPOT ELEVATION AT TOP OF WALL	TW 565.19
BW 565.19	SPOT ELEVATION AT BOTTOM OF WALL	BW 565.19
TB 565.19	SPOT ELEVATION AT TOP OF BANK	TB 565.19
BB 565.19	SPOT ELEVATION AT BOTTOM OF BANK	BB 565.19
	STREET SIGN	
	FENCE	

PROJECT CONTACTS

OWNER:
KNOEBEL ENTERPRISES, LLC
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005
MATTHEW MABE
(636) 326-4100

CIVIL ENGINEER:
CASCO CIVIL
12 SUNNEN DRIVE, SUITE 100
ST. LOUIS, MO 63144
CONNOR M. ENDRES, P.E.
(314) 821-1100
CONNOR.ENDRES@THECDCOMPANIES.COM

ELECTRIC:
AMEREN MISSOURI
9823 MACKENZIE ROAD
ST. LOUIS, MO 63123
(314) 992-9713

WATER:
MISSOURI AMERICAN WATER
727 CRAIG ROAD
ST. LOUIS, MO 63141
SUSAN MOYNIHAN
(314) 996-2306
SUE.MOYNIHAN@AMWATER.COM

COMMUNICATION:
SPECTRUM
(314) 493-4458

UTILITY LOCATES:
MISSOURI ONE-CALL SYSTEM, INC.
1-(800) 344-7483

SANITARY:
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103
ROBERT MILLER
(314) 335-2053
RAMILL@STLMD.COM

STORM:
MONARCH LEVEE DISTRICT
KAREN FREDERICH
(636) 849-4456
KSFREDERICH@HORNERSHIFRIN.COM

STORM:
METROPOLITAN ST. LOUIS SEWER DISTRICT
2350 MARKET STREET
ST. LOUIS, MO 63103
ROBERT MILLER
(314) 335-2053
RAMILL@STLMD.COM

COMMERCIAL GAS:
SPIRE ENERGY, INC.
700 MARKET STREET
ST. LOUIS, MO 63101
RAMONA STEVENS
(314) 573-4843
SARA.FURLOW@SPIREENERGY.COM

RESIDENTIAL GAS:
SPIRE ENERGY, INC.
700 MARKET STREET
ST. LOUIS, MO 63101
RAMONA STEVENS
(314) 573-4843
SARA.FURLOW@SPIREENERGY.COM

FIRE DEPARTMENT:
MONARCH FIRE PROTECTION DISTRICT
13725 OLIVE BLVD
CHESTERFIELD, MO 63107
NEIL BROCKMILLER
(317) 581-2281
BROCKMILLER.N@MONARCHFPD.ORG

SURVEY & CONTROL DATUM NOTE

THE TOPOGRAPHIC INFORMATION IN THIS PLAN SET IS BASED OFF AN ALTA/NSPS LAND TITLE SURVEY PROVIDED BY PICKETT RAY & SILVER CIVIL ENGINEERING & LAND SURVEYING ON JULY 20, 2021.

PUBLIC UTILITIES WERE LOCATED AND FLAGGED BY THE MISSOURI ONE CALL SYSTEM TICKET NUMBER 211793010. ALL GROUND MARKINGS WERE VERIFIED IN THE FIELD. THE

ACTUAL FIELD CONDITIONS ARE TO BE VERIFIED PRIOR TO COMMENCEMENT OF WORK.

THE PLAT FOR THIS SITE WAS PREPARED FROM ITEMS FURNISHED TO PICKETT, RAY & SILVER BY OLD REPUBLIC TITLE INSURANCE COMPANY, COMMITMENT NO. 2070021-02885, COMMITMENT DATE: 2/23/2021.

BASIS OF BEARING FOR THIS SURVEY IS THE MISSOURI GEOGRAPHIC REFERENCE SYSTEM, STATION ID: SLC-41
N = 313595.655 (M)
E = 234890.161 (M)
GRID FACTOR = 0.9999190

CONTRACTOR'S INSURANCE REQUIREMENTS

PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITTEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE RULE AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITIES. FEBRUARY 2006, SECTION 10.090.

CALL BEFORE YOU DIG – DRILL – BLAST
1-800-344-7483
MISSOURI ONE-CALL SYSTEM, INC.

CASCO CIVIL
A CASCO Diversified Corporation Company
12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T 314.821.1100

OWNER
KNOEBEL CONSTRUCTION, INC
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005
(636) 326-4100

CIVIL ENGINEER
CASCO CIVIL
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

ARCHITECT
FACET ARCHITECTURAL DESIGN
12 SUNNEN DR., STE. 100
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(314) 821-1100

STRUCTURAL ENGINEER
MEI
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

MECHANICAL, ELECTRICAL & PLUMBING ENGINEER
MEI
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

No.	Description	Date
	CONSTR. DOC. & REVISIONS	

CASCO DIVERSIFIED CORPORATION
ENGINEERING
Registration No.: 000613
Expiration Date: 12/31/23

STATE OF MISSOURI
CONNOR M. ENDRES
NUMBER 2020034914
PROFESSIONAL ENGINEER

PROFESSIONAL OF RECORD
Connor M. Endres
License NO. PE-2020034914
Expiration Date 12/31/22

Drawn/Checked	CME/ALA
Project Number	2100720
Bid Date	--/--/--
Permit Date	4/29/22
For Construction	--/--/--

Cover Sheet

C0.0

DATE: 05-26-2022

22MSD-00182 / MSD BASE MAP 17U

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING
18341 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

2/12/2021 11:41:19 AM

WATER QUALITY STORM WATER EFFLUENT TO EXISTING STORM WATER DETENTION TO THE NORTH OF SITE. DETENTION IS DESIGNED TO HANDLE ALL FLOW FROM LOT 3 PER WINGS CORPORATE ESTATES MASTER PLAN

12" FES TOP=454.79 FL IN=453.00

2 GRATE INLET TOP=458.60 FL IN=454.53 FL IN=454.53 FL OUT=453.41

40.66 LF 18" RCP

CLEANOUT TOP=458.60 FL IN=453.77 FL OUT=453.77

CLEANOUT TOP=458.60 FL IN=453.77 FL OUT=453.77

CLEANOUT TOP=458.60 FL OUT=453.77

END OF PIPE FL=457.60

CLEANOUT TOP=458.60 FL OUT=453.77

EX. STORM SEWER PIPE

TRASH CONTAINER CONCRETE PAD

SUPPLEMENTAL PROTECTION AREA (SPA)

GRAVEL ROAD

N78°12'40"E 206.50'

N78°12'40"E 173.70'

REDI-ROCK RETAINING WALL DESIGN BY OTHERS (MAX HEIGHT 3')

45.00 LF 4" PERF PVC

7 LF 4" PVC

106.32 LF 4" PERF PVC

7 LF 4" PVC

10' BUILDING SETBACK

LIGHT STANDARD (TYP.)

BIO-RETENTION BASIN

ENCLOSURE FOR DUMPSTER & FORKLIFT

8" BOLLARDS

DISTURBANCE LIMITS

ADA RAMP

ELECTRIC VEHICLE CHARGING STATION

ELECTRIC TRANSFORMER

PROPOSED ELECTRIC SERVICE LINE TO BUILDING

CLEAN OUT TOP=463.41 FL IN=458.88 FL OUT=458.88

137.08 LF 8" PVC

34.44 LF 8" PVC

10.65 LF 8" PVC

107.51 LF 8" PVC

81.85 LF 8" PVC

52.68 LF 18" RCP

LOT 2
N/F
D. F. ADAMS & ASSOCIATES INC.
12392/1445

STONE PATHWAY SEE LANDSCAPING PLAN

SUPPLEMENTAL PROTECTION AREA (SPA)

CLEAN OUT TOP=463.42 FL OUT=459.05

LOT 3
N/F
KNOEBEL ENTERPRISES, LLC
20300/3370
68119 Sq.Ft.
1.56 Ac.±

PROPOSED 2-STORY BUILDING 22,419 SF FFE 463.50

CLEAN OUT TOP=463.35 FL IN=458.19 FL IN=458.19 FL OUT=458.19

CLEAN OUT TOP=463.26 FL IN=458.24 FL OUT=458.24

CLEAN OUT TOP=462.51 FL IN=458.78 FL OUT=458.78

PROPOSED ELECTRICAL SERVICE LINE TO TRANSFORMER

CLEAN OUT TOP=463.50 FL OUT=459.19

ADA RAMPS

CONNECTION OF UNDERGROUND ELECTRIC SERVICE LINE TO ELECTRIC MAIN. (COORDINATE WITH AMEREN)

2" WATER SERVICE METER

15' PARKING SETBACK

N11°31'12"W 329.88'

S11°31'12"E 329.88'

DISTURBANCE LIMITS

CONNECT SANITARY SEWER SERVICE LINE TO EXISTING STUB

EX. 15" SANITARY SEWER 6" PVC STUB OFF OF 8" PVC SANITARY SEWER MAIN

EX. FIRE HYDRANT

EX. 8" PVC SANITARY SEWER MAIN

PROPOSED 6" PVC SANITARY SEWER SERVICE LINE @ 1% MIN

BMP RESERVE AREA 18127/1126

10' W ELEC. ESMT. 17901/227

LOT 4
N/F
KNOEBEL ENTERPRISES, LLC
22248/3886
57299.53 Sq.Ft.
1.32 Ac.

1 STORY CONC. BUILDING 18333 P.A. (26.5' TALL)

SANITARY SAMPLING MANHOLE

EX. FIRE HYDRANT

2" WATER SERVICE LINE

6" WATER FIRE LINE

PROPOSED GAS SERVICE LINE

EX. FIRE HYDRANT

BMP RESERVE AREA 18127/1121

10' W DRAINAGE ESMT.

LOT 5
N/F
CARUSO MOTOSPORTS, LLC
22666/188

10' W ROADWAY MAINTENANCE ESMT. 17459/2669

AMEREN/UE ESMT. 223/503

10' W ESMT. TO MISSOURI AMERICAN WATER CO. 16761/1994

EX. EOP

EX. ROADWAY LANE STRIPING

EX. 12" WATER MAIN

EX. FIRE HYDRANT

FREESTANDING SIGN

6" TAP & 6" VALVE TO CONNECT TO EX. 12" WATER MAIN

END OF PIPE FL=457.91

END OF PIPE FL OUT=458.19

CONNECTION OF GAS SERVICE LINE TO EX. GAS MAIN (LOCATION TO BE VERIFIED)

S78°12'40"W 206.50'

N78°12'40"E 173.70'

WINGS CORPORATE DRIVE (40' W./PUBLIC)

CONC. ROADWAY

LOT 14
N/F
D. F. ADAMS & ASSOCIATES, INC
12392/1445

BUZZ WESTFALL DRIVE (40'W /PUBLIC)

LOT 12
N/F
D. F. ADAMS & ASSOCIATES, INC
12392/1445

N

0 10' 20' 40'

SCALE: 1" = 20'

PAVEMENT LEGEND

LIGHT ASPHALT PAVEMENT	
MEDIUM ASPHALT PAVEMENT	
CONCRETE PAVEMENT	
CONCRETE TRASH PAD	
CONCRETE SIDEWALK	
PAVED SIDEWALK*	

* SEE ARCHITECTURAL FOR DETAILS

PARKING ANALYSIS

PARKING SPACES REQUIRED:

3.3 SPACES/1,000 SF OFFICE SPACE
2 SPACES/ 3 WAREHOUSE EMPLOYEES

SF OFFICE SPACE= 11,168 TOTAL
11,168/1,000 SF X 3.3 SPACES
= 37 (36.8) SPACES

6 WAREHOUSE EMPLOYEES = 4 SPACES

TOTAL REQUIRED = 41 SPACES

MAXIMUM SPACES ALLOWED:
= REQUIRED SPACES * 120%
= 41* 120% = 49 (49.2) SPACES

PARKING SPACES PROVIDED:

44 STANDARD SPACES (9'X19')
+ 3 ADA ACCESSIBLE SPACES
= 47 TOTAL SPACES PROVIDED

DEVELOPMENT ANALYSIS

OPEN SPACE REQUIRED

30% OF SITE (1.56 ACRES)
30% OF 1.56 ACRES = 0.47 ACRES

OPEN SPACE PROVIDED = 0.61 ACRES (39.1%)

PROPOSED DEVELOPMENT DENSITY

37,465 SF ALLOWED @ 55% FAR
12,297 SF ACTUAL @ 18% FAR

CASCO CIVIL
A CASCO Diversified Corporation Company
12 Sunnen Drive, Suite 100, St. Louis, MO 63143 T 314.821.1100

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

18341 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

OWNER
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ST. LOUIS, MO 63143
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CONSTR. DOC. & REVISIONS

No.	Description	Date

CASCO DIVERSIFIED CORPORATION
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STATE OF MISSOURI
CONNOR M. ENDRES
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Project Number	2100720
Bid Date	--/--/--
Permit Date	4/29/22
For Construction	--/--/--

Site Plan

C1.0

DATE: 05-26-2022
22MSD-00182 / MSD BASE MAP 17U

2/5/2022 11:43:13 AM

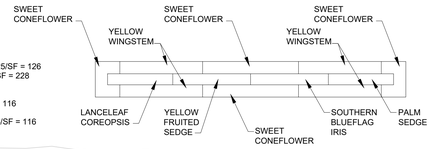
BIORETENTION BASIN DETAILS: BASED ON LANDSCAPE GUIDE FOR STORMWATER BEST MANAGEMENT PRACTICE DESIGN

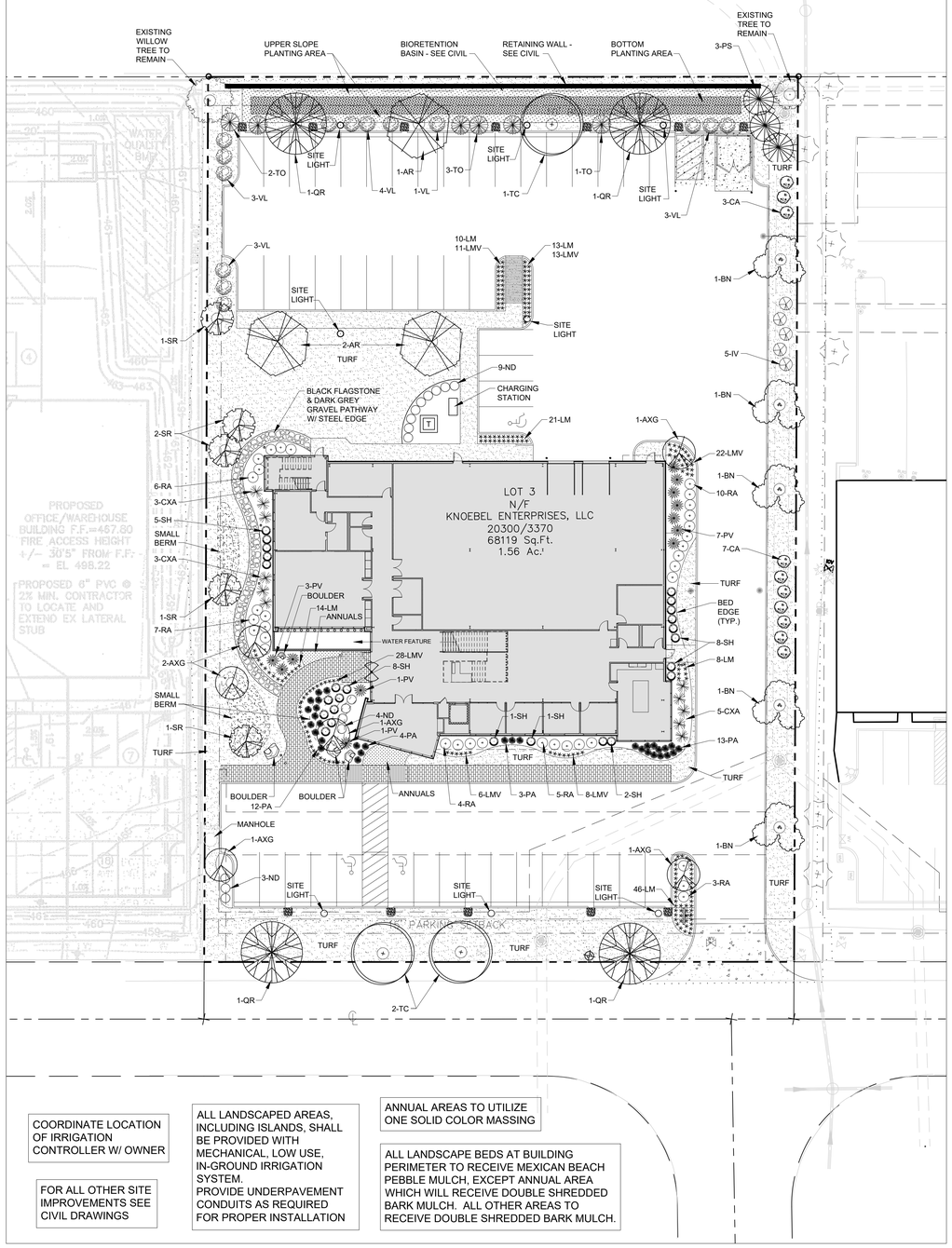
BIORETENTION PLANTING TO CONSIST OF
UPPER SLOPE AND BOTTOM PLANTINGS

UPPER SLOPE = 1014 SF OF PLANTING AREA
BOTTOM PLANTING = 1029 SF OF PLANTING AREA

UPPER SLOPE:
RUDBECKIA SUBTOMENTOSA / SWEET CONEFLOWER: 507 SF @ .25/SF = 126
VERBESINA HELIANTHOIDES / YELLOW WINGSTEM: 507 SF @ .45/SF = 228

BOTTOM PLANTING:
CAREX ANNECTANS / YELLOW FRUITED SEDGE: 257 SF @ .45/SF = 116
CAREX MUSKINGUMENSIS / PALM SEDGE: 257 SF @ .45/SF = 116
COREOPSIS LANCEOLATA / LANCELEAF COREOPSIS: 257 SF @ .45/SF = 116
IRIS VIRGINICA / SOUTHERN BLUEFLAG IRIS: 257 SF @ .25/SF = 64





COORDINATE LOCATION OF IRRIGATION CONTROLLER W/ OWNER

FOR ALL OTHER SITE IMPROVEMENTS SEE CIVIL DRAWINGS

ALL LANDSCAPED AREAS, INCLUDING ISLANDS, SHALL BE PROVIDED WITH MECHANICAL, LOW USE, IN-GROUND IRRIGATION SYSTEM.
PROVIDE UNDERPAVEMENT CONDUITS AS REQUIRED FOR PROPER INSTALLATION

ANNUAL AREAS TO UTILIZE ONE SOLID COLOR MASSING

ALL LANDSCAPE BEDS AT BUILDING PERIMETER TO RECEIVE MEXICAN BEACH PEBBLE MULCH, EXCEPT ANNUAL AREA WHICH WILL RECEIVE DOUBLE SHREDDED BARK MULCH. ALL OTHER AREAS TO RECEIVE DOUBLE SHREDDED BARK MULCH.

1 / L1.0 — LANDSCAPE PLAN
SCALE: 1"=20'-0"

(A) PROVIDE LAWN IRRIGATION SYSTEM CONSISTING OF MINI JETS, MISTERS, POP-UP RISERS, ADJUSTABLE BUBBLERS, ADJUSTABLE SPRAYERS, DRIPPER NOZZLES (EMITTERS), BACKFLOW PREVENTERS, AUTOMATIC CONTROL VALVES, TIMER, CONTROLLERS AND ALL RELATED ACCESSORIES FOR THE AREAS INDICATED ON THE DRAWINGS AND AS REQUIRED TO COMPLY WITH LOCAL CODES AND REGULATIONS. LAWN IRRIGATION CONTRACTOR SHALL PAY ALL ONE-TIME FEES AND CHARGES RELATED TO THIS WORK, INCLUDING WATER SUPPLY AND METERING. COORDINATE WITH THE WATER COMPANY AS REQUIRED FOR SERVICE ARRANGEMENTS. LAWN IRRIGATION CONTRACTOR SHALL PROVIDE ALL WORK, INCLUDING ALL POWER AND CONTROL WIRING, TESTING, ADJUSTING, AND START-UP AS REQUIRED FOR A COMPLETE, PROPERLY FUNCTIONING SYSTEM.

(B) IRRIGATION EQUIPMENT SHALL BE MANUFACTURED BY "RAINBIRD" "TORO", "HUNTER", "NETAFIM TECHNOLOGIES" OR OTHER EQUIVALENT APPROVED BY THE OWNER'S REPRESENTATIVE. INSTALLATION SHALL BE AS DESIGNED AND RECOMMENDED BY THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE AND SHALL BE PERFORMED BY A COMPANY SPECIALIZING AND EXPERIENCED IN THIS TYPE OF WORK.

(C) WATER SUPPLIES SHALL BE TAKEN FROM THE UNDERGROUND SITE WATER SUPPLY MAIN (WITH SEPARATE METERING) OR FROM THE BUILDINGS INTERNAL WATER SUPPLY (WITHOUT SEPARATE METERING) AS REQUIRED BY LOCAL CODES AND WATER COMPANY REGULATIONS. LAWN IRRIGATION CONTRACTOR SHALL PROVIDE ALL WORK AND PAY ONE-TIME FEES AND CHARGES ASSOCIATED WITH THE IRRIGATION SYSTEM WATER SUPPLY SERVICE. PROVIDE BACKFLOW PREVENTION AS REQUIRED TO COMPLY WITH LOCAL CODES.

(D) ALL CONTROL VALVES SHALL BE MANUFACTURED BY "RAINBIRD", "TORO", "HUNTER" OR "IRRITROL" AND SHALL BE INSTALLED IN CONCRETE, FIBERGLASS OR CAST IRON VALVE BOXES WITH HEAVY DUTY, VANDAL-PROOF COVERS. SET BOXES FLUSH WITH FINAL GRADES.

(E) EXCEPT AS OTHERWISE REQUIRED BY CODES, MAIN SUPPLY PIPING SHALL BE SCHEDULE 40 PVC WITH SOLVENT CEMENTED JOINTS, AND BRANCH PIPING SHALL BE SDR 26, CLASS 160, PVC 1120 AND/OR SECTION 15C AND/OR LOCAL CODES. THREADED ADAPTORS AND THREADED PIPE FOR PVC SHALL BE SCHEDULE 80, MINIMUM. SOLVENT FOR PVC JOINTS SHALL BE NSF APPROVED AND PER PIPE MANUFACTURER'S RECOMMENDATIONS. MINIMUM PIPE SIZE SHALL BE 1/2".

(F) THE IRRIGATION SYSTEM SHALL BE ZONED AS REQUIRED TO PROVIDE THE MOST ECONOMICAL LAYOUT AND PIPE SIZING. THE SYSTEM SHALL BE DESIGNED AND ZONED TO BE COMPATIBLE WITH A MINIMUM 1" WATER METER SIZE, UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.

(G) ALL VALVES AND QUICK COUPLERS SHALL BE LOCATED 12" MIN. FROM SIDEWALKS, CURBS, ASPHALT AREAS, CONCRETE PAVING, ETC. (SLOPES EXCLUDED). THE LAWN IRRIGATION CONTRACTOR SHALL INSTALL QUICK COUPLERS AT +/- 150 FEET O.C. THROUGHOUT THE ENTIRE PROJECT

(H) BACKFLOW PREVENTOR SHALL BE ONE OF THE FOLLOWING TYPES (AS REQUIRED BY CITY/MUNICIPALITY): REDUCED PRESSURE ZONE BREAKER ASSEMBLY, REDUCED PRESSURE TYPE VACUUM BREAKER ASSEMBLY OR AN INLINE ANTI-SIPHON VALVE BACKFLOW PREVENTER.

(I) ALL EXTERIOR WIRING SHALL BE DIRECT BURIAL CABLE OR SHALL BE IN SCHEDULE 40 PVC CONDUIT. MINIMUM WIRE SHALL BE 18 GAUGE FOR LOW VOLTAGE CONTROL WIRING WITH SIZE INCREASE FOR LONGER RUNS AS REQUIRED TO LIMIT VOLTAGE DROP FOR PROPER OPERATION. PROVIDE 120 VOLT POWER SUPPLY TO THE CONTROLLER. MOUNT CONTROLLER IN THE POWER ROOM OR LOCATION AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

(J) SLEEVES SHALL BE INSTALLED BY THE LAWN IRRIGATION CONTRACTOR. LAWN IRRIGATION CONTRACTOR SHALL COORDINATE LOCATIONS AND SIZE OF SLEEVES WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION OF WALKS, WALLS, CURBS, DRIVES, ETC. (WHERE AND IF REQUIRED)

(K) BACKFILL SHALL BE CLEAN MATERIALS FREE OF ROCKS LARGER THAN 2" AND SHALL BE COMPACTED TO PREVENT NOTICEABLE SETTLEMENT AND IRREGULARITIES.

(L) LAWN IRRIGATION CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND FREE OF EXCESS EQUIPMENT, MATERIALS AND RUBBISH INCIDENTAL TO THE JOB DURING THE INSTALLATION. UPON COMPLETION OF INSTALLATION AND BEFORE FINAL ACCEPTANCE, THE LAWN IRRIGATION CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT AND DEBRIS RESULTING FROM THIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

(M) IRRIGATION SYSTEM SHALL BE CLEANED DURING INSTALLATION BY FLUSHING ALL COMPONENTS BEFORE FINAL INSTALLATION TO ENSURE THAT NO DIRT/DEBRIS HAVE ENTERED THE SYSTEM. AFTER FLUSHING ALL PIPING SHALL BE PRESSURE TESTED UNTIL PROVEN LEAK-FREE. FLUSHING AND PRESSURE TESTING SHALL BE COORDINATED WITH INSTALLATION OF PLANTINGS TO PREVENT DAMAGE TO BOTH PLANTS AND PIPING SYSTEM.

(N) AFTER ALL SPRINKLER HEADS AND PLANTINGS ARE INSTALLED, ADJUST SYSTEM FOR OPTIMUM COVERAGE AND COORDINATION WITH PLANTINGS. ADJUST ALL VALVES, ALIGNMENTS, AND COVERGE FOR OPTIMUM PERFORMANCE FOR FINAL APPROVAL BY THE OWNER'S REPRESENTATIVE.

(O) IF REQUIRED, IRRIGATION SYSTEM SHALL BE WINTERIZED BY PERSONNEL FAMILIAR WITH SIMILAR IRRIGATION SYSTEMS.

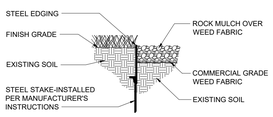
(P) IRRIGATION SYSTEM FILTER(S) SHALL BE PERIODICALLY CHECKED AND FLUSHED CLEAN TO REMOVE DEBRIS. AT INITIAL SYSTEM START-UP FILTER SHALL BE CHECKED EVERY DAY FOR THE FIRST (3) THREE DAYS.

(Q) LAWN IRRIGATION CONTRACTOR SHALL RECOMMEND AND SET THE PROGRAM ON THE CONTROLLER, PROVIDE THOROUGH, DETAILED OPERATING INSTRUCTIONS FOR THIS SPECIFIC SYSTEM, AND GIVE VERBAL OPERATING INSTRUCTIONS TO THE OWNER'S OPERATING PERSONNEL.

(R) LAWN IRRIGATION CONTRACTOR SHALL PROVIDE LAYOUT AND SHOP DRAWINGS FOR APPROVAL BY STATE AND LOCAL BUILDING OFFICIALS AND/OR OTHER AGENCIES. LAWN IRRIGATION CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS RELATED TO THIS WORK AND SUBMIT COPIES OF SAME FOR THE OWNER'S RECORDS.

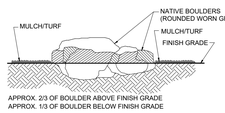
LOW USE IRRIGATION NOTES AND SPEC'S.

11 / L1.0 — SCALE: N.T.S.



PLANTING DETAIL: ROCK W/ STEEL EDGE

10 / L1.0 — SCALE: N.T.S.



PLANTING DETAIL: BOULDER

9 / L1.0 — SCALE: N.T.S.

LANDSCAPE SPECIALTY NOTES:

1. CONVERSION OF ALL ASPHALT AND GRAVEL AREAS TO LANDSCAPE SHALL BE DONE IN THE FOLLOWING MANNER.
   A. REMOVE ALL ASPHALT, GRAVEL AND COMPACTED EARTH TO A DEPTH OF 24"-30" DEPENDING ON THE DEPTH OF SUB BASE AND DISPOSE OF OFF SITE.
   B. REPLACE EXCAVATED MATERIAL W/ GOOD, MEDIUM TEXTURED PLANTING SOIL (LOAM OR LIGHT YELLOW CLAY) TO A MIN. OF 2" ABOVE TOP OF CURB AND SIDEWALK, ADD 4"-6" OF TOPSOIL AND CROWN TO A MIN. OF 6" ABOVE ADJACENT CURB AND WALK AFTER EARTH SETTLING, UNLESS NOTED OTHERWISE ON THE PLANS.
   C. IF CONVERSION TO LANDSCAPE OCCURS IN AN EXISTING (OR BETWEEN) LANDSCAPE AREAS, REPLACE EXCAVATED MATERIAL TO 4"-6" BELOW ADJACENT EXISTING GRADE W/ GOOD MEDIUM TEXTURED PLANTING SOIL (LOAM OR LIGHT YELLOW CLAY) AND ADD 4"-6" OF TOPSOIL TO MEET EXISTING GRADES AFTER EARTH SETTLING.

SPECIALTY NOTES

8 / L1.0 — SCALE: N.T.S.

LANDSCAPE MAINTENANCE NOTES:

PRUNE EXISTING SHRUBS TO REMOVE DEAD, DAMAGED AND DISEASED WOOD AND RESHAPE TO NATURAL HABIT. REMOVE ALL SUCKER GROWTH AT GROUND LEVEL.

CHECK ALL PLANTINGS FOR DISEASE OR INSECT PROBLEMS. APPLY APPROPRIATE CONTROL WHERE NECESSARY FOLLOWING ALL APPLICATION DIRECTIONS AND PRECAUTIONS.

REPLACE ALL PLANT MATERIALS WHICH APPEAR TO BE SICKLY, DAMAGED OR MISSHAPEN IN FORM.

FERTILIZE ALL BEDS WITH A 1:2:1 RATIO (ANALYSIS 5:10:5) AT A RATE OF 10-15 POUNDS PER 1000 SQUARE FEET. FERTILIZE ALL ESTABLISHED TURF AREAS AS WELL. DO NOT FERTILIZE NEWLY SEEDED TURF AREAS EXCEPT WITH A QUALITY STARTER FERTILIZER.

PATCH AND REPAIR ALL TURF AREAS WHERE REQUIRED WITH MATCHING SEED AND A STARTER FERTILIZER. APPLY BROADLEAF-WEED HERBICIDE TO ESTABLISHED TURF AREAS ONLY. FOLLOW HERBICIDE APPLICATION DIRECTIONS. DO NOT ALLOW HERBICIDE TO DRIFT ONTO SHRUB BEDS OR NEIGHBORING PLANTINGS. IF TURF DISEASES ARE PRESENT, APPLY FUNGICIDE. AERATE ALL TURF AREAS. REMOVE THATCH FROM ALL BERMUDA AND ZOYSIA AREAS.

PLANTING SPECIFICATIONS AND GENERAL NOTES:

1. PLANTING BED PREPARATION: ALL MASS PLANTING BEDS SHALL BE TILLED TO A MINIMUM DEPTH OF 10". AMENDMENTS (LEAF MOLD OR SPHAGNUM PEAT MOSS) SHALL BE APPLIED DURING CULTIVATION. ALL BEDS ARE TO BE GRADED SMOOTH BEFORE PLANTING. PLANT GROUNDCOVER TO WITHIN 12" OF TREES OR SHRUBS. REMOVE ALL STONES LARGER THAN 2", ALL STICKS, ROOTS, RUBBISH AND ANY OTHER EXTRANEOUS MATERIALS.
2. BACKFILL SOIL: USE SOIL EXCAVATED FROM PLANTING HOLES AND PROVIDE AMENDMENTS (1 PART LEAF MOLD OR SPHAGNUM PEAT MOSS AND 3 PARTS EXCAVATED SOIL). ALL NEW TOPSOIL USED SHALL BE FREE OF WEEDS AND OTHER FOREIGN VEGETATION, AS WELL AS, STONES LARGER THAN 2", ALL STICKS, ROOTS, RUBBISH AND ANY OTHER EXTRANEOUS MATERIALS.
3. FERTILIZATION: ALL PLANT MATERIALS SHALL BE FERTILIZED UPON INSTALLATION WITH DRIED BONE MEAL OR OTHER SPECIFIED FERTILIZER MIXED IN WITH THE PLANTING SOIL PER THE MANUFACTURER'S INSTRUCTIONS. UNLESS NOTED OTHERWISE.
4. MULCH MATERIAL: DOUBLE SHREDDED HARDWOOD BARK MULCH. MASS MULCH ALL PLANTING BEDS TO 3"-4" DEPTH.
5. FERTILIZER: JUMP-SHOT ROOT STIMULATOR AS MANUFACTURED BY GORDON OR APPROVED EQUAL, SHALL BE APPLIED TO THE SOIL BACKFILL OF EACH PLANT DURING INSTALLATION.
6. ALL PLANT MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMEN. AND SHRUB WILL BE REQUIRED, EXCEPT FOR LOSSES CAUSED BY CONTRACTOR'S ERRORS.
7. LANDSCAPE CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIALS THROUGH ONE CALENDAR YEAR FROM THE DATE OF OWNER ACCEPTANCE WITH ALL REPLACEMENTS TO BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
8. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ON-GOING MAINTENANCE OF ALL NEWLY INSTALLED MATERIALS UNTIL TIME OF OWNER ACCEPTANCE. ANY ACTS OF VANDALISM OR DAMAGE WHICH MAY OCCUR PRIOR TO OWNER ACCEPTANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9. WARRANTY FOR LANDSCAPE MATERIALS SHALL BEGIN ON THE DATE OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE AFTER THE COMPLETION OF PLANTING OF ALL LANDSCAPE MATERIALS. NO PARTIAL ACCEPTANCE WILL BE CONSIDERED. LANDSCAPE CONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR THE OWNER'S ACCEPTANCE INSPECTION. REMOVE AND REPLACE DEAD PLANT MATERIAL (25% + DEAD) IMMEDIATELY UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON. A LIMIT OF ONE REPLACEMENT OF EACH TREE
10. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP OF SITE AT THE COMPLETION OF LANDSCAPING EACH DAY. AT ALL TIMES SHALL THE SIDEWALKS BE MAINTAINED CLEAN AND FREE OF DEBRIS. REMOVE SURPLUS SOIL AND WASTE MATERIAL, TRASH AND DEBRIS FROM THE SITE AND LEGALLY DISPOSE OF SAME IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES AND REGULATIONS.
11. ALL PLANTS TO BE INSTALLED AS PER PLANTING DETAILS. PLANT MATERIALS ARE TO BE PLANTED IN THE SAME RELATIONSHIP TO GRADE AS WAS GROWN IN NURSERY CONDITIONS. IF WET, CLAY SOILS OR POOR DRAINING SOILS ARE EVIDENT, PLANT HIGHER. REMOVE ALL TWINE, WIRE AND BURLAP FROM TOP 1/3 OF ROOT BALL AND FROM TREE TRUNKS.
12. ALL MULCH RINGS AND SHRUB BEDS IN LAWN AREAS SHALL BE EDGED WITH A MANICURED EDGE AS INDICATED.
13. MULCHING AND WATERING OF ALL PLANTS & TREES SHALL BE IMMEDIATELY OR WITHIN 16 HOURS AFTER INSTALLATION.

PLANTING NOTES

2 / L1.0 — SCALE: N.T.S.

PLANTING SCHEDULE

TYPE	QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	MISC. NOTES	GROWTH RATE
TREES	05	SR	SYRINGA RETICULATA	JAPANESE TREE LILAC	2.5" CAL.	AS SHOWN	ORNAMENTAL TREE	MEDIUM
	03	AR	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	3" CAL.	AS SHOWN	LARGE TREE	FAST
	06	AXG	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	2.5" CAL.	AS SHOWN	ORNAMENTAL TREE	SLOW/MED
	05	BN	BETULA NIGRA 'HERITAGE'	RIVER BIRCH	3" CAL.	AS SHOWN	MULTI STEMMED	MED/FAST
	04	QR	QUERCUS RUBRA	NORTHERN RED OAK	3" CAL.	AS SHOWN	LARGE TREE	MED/FAST
	03	TC	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.	AS SHOWN	LARGE TREE	SLOW/MED
EVERGREEN TREE	03	PS	PINUS STROBUS	EASTERN WHITE PINE	7'-8' HT.	AS SHOWN	SCREENING TREE	
	05	TO	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	6'-7' HT.	AS SHOWN	SCREENING TREE	
SHRUBS	10	CA	CORNUS ALBA 'ELEGANTISSIMA'	VARIEGATED DOGWOOD	#5 CONT.	AS SHOWN		
	05	IV	ITEA VIRGINICA 'HENRYS GARNET'	HENRY'S GARNET SWEETSPIRE	#5 CONT.	AS SHOWN		
	16	ND	NANDINA DOMESTICA 'TUSCAN FLAME'	HEAVENLY BAMBOO	#3 CONT.	AS SHOWN	BROADLEAF EVERGREEN	
	35	RA	RHUS AROMATICA 'GRO LOW'	GRO LOW SUMAC	#3 CONT.	AS SHOWN		
	14	VL	VIBURNUM LENTAGO	NANNYBERRY VIBURNUM	#5 CONT.	AS SHOWN	SCREENING	
PERENNIAL	112	LM	LIRIOPE MUSCARI	GREEEN LIRIOPE	1 QUART	AS SHOWN	-	
	88	LMV	LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LIRIOPE	1 QUART	AS SHOWN	-	
GRASSES	11	CXA	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FOERSTER'S FEATHER REED GRASS	#2 CONT.	AS SHOWN	-	
	12	PV	PANICUM VIRGATUM	SWITCHGRASS	#2 CONT.	AS SHOWN	-	
	32	PA	PENNISETUM ALOPECUROIDES 'HAMELN'	DWARF FOUNTAIN GRASS	#2 CONT.	AS SHOWN	-	
	25	SH	SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	#2 CONT.	AS SHOWN	-	
TURF	N/A	TURF	FESTUCA ARUNDINACEA	TURF TYPE TALL FESCUE	SOD		INSTALL SOD ONLY (U.N.O.)	
MULCH	-	-	MIXED UNPOLISHED MEXICAN BEACH PEBBLES OR SIMILAR					
	-	-	DOUBLE SHREDDED BARK MULCH FROM A LOCAL SOURCE (FREE OF DELETERIOUS MATERIALS) - VERY DARK IN COLOR					

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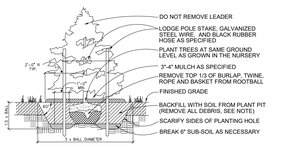
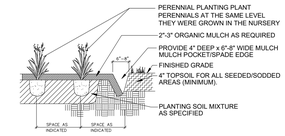


GENERAL NOTES:
1. IF ROOTBALL IS WRAPPED IN NON-BIODEGRADEABLE BURLAP, REMOVE ENTIRE WRAP AFTER PLACED IN PIT.
2. WHEN BACKFILLING PLANT PIT, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.

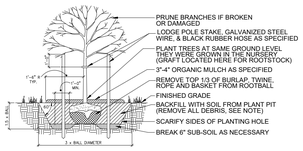
PLANTING DETAIL: EVERGREN TREE

7 / L1.0 — SCALE: N.T.S.



PLANTING DETAIL: PERENNIAL BEDS

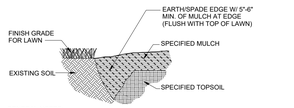
6 / L1.0 — SCALE: N.T.S.



GENERAL NOTES:
1. IF ROOTBALL IS WRAPPED IN NON-BIODEGRADEABLE BURLAP, REMOVE ENTIRE WRAP AFTER PLACED IN PIT.
2. WHEN BACKFILLING PLANT PIT, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.
3. PROVIDE TREE STAKES AT INITIAL INSTALLATION. REMOVE STAKES AND WIRES AFTER ONE (1) YEAR OF GROWTH.

PLANTING DETAIL: TREES

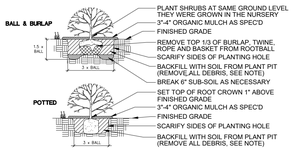
5 / L1.0 — SCALE: N.T.S.



GENERAL NOTES:
USE WHEREVER MULCHED PLANTINGS TRANSITION TO TURF AREAS, INCLUDING ALL TREE MULCH RINGS, SHRUB BEDS, MASS PLANTING BEDS, ETC...

PLANTING DETAIL: EDGING

4 / L1.0 — SCALE: N.T.S.



GENERAL NOTES:
1. PRUNE ROOTS IF BALL IS ROOTBOUND.
2. REMOVE ALL CONTAINERS AND NON-BIODEGRADEABLE BURLAP.
3. WHEN BACKFILLING PLANT PIT, PLACE PLANTING SOIL IN TWO LIFTS. AFTER FIRST LIFT, PUDDLE SOIL IN WITH WATER TO REMOVE ALL AIR POCKETS. PLACE SECOND LIFT AND REPEAT. CONTINUE TO PUDDLE AND FILL AS NECESSARY.

PLANTING DETAIL: SHRUBS

3 / L1.0 — SCALE: N.T.S.

CASCO CIVIL
N. 12 SUNNEN DR., ST. LOUIS, MO 63143 T. 314.821.1100
22 Summit Chase, Suite 300, St. Louis, MO 63143 F. 314.821.1100

FACET ARCHITECTURAL DESIGN

OWNER
KNOEBEL CONSTRUCTION, INC
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005
(636) 326-4100

CIVIL ENGINEER
CASCO CIVIL
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

ARCHITECT
FACET ARCHITECTURAL DESIGN
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

STRUCTURAL ENGINEER
ME1
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

MECHANICAL, ELECTRICAL & PLUMBING ENGINEER
ME1
12 SUNNEN DR., STE. 100
ST. LOUIS, MO 63143
(314) 821-1100

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

No.	CONSTR. DOC. & REVISIONS Description	Date

CASCO DIVERSIFIED CORPORATION
ARCHITECTURAL
Registration No.: 000329
Expiration Date: 12/31/23

STATE OF MISSOURI — MARK A. MAURER — NUMBER PLA-2016002018 — LANDSCAPE ARCHITECT — 5/12/22

Professional of Record:
MARK A. MAURER
License No. PLA-2016002018
Expiration Date: 12/31/22

Drawn/Checked	MAM/MAM
Project Number	2100720
Bid Date	--/--/--
Permit Date	--/--/--
For Construction	--/--/--

Landscape Plan and Details

L1.0

FACET
ARCHITECTURAL DESIGN

SECTION 2 | ARCHITECTURAL

MATERIAL KEY

- = THIN BRICK, BLACK BLEND
- = FIBER CEMENT PANELS, GRAY BLEND
- = COMPOSITE METAL PANEL, BLACK
- = CURTAIN WALL GLAZING, BLACK MULLIONS, CLEAR GLAZING
- = PERFORATED & CORRUGATED METAL RTU SCREEN, CLEAR ANODIZED/SILVER

1
A4.03

SOUTH ELEVATION

SCALE: 1/16" = 1'-0"

2
A4.03

WEST ELEVATION

SCALE: 1/16" = 1'-0"

FACET
ARCHITECTURAL DESIGN

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

STATE OF MISSOURI
CARL PAUL KARLEN
NUMBER A-2008010399
ARCHITECT

RENDERED
ELEVATIONS

A4.03

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MATERIAL KEY

- = THIN BRICK, BLACK BLEND
- = FIBER CEMENT PANELS, GRAY BLEND
- = COMPOSITE METAL PANEL, BLACK
- = CURTAIN WALL GLAZING, BLACK MULLIONS, CLEAR GLAZING
- = PERFORATED & CORRUGATED METAL RTU SCREEN, CLEAR ANODIZED/SILVER

1 / A4.04

EAST ELEVATION

SCALE: 1/16" = 1'-0"

STAINLESS CABLE RAIL, BLACK POSTS, STAINLESS GUARD & HAND RAILS

BLACK ALUMINUM STOREFRONT DOORS

2 / A4.04

NORTH ELEVATION

SCALE: 1/16" = 1'-0"

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FACET
ARCHITECTURAL DESIGN

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NEW CORPORATE OFFICE BUILDING
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

STATE OF MISSOURI
CARL PAUL KARLEN
NUMBER A-2008010399
ARCHITECT

RENDERED ELEVATIONS

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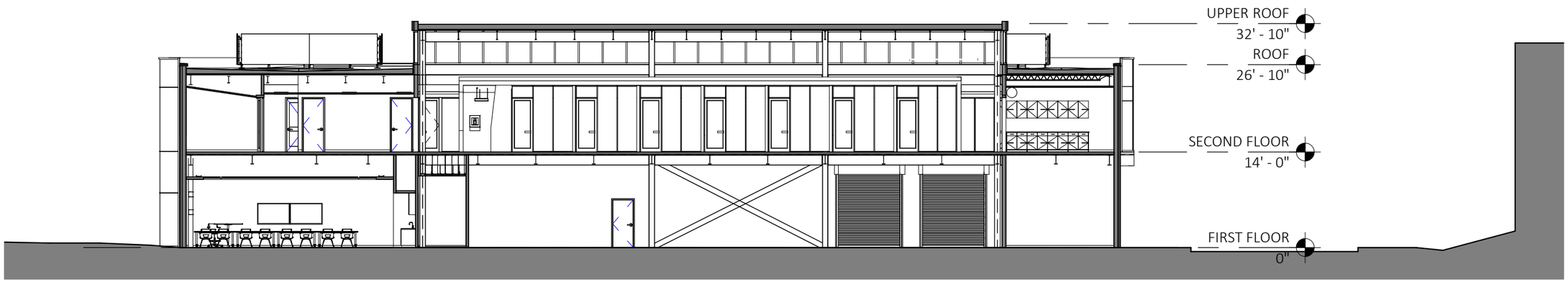

1
A4.05

EAST/WEST SECTION

SCALE: 1/16" = 1'-0"

2
A4.05

NORTH/SOUTH SECTION

SCALE: 1/16" = 1'-0"

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SITE SECTIONS

A4.05

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CHESTERFIELD, MO 63005

Front View
looking East

A4.06

5/10/2022 11:16:16 AM

Front View
looking West

A4.07

KNOEBEL CONSTRUCTION
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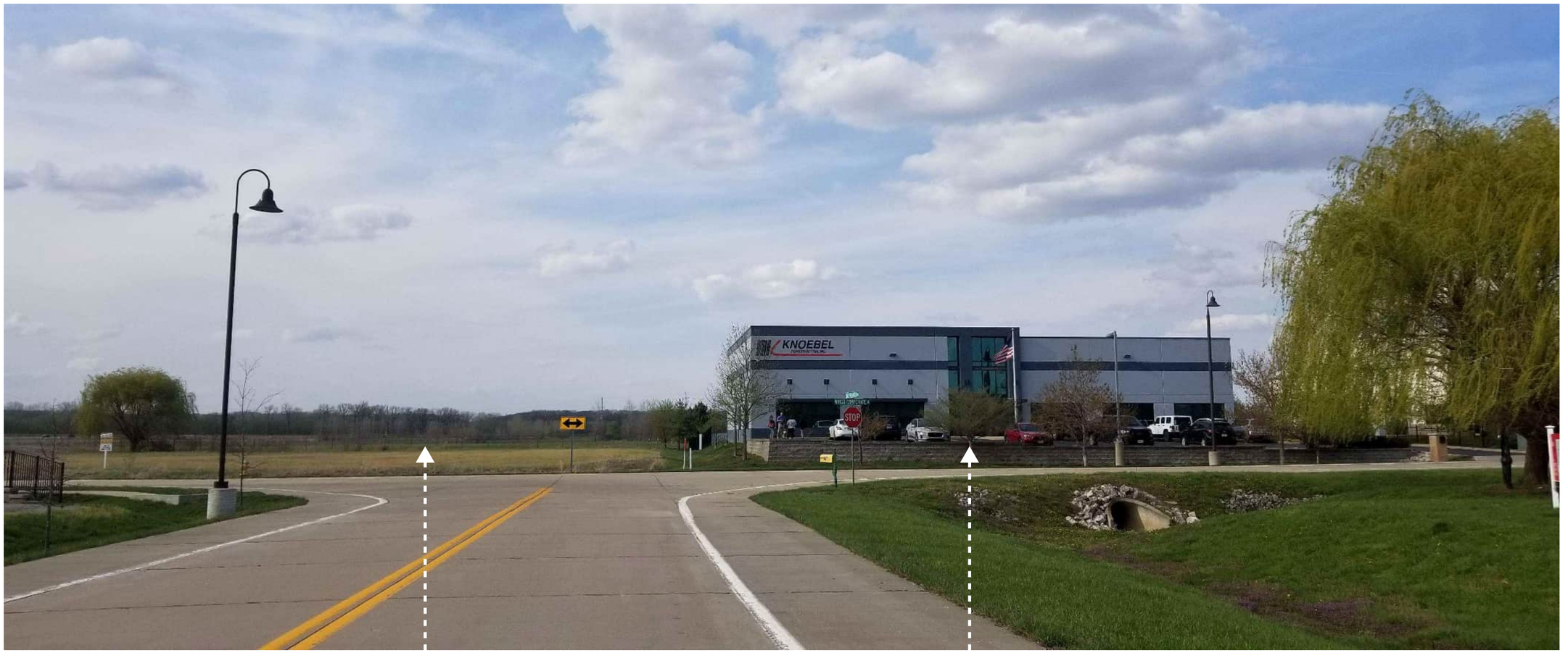
CHESTERFIELD, MO 63005

FACET
ARCHITECTURAL DESIGN

ADJACENT PROPERTY ACROSS ROAD TO SOUTH OF PROPOSED PROJECT

PROPERTY 2 LOTS EAST, NEXT TO CURRENT CLIENT HQ



SITE OF PROPOSED PROJECT

ADJACENT PROPERTY TO EAST OF PROPOSED PROJECT, CURRENT CLIENT HQ

FACET
ARCHITECTURAL DESIGN

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

CONTEXT PHOTOS

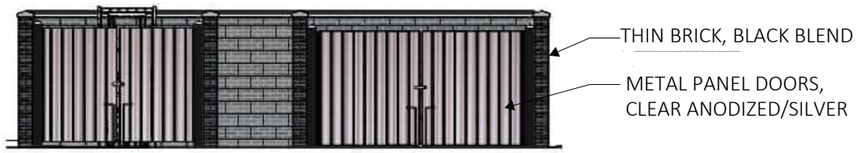
A4.08

5/9/2022 10:58:25 AM

3 / A4.06

SIDE ELEVATION

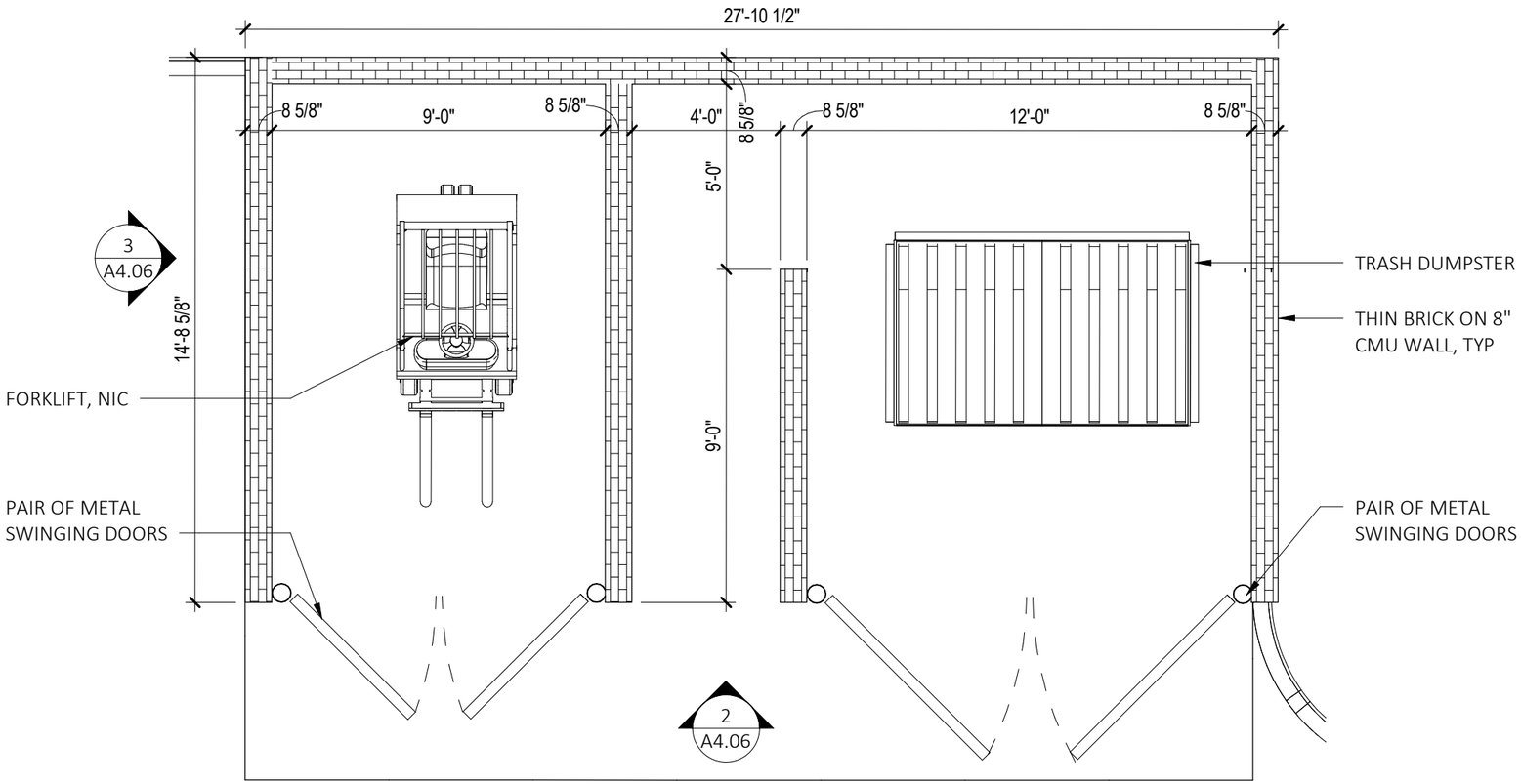
SCALE: 1/8" = 1'-0"

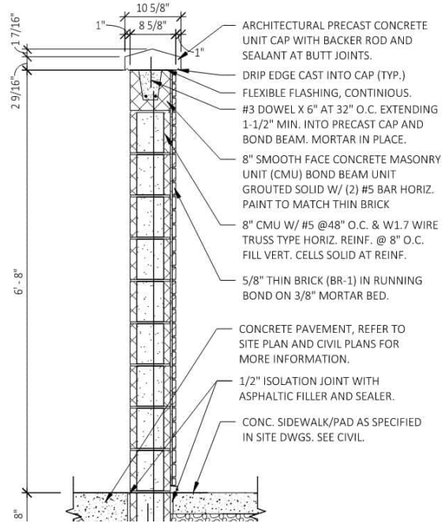


2 / A4.06

FRONT ELEVATION

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





4 / A4.06

TRASH ENCLOSURE

SCALE: 1/2" = 1'-0"

1 / A4.06

NORTH

DUMPSTER ENCLOSURE PLAN

SCALE: 1/4" = 1'-0"

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ARCHITECTURAL DESIGN

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NEW CORPORATE OFFICE BUILDING
18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

Trash Enclosure

A4.09

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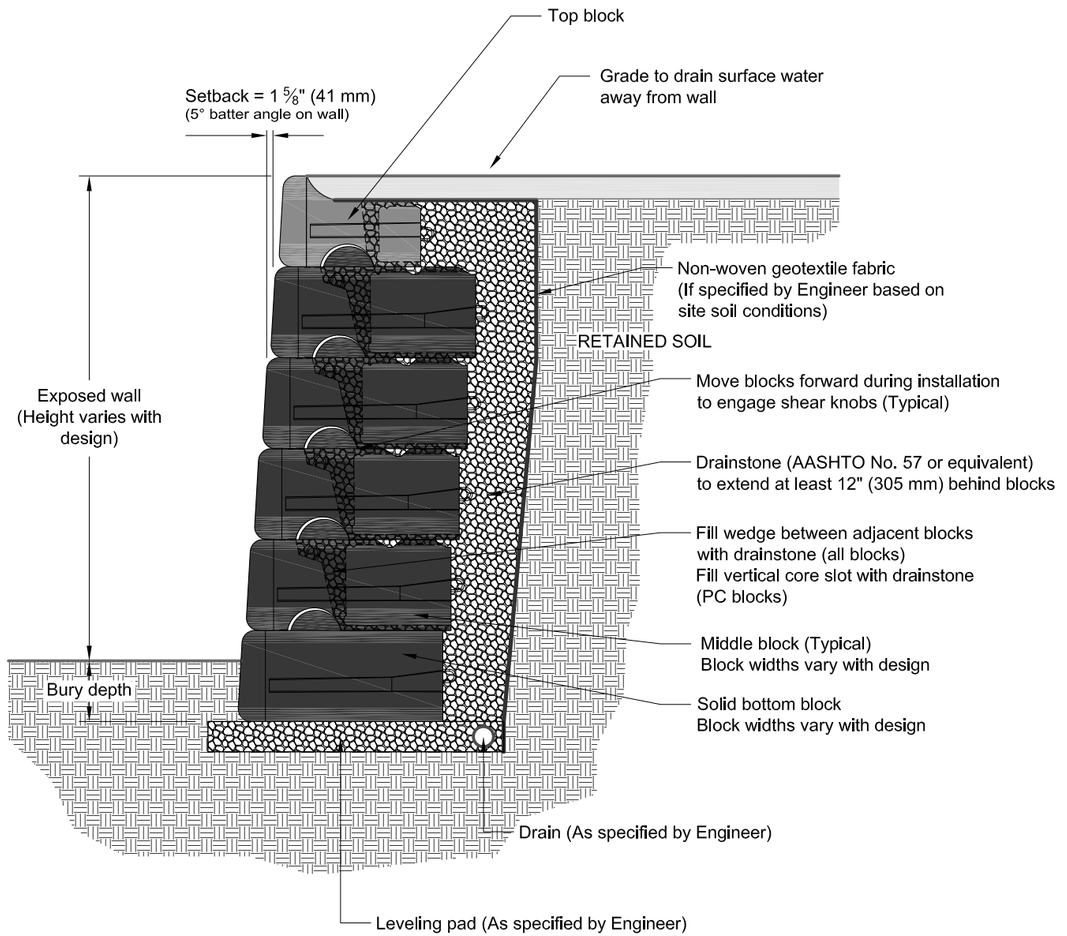
Typical Gravity Wall Section



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CHESTERFIELD, MO 63005

Typ. Retaining Wall Detail

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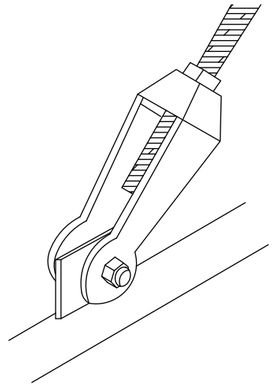

CLEVIS DETAIL

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Typ. Roof
Screen Detail

A4.11

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FACET
ARCHITECTURAL DESIGN

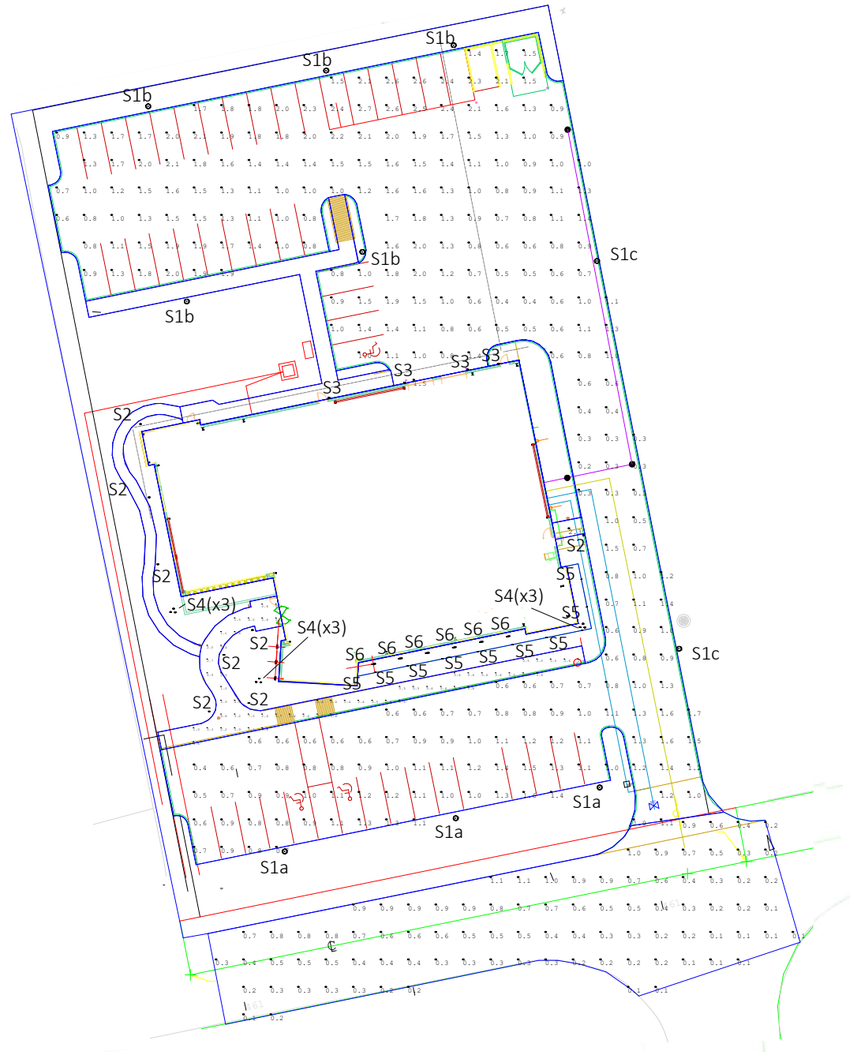
SECTION 3 | LIGHTING

ME

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Tag	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height
⊙	3	S1a symmetric v	Single	LXS-VA3-730-U-SYM-C 20ft mounting height to top of luminaire.	S1a	8588	86	258	20
⊙	5	S1b Transverse iv	Single	LXS-VA3-730-U-AST-C	S1b	8025	99	495	20
⊙	2	S1c Curbline iii	Single	LXS-VA3-730-U-ASC-C	S1c	6414	99	198	20
⊡	8	S2 Bollard	Single	84220K3_BEGA_IES	S2	2380	30	240	3, 3.1
⊕	4	S3	Single	33224_BEGA_IES	S3	391	6	24	8
⊕	9	S4	Single	LS1010-22W 830 WD 01 PS BL	S4	1805	23.2	208.8	0
→	9	S5	Single	LULF30K945	S5	92	1.98	17.82	17
▭	9	S6	Single	LOI ASHRAE-120-12-22K-10x90-TS0-XX-XX-XX	S6	175	5	45	0.5

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking_Planar	Illuminance	Fc	1.17	2.7	0.2	5.85	13.50
Pathway_3_Planar	Illuminance	Fc	1.49	7.4	0.3	4.97	24.67
Pathway_3_Planar	Illuminance	Fc	2.30	2.3	2.3	1.00	1.00
Street_Planar	Illuminance	Fc	0.45	1.1	0.1	4.50	11.00

NOTE: All Type S1a, S1b, and S1c shall be 20ft maximum to top of luminaire



1 / E0.11 ELECTRICAL SITE PLAN PHOTOMETRICS

NOT TO SCALE

5/13/2022 2:57:07 AM

FACET ARCHITECTURAL DESIGN

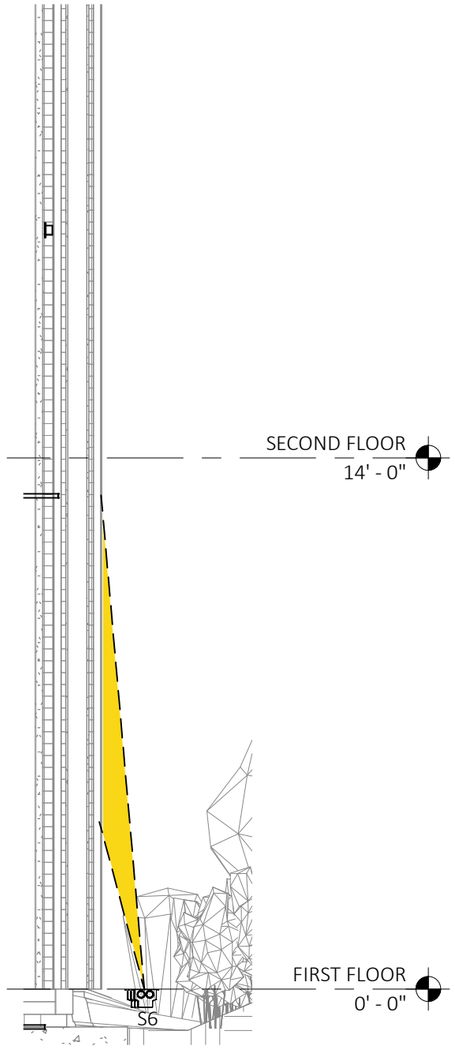
KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

REV.	DATE	DESCRIPTION

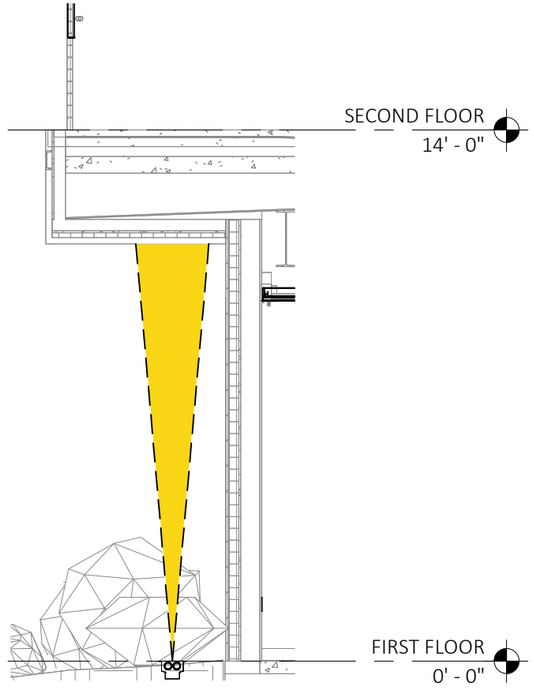
SITE PLAN PHOTOMETRICS

E0.11



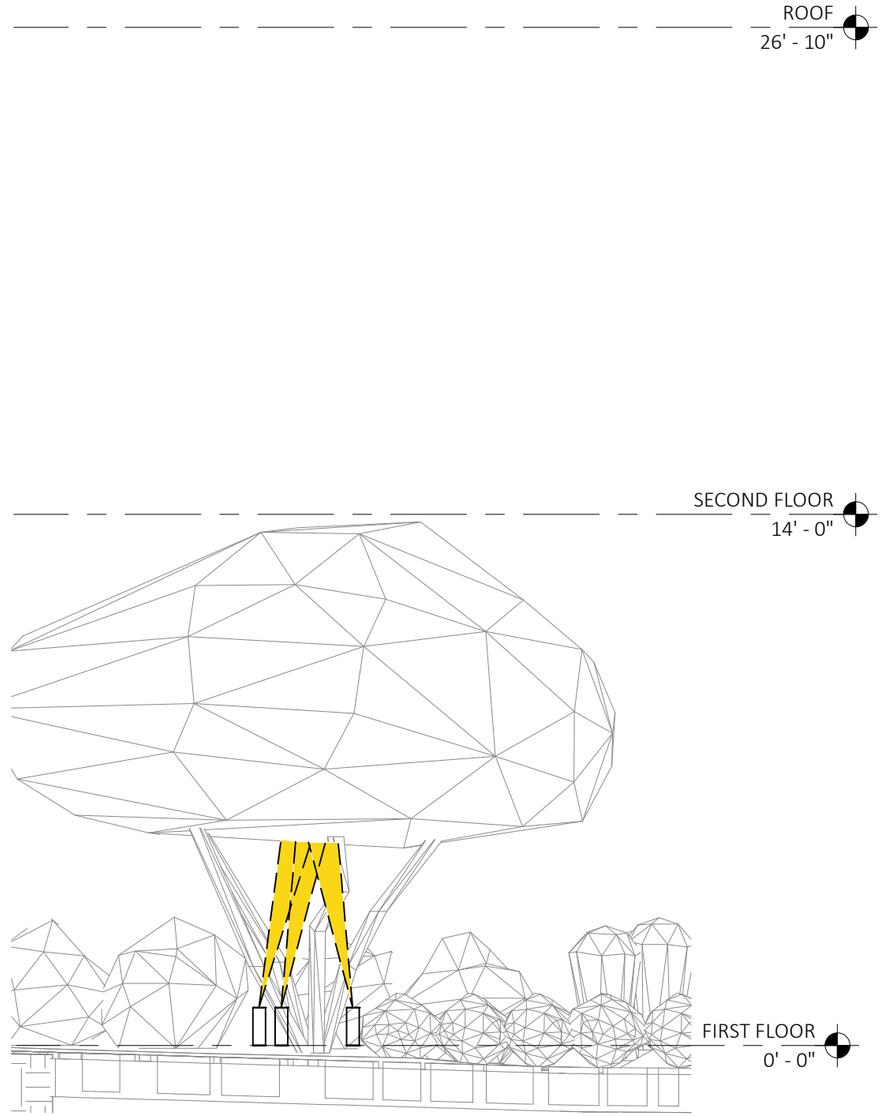
1 E0.12 S6 - FRONT DOOR ENTRANCE

SCALE: 1/4" = 1'-0"



2 E0.12 S6 FRONT LIGHT DISTRIBUTION 90 CUT

SCALE: 1/4" = 1'-0"



3 E0.12 S4 TREE LIGHTS

SCALE: 1/4" = 1'-0"

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FACET
ARCHITECTURAL DESIGN

KNOEBEL CONSTRUCTION
NEW CORPORATE OFFICE BUILDING

18333 WINGS CORPORATE DRIVE
CHESTERFIELD, MO 63005

REV.	DATE	DESCRIPTION

LIGHTING DISTRIBUTION DIAGRAMS

E0.12

S1 **Invue**

DESCRIPTION

The LuxeScape Collection presents a contemporary, architectural dayform providing superior uniformity and efficient illumination. Designed to enhance urban spaces with beautiful visual appearances and integral control solutions, LuxeScape integrates into any environment while providing high visibility by utilizing industry-leading WaveStream™ LED optics.

Catalog #		**Type**
Project		
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction
Housing assembly is IP66 rated and cast from low copper content corrosion resistant aluminum, maintaining strength and precision to sustain long term dayform appearance. 3G rated construction avoids damages from installation generated vibration. Corrosion-resistant color matching hardware are minimized to enhance appearance.

Optics
Designed for complex site or pedestrian applications, WaveStream™ LED optical waveguide technology produces both symmetric NEMA Type V and asymmetric NEMA II, III, IV distributions. The waveguide is manufactured from precision injection molded acrylic delivering visual comfort and optically controlled illumination for improved glare control. Luminaire efficacy measures in excess of 100 lm/W for 4000K (+/- 275K) CCT at 70 CRI (min). Optional 3000K CCT at 70 CRI or 3000K CCT at 80 CRI also available.

Electrical
LED drivers are uniquely positioned and mounted for maximum thermal performance and extended life. Standard 0-10V dimming drivers and surge protection module are designed to withstand 10kV of transient line surge. Drivers operate at 120-277V 50/60Hz with 347V 60Hz or 480V 60Hz operation optional. Suitable for ambient temperature applications as low as -40°C (40°F) to 40°C (104°F). High ambient options available allow for 50°C operation.

Controls
Control options are designed to be simple, cost-effective, energy code, and regulation compliant solutions featuring WaveLinx. See control options page for more details.

Mounting
Invue's aluminum round decorative pole (ARP) offering provides a seamless transition and compliments the contemporary design architecture with its unique sleek taper and base design. The tenon mount pole comes standard with an access door feature integrated into the base.

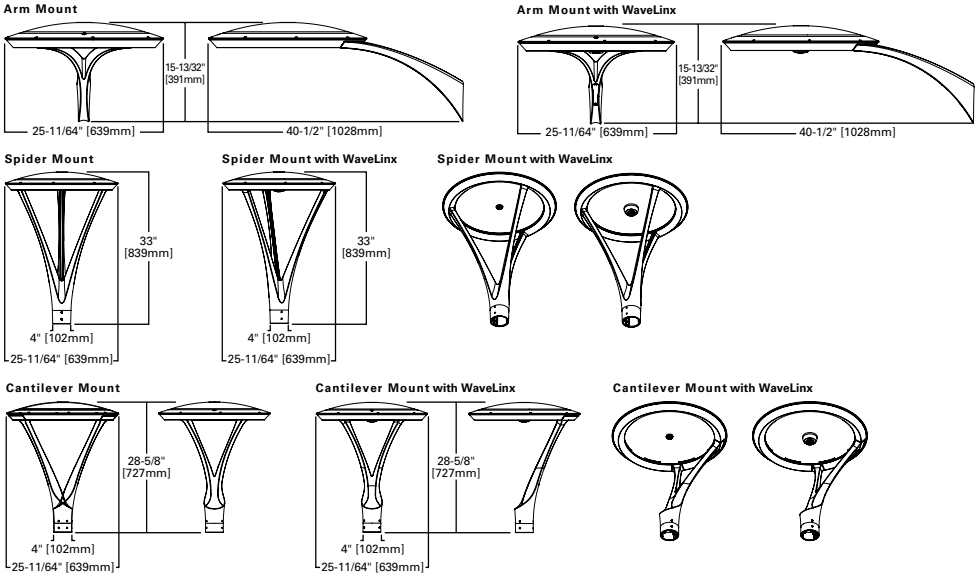
Arm Mount
The integrated aluminum contemporary upsweep arm is bolted directly to the pole using an "N" drill pattern. Provides a seamless transition to a 4" or 5" round pole.

Spider & Cantilever Mount
Fitter assembly mounts over 3" O.D. tenon and can be adapted to a 2-3/8" tenon. It is secured via concealed, corrosion resistant set screw and jam screw pairs in six inconspicuous locations. Fitter design provides seamless transition to 4" O.D. round pole top. Optional mounting accessories include a twin arm mount and wall mount arm.

Finish
Cooper Lighting Solutions utilizes premium ultra-weatherable TGIC based polyester powder coatings specifically formulated to withstand extended outdoor exposure while providing decorative appeal. Finish is compliant to 3,000 hour salt spray standard (per ASTM B117). RAL and custom color matches available. Options to meet Buy American Act requirements.

Warranty
Five-year warranty.

DIMENSIONS



LXS LUXESCAPE COLLECTION

DECORATIVE LUMINAIRE

CERTIFICATION DATA
UL/cUL Listed
FCC Class A
IEC 60529 IP66 Housing
ANSI C136.31 3G Vibration
ASTM A356.0 Low Copper Alloy
ASTM B117 Salt Spray Tested
RoHS
ISO 9001
DesignLights Consortium® Qualified*
Dark Sky Approved (3000K CCT and warmer only)

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz, 347V 60Hz, 480V 60Hz
40°C Ambient Temperature Rating
As low as -40°C (-40°F) minimum temperature
*See MINIMUM TEMPERATURE table

EPA
Effective Projected Area: (Sq. Ft.)
Arm Mount: 1.0
Cantilever Mount: 1.3
Spider Mount: 1.6

SHIPPING DATA
Approximate Net Weight:
Arm Mount Weight: 41 lbs. [18.6 kgs.]
Cantilever Mount Weight: 46 lbs. [20.8 kgs.]
Spider Mount Weight: 53 lbs. [24 kgs.]

COOPER Lighting Solutions

*www.designlights.org

ORDERING INFORMATION

Sample Number: LXS-VA3-LED-D1-T2-GM-S

Product Family [1, 2]	Optic Type	Lumen Package [3]	CRI/CCT	Voltage	Distribution	Mounting	Finish
LXS=LuxeScape Collection **BAA-LXS**=LuxeScape Collection Buy American Act Compliant [36]	**VA**=Visual Comfort / WaveStream	**1**=Nominal 2,300 Lumens **2**=Nominal 4,500 Lumens **3**=Nominal 8,500 Lumens **4**=Nominal 9,500 Lumens [4]	**730**=70 CRI / 3000K **735**=70 CRI / 3500K **740**=70 CRI / 4000K **830**=80 CRI / 3000K **835**=80 CRI / 3500K **AMB**=Amber 590nm [22, 35]	**U**=120- 277 **1**=120 **2**=208 **3**=240 **4**=277 **8**=480 [5, 6] **9**=347 [5]	**ASC**=Asymmetric Curbline [7] **ASW**=Asymmetric Wide [8] **AST**=Asymmetric Transverse [9] **SYM**=Symmetric Round [10]	**A**=Arm Mount **S**=Spider Mount **C**=Cantilever Mount	**AP**=Grey **BK**=Black **BZ**=Bronze **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White **RALXX**=Custom Color [11]

Options (Add as Suffix)

F=Single Fuse [12]
FF=Double Fuse [13]
X=Driver Surge only
10MSP=10K MOV Surge Protective Device
20MSP=20kV MOV Surge Protective Device
20K=20kV UL 1449 Fused Surge Protective Device
DIM=External 0-10V Dimming Leads [14]
HA=50°C High Ambient Temperature [15]
VS=Vandal Shield [16]
MUSA=Final Assembly in the USA [17]
CC=Coastal Construction [18]
DALI=DALI Driver [19]
BPC=Button Type Photocontrol [20]
PR=NEMA 3-PIN Twistlock Photocontrol Receptacle [21]
PR7=NEMA 7-PIN Twistlock Photocontrol Receptacle [21]
PC=Twistlock NEMA Photocontrol
LLPC=Long Life Twistlock NEMA Photocontrol [34]
SC=Shorting Cap
MS-L08=Motion Sensor for ON/OFF Operation, Up to 8' Mounting Height [22, 23, 24]
MS-L20=Motion Sensor for ON/OFF Operation, 9' - 20' Mounting Height [22, 23, 24]
MS-L40W=Motion Sensor for ON/OFF Operation, 21' - 40' Mounting Height [22, 23, 24]
MS/DIM-L08=Motion Sensor for Dimming Operation, Up to 8' Mounting Height [22, 23, 24]
MS/DIM-L20=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [22, 23, 25]
MS/DIM-L40W=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [22, 23, 26]
DIM10=Synapse Integrated Control Module
ZW=Wavelinx-enabled 4-PIN Twistlock Receptacle and shorting cap installed [27, 28, 38, 39]
ZD=DALI Digital operated 4pin connector, using SR Driver within a luminaire only and shorting cap installed [27, 28, 38, 39, 40]
SWPD4WH=Wavelinx Wireless Sensor, 7' - 15' Mounting Height, White [27, 28, 38, 39]
SWPD5WH=Wavelinx Wireless Sensor, 15' - 40' Mounting Height, White [27, 28, 38, 39]

Accessories (Order Separately) [20, 37]

FSIR-100=Wireless Configuration Tool for Occupancy Sensor [29]
WOLC-7P-10A=WaveLinx Outdoor Control Module (7-PIN) [30]
ARPA2=2-3/8" O.D. Tenon Sleeve Adapter [31]
VA6028-XX=Twin Mount Arm (EPA 1.36 sq./ft.) [31, 32]
VA6029-XX=Wall Mount Arm [31, 32]
MA1036-XX=Single Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1037-XX=2@180° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1197-XX=3@120° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1188-XX=4@90° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1189-XX=2@90° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1190-XX=3@90° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1191-XX=2@120° Tenon Adapter for 2-3/8" O.D. Tenon [32]
MA1038-XX=Single Tenon Adapter for 3-1/2" O.D. Tenon [32]
MA1039-XX=2@180° Tenon Adapter for 3-1/2" O.D. Tenon [32]
MA1192-XX=3@120° Tenon Adapter for 3-1/2" O.D. Tenon [32]
MA1193-XX=4@90° Tenon Adapter for 3-1/2" O.D. Tenon [32]
MA1194-XX=2@90° Tenon Adapter for 3-1/2" O.D. Tenon [32]
MA1195-XX=3@90° Tenon Adapter for 3-1/2" O.D. Tenon [32]
SWPD4WH=Wavelinx Wireless Sensor, 7' - 15' Mounting Height, White [27, 28, 33, 38]
SWPD5WH=Wavelinx Wireless Sensor, 15' - 40' Mounting Height, White [27, 28, 33, 38]

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to our white paper WP513001EN for additional support information. **2.** DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. **3.** Lumens are nominal. See lumen table for more information. **4.**9,500 Lumen package available only on SYM distribution **5.** Requires the use of a step-down transformer. **6.** Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems). **7.** IESNA Type III typical. **8.** IESNA Type IV typical. **9.** IESNA Type IV typical. **10.** IESNA Type V typical. **11.** Specify RAL number for Custom Color. Custom color matching available upon request. Consult your lighting representative at Cooper Lighting Solutions for more information. **12.** Must specify voltage (120V, 277V, or 347V) to fuse the single hot leg. **13.** Must specify voltage (208V, 240V, or 480V) to fuse the both hot legs. **14.** Low voltage control leads brought out 18" outside fixture. Not available with control options. **15.** Not available in VA3 with Type ASC, ASW and AST distributions. **16.** Reduce total lumens by a 0.95 multiplier to accommodate losses. **17.** This designates the option for final assembly performed within the USA and USA territories. This is not intended to address all the Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation (DFAR) clauses. **18.** Post-coating over the primary finish providing 7,000+ salt spray hours. Extended lead-times can be 4 -10 additional weeks. **19.** Only available with VA3 and VA4 lumen packages. **20.** Not available with MS-LXX, MS/DIM-LXX, LWR-LW, LWR-LN or 347V or 480V options. **21.** Not available with MS-LXX, MS/DIM-LXX, LWR-LW, LWR-LN or 347V or 480V options. **22.** Not available with HA option. **23.** The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult you lighting representative at Cooper Lighting Solutions for more information. **24.** Approximately 22' detection diameter at 8' mounting height. **25.** Approximately 40' detection diameter at 20' mounting height. **26.** Approximately 100' detection diameter at 40' mounting height. **27.** Cannot be used in conjunction with photocontrol or other controls systems (BPC, PR, PR7, MS). **28.** NWAC Gateway required to enable field-configurability. Order WAC-POE and WPOE-120 (10V to POE injector) power supply if needed. Only compatible with WaveLinx system and software and requires system components to be installed for operation. See website for more WaveLinx application information. **29.** This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information. **30.** Requires 7-PIN NEMA twistlock photocontrol receptacle. WOLC-7P-10A cannot be used in conjunction with additional sensors or controls. **31.** Not vibration rated at this time. Consult your lighting representative at Cooper Lighting Solutions for more information. **32.** Replace XX with color designation. **33.** Requires ZW or ZD. **34.** Requires photocontrol receptacle PR or PR7. **35.** Narrow-band 590nm +/- 5nm for wildlife and observatory use. Choose Lumen Package 1. See IES files for photometric performance. **36.** Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to DOMESTIC PREFERENCES website for more information. Components shipped separately may be separately analyzed under domestic preference requirements. **37.** Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information. **38.** Not available with 5LTD option. **39.** If ZD or ZW only, shorting cap will be installed on 4-pin receptacle. **40.** Not available with 2300 or 9500 lumen package.

ARP ORDERING INFORMATION (ALUMINUM DECORATIVE POLE)

SAMPLE NUMBER: ARP5L310ABZ2

Product Family	Shaft Size (Inches) [1]	Wall Thickness (Inches)	Pole Top Diameter (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Options (Add as Suffix)
ARP=Aluminum Round Tapered Decorative **BAA-ARP**=Aluminum Round Tapered Decorative Buy American Act Compliant [36]	**5**=5"	**L**=0.156" **M**=0.188"	**3**=3" O.D. [2] **6**=4" O.D. [3]	**10**=10' **12**=12' **14**=14' **16**=16' **18**=18' [4] **22**=22' [4]	**A**=Aluminum (Round 4-Bolt Pole)	**AP**=Grey **BA**=Anodized Bronze **BK**=Black **BZ**=Bronze **CA**=Anodized Clear **DA**=Anodized Black **DP**=Dark Platinum **GM**=Graphite Metallic **GN**=Hartford Green **WH**=White	**2**=2-3/8" O.D. Tenon (4" Long) **5**=3" O.D. Tenon (4" Long)	**X**=None	**C**=Convenience Outlet [5] **E**=GFCI Convenience Outlet [5] **G**=Ground Lug **V**=Vibration Dampener [4]

NOTES 1 All shaft sizes nominal. **2** Provides 3" O.D. pole top suited for Arbor Post Top. **3** Provides 4" O.D. pole top suited for LuxeScape post tops. **4** Vibration damper recommended over 18 feet add suffix "V" to catalog number. **5** Specify outlet location. Receptacle not included, provision only.

Shielded LED bollard - asymmetric

S2 BEGA

Type:
BEGA Product:
Project:
Modified:

Application
An LED bollard with shielded asymmetric light distribution. Designed for effective lighting of landscapes, pathways, and open spaces. The fully shielded design provides visual comfort while illuminating ground surfaces. Provided with mounting system that allows the luminaire to be adjusted independent of anchor bolt orientation.

Materials
Luminaire housing constructed of die-cast and extruded marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Clear safety glass
Reflector made of pure anodized aluminum
High temperature silicone gasket
Mechanically captive stainless steel fasteners
Mounting plate constructed of heavy cast aluminum

NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 14.5 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
Maximum ambient temperature	90° C
LED module wattage	11.6 W
System wattage	14.5 W
Controllability	0-10V
Color rendering index	Ra > 80
Luminaire lumens	1475 lumens (4000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4** ***(EXPRESS)***
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3** ***(EXPRESS)***
☐ 2700K - Product number + **K27**

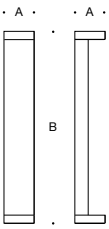
Wildlife friendly amber LED - Optional
Luminaire is optionally available with a narrow bandwidth, amber LED source (585-600nm) approved by the FWC. This light output is suggested for use within close proximity to sea turtle nesting and hatching habitats. Electrical and control information may vary from standard luminaire.

LED module wattage	17.6 W (Amber)
System wattage	22.0W (Amber)
Luminaire lumens	574 lumens (Amber)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester poywder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:



Shielded LED bollard · asymmetric

	LED	A	B	Anchorage
99058	11.6 W	7 ½	39 ⅜	**79817**

Mounting Accessories

☐ **79817** Anchorage Kit
☐ **70895** Direct burial anchorage

Available options

☐ **FSC** Fusing
☐ **AMB** Amber LED
☐ **FPRO** Factory Programmed Reduced output
☐ **EMPK** Integral Emergency Battery Pack
☐ **AWB** Asymmetric Wide Beam

See individual accessory spec sheet for details.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 10/20/20

Type:
BEGA Product:
Project:
Modified:

Application
This luminaire features flush mounted glass which distributes the light onto the installation surface uniformly with a wide-spread light distribution. Luminaire can be mounted with the light output upwards or downwards.

Materials
Luminaire housing constructed of die-cast marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy
Clear safety glass with optical texture
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65
Weight: 3.1 lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	3.9 W
System wattage	6 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	391 lumens (3000K)
Lifetime at Ta = 15° C	>500,000 h (L70)
Lifetime at Ta = 35° C	320,000 h (L70)

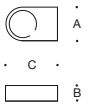
LED color temperature

☐ 4000K - Product number + **K4**
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3**
☐ 2700K - Product number + **K27**

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester powder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:



LED wall luminaire · directed light

	LED	A	B	C	Required wiring box
33 224	3.9 W	5 ½	2 ⅜	7 ⅜	**19 543**

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

The Centria C2 is one of the most compact and versatile surface mount luminaires in its class, featuring light output and energy efficiency surpassing 35W Metal Halide. Available in white, colour changing and tunable white light engines, the Centria C2 is packed with features including EasyGlow™ visual comfort and CoolDrive™ thermal management technologies. PowerSync™ allows for highly granular digital control via common protocols. The height of the luminaire allows the light head to stand above vegetation for an unobstructed cast of light.

Performance

Static White & Colour	Lumen Output (lm)	Efficacy (lm/W)	Peak Intensity (cd)
2,700 K (80 CRI)	1,568	66.6	35,736
3,000 K (80 CRI)	1,655	71.1	38,189
3,500 K (80 CRI)	1,730	74.9	38.913
4,000 K (80 CRI)	1,712	73.7	39,674
5,000 K (70 CRI)	2,025	87.0	47,160
Red	-	-	-
Green	-	-	-
Blue	-	-	-

Static white lumen output values are based on a 10° lens.

Dynamic Colour	Lumen Output (lm)	Efficacy (lm/W)	Peak Intensity (cd)
RGBA	1,058	48.6	18,121
RGBW	1,145	52.6	23,150
RGBW - Royal Blue	-	-	-

Dynamic Colour lumen output values are based on a 10° lens.

Tunable White	Lumen Output (lm)	Efficacy (lm/W)	Peak Intensity (cd)
2,700 K - 6,500 K	1,697	72.7	39,910

Tunable white lumen output values are based on a 10° lens with all channels at 100%.

powersync™ easyglow™ cooldrive™

Performance

Beam Angles	10°, 13°, 20°, 26°, 47°, 40° x 10°, 60° x 20°

Electrical

LED Power	22W
Consumption	≤25W maximum
Lifetime (L70)	>60,000hrs (B10, L70, TM21)
Input Voltage	Mains Voltage 120-277V, 50/60Hz Low Voltage 30-48V DC
Earth Leakage	120V - 0.3mA, 240V - 0.4mA, 277V - 0.6mA
Thermal Management	CoolDrive™ onboard thermal monitoring and control.

Control

Interface	Lumascape PowerSync™
Protocols	DMX/RDM, Artnet, PWM(1), 0-10V (sink or source)(1) Some protocols require additional hardware. For details and for other available protocols contact factory. 1. Not available for Colour Changing
PWM Frequency	2,000Hz flicker free dimming to 0.1%
Systems	Range of third-party controllers

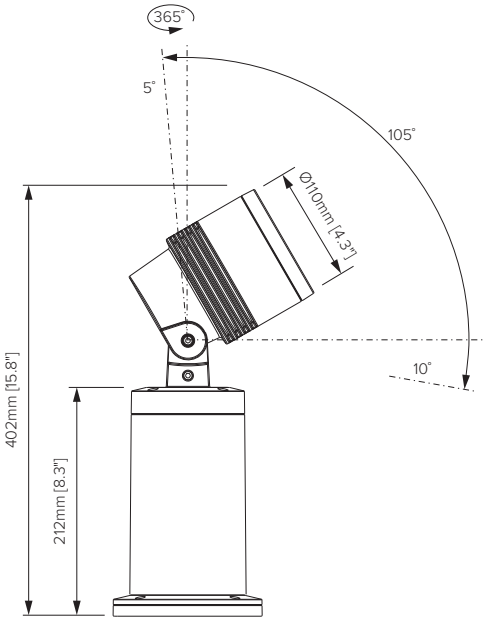
Physical

Housing	Die cast marine grade aluminum, tempered glass lens.
Finish	Superior 9-step powder-coating process, including marine epoxy undercoat and polyester top coat.
Installation	Surface-mounted
Adjustable	Constant torque adjustable luminaire head
Ambient Operating Temperature	-40°C to 50°C (-40°F to 122°F)
Surface Temperature	≤59°C (138°F)
Weight	2.0kg (4.5lb)

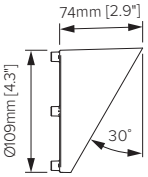
Certification & Compliance

IP Rating	IP66 / IP67
IK Rating	IK7
Environment	Dry, Damp, Wet locations
Certifications	ETL, CE, RCM, CCC (Pending)

Luminaire Dimensions



Shielding & Glare Control



LS6104
External Glare Shield

LS2020	22W				PS	

Static White & Colour	Code
2,700 K (80 CRI)	827
3,000 K (80 CRI)	830
3,500 K (80 CRI)	835
4,000 K (80 CRI)	840
5,000 K (70 CRI)	750
Red	RED
Green	GRN
Blue	BLU

Dynamic Colour	Code
RGBA	4CA
RGBW	4CW
RGBW - Royal Blue	4BW

Tunable White	Code
2,700 K - 6,500 K	2WT

Beam	Code
10°	VN
13°	NR
20°	NM
26°	ME
47°	WD
40° x 10°	NH
10° x 40°	NV
60° x 20°	WH
20° x 60°	WV

Input Voltage	Code
110-240V, 50/60Hz	01(1)
120-277V, 50/60Hz	09(2)
30-48V DC	07(1)
30-48V DC	13(2)

(1) International market
(2) North American market

Finish	Code
Black	BL
Anthracite Grey	AG
Basalt Grey	BT
Anodic Silver	SL
White	WT
Dark Bronze	DB
Latte	LT
Dark Aluminum	DA
Custom RAL	CC(1)

(1) Please provide RAL colour.

LS6104	

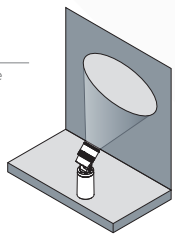
Glare Control Accessories	Code
External Glare Shield	LS6104

Finish	Code
Black	BL
Anthracite Grey	AG
Basalt Grey	BT
Anodic Silver	SL
White	WT
Dark Bronze	DB
Latte	LT
Dark Aluminum	DA
Custom RAL	CC(1)

(1) Please provide RAL colour.

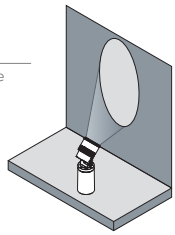
Beam Orientations

Beam Orientation for the "NH" and "WH" optical system



Beam Orientations

Beam Orientation for the "NV" and "WV" optical system

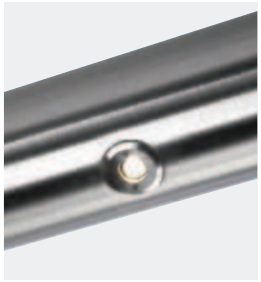


LUMENRAIL® FIXTURE QTY, DIST, GAGE SPECS

Installation Instructions

Another Lumenrail® Document for Life Safety and Light

S5



Lumenpod® 16: Quantity, Distance & Conductor Specification Sample

Wire Gauge	16 AWG	14 AWG	12 AWG	10 AWG
Remote Distance to First Pod	20′	45′	70′	95′

Suitable Values for 500mA Drive Current With:

- 42 Pods on 2′ spacing using our 100W standard driver
- 26 Pods on 2′ spacing using our 100W USA driver

Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing. Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Fixture Wattage
Per/Lumenpod® 16
1.7W @ 350mA 2.2W @ 500mA

Wire Length
8″

Bantam™: Quantity, Distance & Conductor Specification Sample

Wire Gauge	16 AWG	14 AWG	12 AWG	10 AWG
Remote Distance to First Bantam	20′	45′	70′	95′

Suitable Values for 500mA Drive Current With:

- 36 Bantams on post spacing (7′ intermediate conductors) using our 100W standard driver
- 20 Bantams on post spacing (7′ intermediate conductors) using our 100W USA driver

Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing. Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Fixture Wattage
Per/Bantam™
1.7W @ 350mA 2.2W @ 500mA

Wire Length
8″

Bantam™ SQ: Quantity, Distance & Conductor Specification Sample

Wire Gauge	16 AWG	14 AWG	12 AWG	10 AWG
Remote Distance to First Bantam	20′	45′	70′	95′

Suitable Values for 500mA Drive Current With:

- 36 Bantams on post spacing (7′ intermediate conductors) using our 100W standard driver
- 20 Bantams on post spacing (7′ intermediate conductors) using our 100W USA driver

Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing. Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Fixture Wattage
Per/Bantam™
1.7W @ 350mA 2.2W @ 500mA

Wire Length
8″

Lumenpod® 28: Quantity, Distance & Conductor Specification Sample

Wire Gauge	16 AWG	14 AWG	12 AWG	10 AWG
Remote Distance to First Pod	20′	45′	70′	95′

Suitable Values for 100W, 24VDC @ 500mA Drive Current With:

- 42 Pods on 2′ spacing using our 100W standard driver
- 26 Pods on 2′ spacing using our 100W USA driver

Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing. Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Fixture Wattage
Per/Lumenpod® 28
1.7W @ 350mA 2.2W @ 500mA

Wire Length
8″

Lumenpod® 30: Quantity, Distance & Conductor Specification Sample

Wire Gauge	16 AWG	14 AWG	12 AWG	10 AWG
Remote Distance to First Pod	20′	45′	70′	95′

Suitable Values for 100W, 24VDC @ 500mA Drive Current With:

- 36 Pods on post spacing (7′ intermediate conductors) using our 100W standard driver
- 20 Pods on post spacing (7′ intermediate conductors) using our 100W USA driver

Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing. Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Fixture Wattage
Per/Lumenpod® 30
1.7W @ 350mA 2.2W @ 500mA

Wire Length
8″

WAGNER Architectural Systems
888-243-6914 // rfq@mailwagner.com
10600 West Brown Deer Road // Milwaukee, WI 53224, USA

LUMENRAIL® FIXTURE QTY, DIST, GAGE SPECS

Installation Instructions

Another Lumenrail® Document for Life Safety and Light

Lumenlinear™: Distance & Conductor Specification Example					
Wire Gauge	18 AWG	16 AWG	14 AWG	12 AWG	10 AWG
Distance to First Fixture	18′	29′	46′	71′	120′

Suitable Values for 100W, 24VDC @ 500mA Drive Current.
Actual distances will vary depending on the total load, drive current, wire gauge and fixture spacing.
Verify all distance calculations with overall design of system. Conductor supply and gauge specification by others.

Lumenlinear™ - Lumens/FT Specifications Using 120° Output						
	2W/FT		4W/FT		6W/FT	
Lens Specification	Matte	Transparent	Matte	Transparent	Matte	Transparent
CCT 3000 K	131 lm	147 lm	235 lm	268 lm	336 lm	383 lm
CCT 4000 K	132 lm	152 lm	247 lm	284 lm	361 lm	413 lm

Download IES files from our website or contact factory for other configuration data.

Lumenlinear™: Conductor Qty. By-Pass Limitations			
Wire Gauge	1.5″ D	1.66″ D	1.90″ D
14 AWG	2	2	6
12 AWG	X	X	4
10 AWG	X	X	2

Conductor supply and gauge specification by others.

Light Run Lengths by W/FT - 100W		
2W/FT	4W/FT	6W/FT
40FT	20FT	13FT
Wire Length		
18″		

WAGNER Architectural Systems
888-243-6914 // rfq@mailwagner.com
10600 West Brown Deer Road // Milwaukee, WI 53224, USA

Specification Sheet

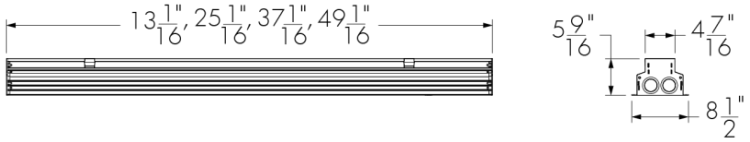
S6 **lumenfacade**
Inground
LOI

WHITE AND STATIC COLORS

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____

Top view



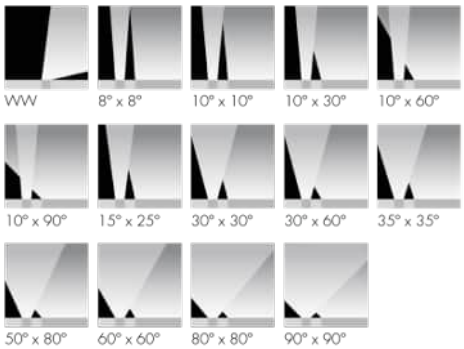
Front and side views

Photometric Summary

	Delivered output (lm)	Intensity (peak cd)
WW	3634	10,795
8°x8°	4512	59,238
10°x10°	4410	33,872
10°x30°	4586	25,296
10°x60°	3876	12,062
10°x90°	4077	6927
15°x25°	4346	19,773
30°x30°	4730	16,886
30°x60°	4035	5317
35°x35°	4612	11,616
50°x80°	4656	3904
60°x60°	3868	3368
80°x80°	4548	2992
90°x90°	4070	2132

Based on 40K full output, 4ft [1219mm], DMX/RDM configuration.
2.5° factory-set tilt setting for WW optic, 0° tilt setting for all other optics.
Photometric performance is measured in compliance with IESNA LM-79-08.

Optics



Description

The Lumenfacade Inground is an LED luminaire designed for ground-recessed lighting applications, including asymmetric wall washing, grazing, and linear wayfinding. An innovative, plug and play design simplifies installation, protecting the system from water infiltration and ensuring long-lasting performance. Featuring second generation LED technology, the Lumenfacade Inground is available in four different sizes (12 in, 24 in, 36 in or 48 in), with a wide choice of outputs, color temperatures, color-mixing systems, optics and controls. A unique asymmetric wallwash distribution is also available, providing exceptional uniformity and brightness for walls and signage.

Features

Construction	Walk over compliant up to 500 kg in any type of ground, Walk over compliant up to 1000 kg in concrete
Color and Color Temperature	2200K, 2700K, 3000K, 3500K, 4000K, Red, Green, Blue
Length (nominal)	12 in, 24 in, 36 in, 48 in
Optics	Asymmetric wallwash, 8° x 8°, 10° x 10°, 10° x 30°, 10° x 60°, 10° x 90°, 15° x 25°, 30° x 30°, 30° x 60°, 35° x 35°, 50° x 80°, 60° x 60°, 80° x 80°, 90° x 90°
Tilt Setting (factory set)	0 degrees, 2.5 degrees, 5 degrees, 20 degrees
Optical Option	Internal louver
Options	Anti-slip lens, CE (certification covers European Economic Area)
Power Consumption	5 W/ft (meets ASHRAE standards for linear lighting on building facades - not available for 12 in fixture lengths), 8.5 W/ft (RO version), 15.25 W/ft (HO version), Typically 20% higher for 12 in fixture lengths
Warranty	5-year limited warranty

Performance

Maximum Delivered Output	4,730 lm (48 in fixture, 4000K, 30° x 30°, 0° tilt setting, DMX/RDM)

lumenpulse™

1220 Marie-Victorin Blvd., Longueuil, QC J4G 2H9 CA
info@lumenpulse.com **www.lumenpulse.com**
T United States 617.307.5700 | Canada 1.877.937.3003 | 514.937.3003 **F** 514.937.6289
www.lumenpulse.com/products/2247

Colors and Color Temperatures

Controls

ON/OFF 0-10V DALI

lumentalk DMXrdm EcoSystem. Enabled

Ratings

IP68 IK10

Certifications

Maximum Delivered Intensity	59,238 cd at nadir (48 in fixture, 4000K, 8° x 8°, 0° tilt setting, DMX/RDM)
Illuminance at Distance	Minimum 1 fc at 243 ft (48 in fixture, 4000K, 8° x 8°, 0° tilt setting, DMX/RDM)
Color Consistency	2 SDCM, 3 SDCM (2200K)
Color Rendering	Minimum CRI 80
Lumen Maintenance	L70 280,000 hrs, L95 35,000 hrs

Physical

Optical Chamber Material	Aluminum
Blockout Material	Polymer recycled PVC reinforced with a stainless steel frame
Trim Material	Anodized aluminum
Lens Material	Tempered glass
End Cap Material	Die cast aluminum
Hardware Material	Stainless steel
Weight	12 in: 7.5 lbs, 24 in: 15.3 lbs, 36 in: 21.4 lbs, 48 in: 27 lbs

Electrical and control

Voltage	120 to 277 volts
Fixture Cable	Power and data in one cable
Leader Cable Conductor	5C #16-5
Connectors	IP68 push-lock
Control	On/Off control, Lumentalk, 0-10V dimming, DALI dimming, Lutron® EcoSystem® Enabled dimming, DMX/RDM enabled
Resolution (DMX/RDM)	Per foot or per fixture (configured with LumenID V3 software), 8-bit or 16-bit

Environmental

Storage Temperature	-40 °F to 185 °F (device must reach start-up temperature value before operating)
Start-up Temperature	-13 °F to 122 °F
Operating Temperature	-40 °F to 122 °F
Ingress Protection Rating	IP68 rated for up to 1 ft, not suitable for permanent immersion applications
Impact Resistance Rating	IK10

Accessories (order separately)

Cables	Lumenfacade Inground Leader Cable, Lumenfacade Inground Jumper Cable
Electrical Accessories	Lumenfacade Inground Junction Box
Control Boxes	DMX/RDM enabled (daisy chain or star configuration), Ethernet enabled (daisy chain or star configuration)
Control Systems	Lumentone™ 2, Pharos® kit
Diagnostic and Addressing Tools	LumenID, LumentalkID

Aura Illuminated Wooden Ring Pendant

S7

structura

FIXTURE TYPE: _____

PROJECT NAME: _____

Solid wood exterior/interior LED round pendant.

FEATURES:

- Available in 2′ to 12′ diameters
- >90CRI smooth, dot free illumination
- Dimmable outdoor rated power supply and IP67 luminaire
- Catenary cable, ceiling, and wall mounting options

SPECIFICATIONS:

HOUSING: Solid Accoya wood linear assembled through glulam construction and precision machined using CNC technology. Adhesive complies with ASTM D-2559 glulam construction specifications for extreme exposed weather conditions, waterproof, and rated for wet or dry use exposure.

ELECTRICAL: Powered by a standalone Q-Tran QZ, 120-277VAC primary/24VDC secondary outdoor rated remote dimmable power supply. Power supply features built-in short circuit protection, over load protection, and over temperature protection. System is forward phase, reverse phase, and 1-10V dimming. Consult factory for other driver options. Catenary mounted fixtures supplied with 1′ infeed cable. A 40′ leader cable supplied with infeed only fixtures. Ceiling canopy mounted fixtures supplied with 6′ infeed cable. Operating temperature of -13°F to 125°F SO, 115°F MO, and 108°F HO.

OPTICAL SYSTEM: Available in 2700K, 3000K, 3500K, 4000K color temperatures with smooth, dot free illumination.

FINISHES AND MATERIALS: Wood is finished with a low VOC waterborne matte exterior finish containing UV and mildew inhibitors. Care and Maintenance

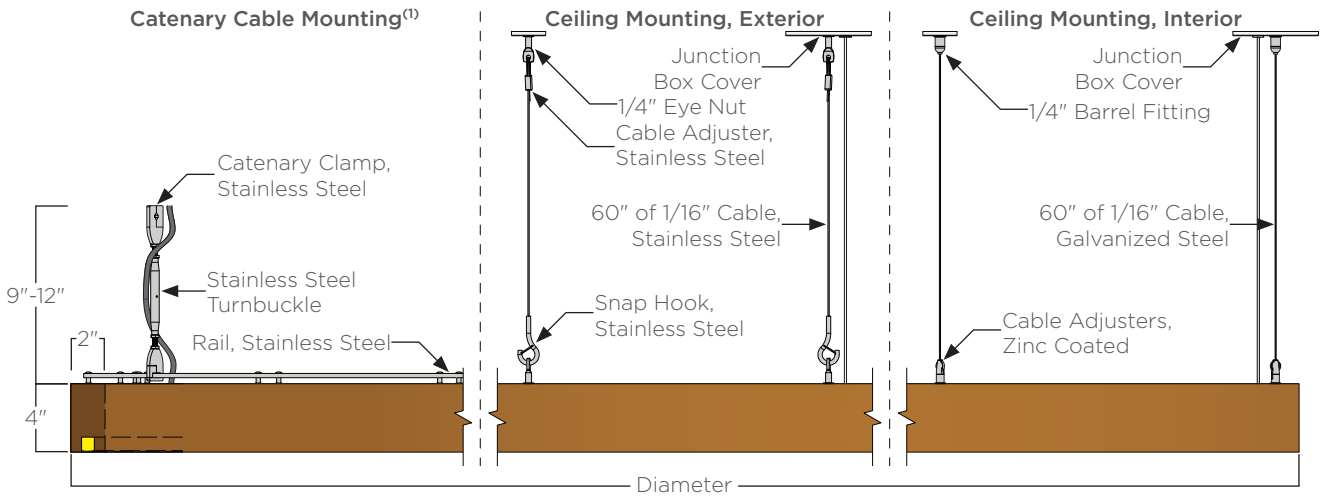
HARDWARE: All fasteners and non-wood components are stainless steel unless otherwise noted.

LISTINGS & RATINGS: Luminaire CSA listed according to CSA C22.2 No. 250.0-18/UL Standard 1598 and UL Standard 2108. Suitable for wet locations. LM-80 test calculated L70 > 40,000 hours.

WARRANTY: 25-year wood warranty with a 2-year finish warranty. 3-year warranty on LED and driver.

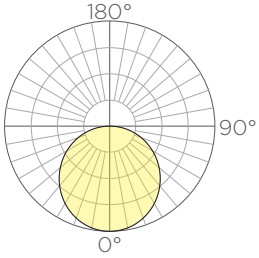
Aura Ring - Direct Lighting

structura



	Standard Output		Medium Output		High Output			
Dia.	Lumens(2)	Watts	Lumens(2)	Watts	Lumens(2)	Watts	Weight(3)	EPA(3)
2′	627	9	1139	18	1593	29	17lbs.	.69ft²
3′	936	13	1700	26	2378	43	25lbs.	.95ft²
4′	1299	18	2360	36	3301	60	32lbs.	1.24ft²
5′	1662	23	3020	46	4224	77	41lbs.	1.52ft²
6′	1980	28	3597	55	5032	91	47lbs.	1.81ft²
8′	2671	37	4851	74	6787	123	64lbs.	2.36ft²
10′	3361	47	6105	93	8541	155	80lbs.	2.92ft²
12′	4033	56	7326	110	10249	185	96lbs.	3.48ft²

Candela - Direct



ORDERING GUIDE: EXAMPLE: AURA-RNG-D-6-L27MO-S4-CA-STD

Wet Location

C SA US

AURA	RNG	D						
1	2	3	4	5	6	7	8	9

1	Series
AURA	Aura
2	**Series**
RNG	Ring
3	**Lighting**
D	Direct

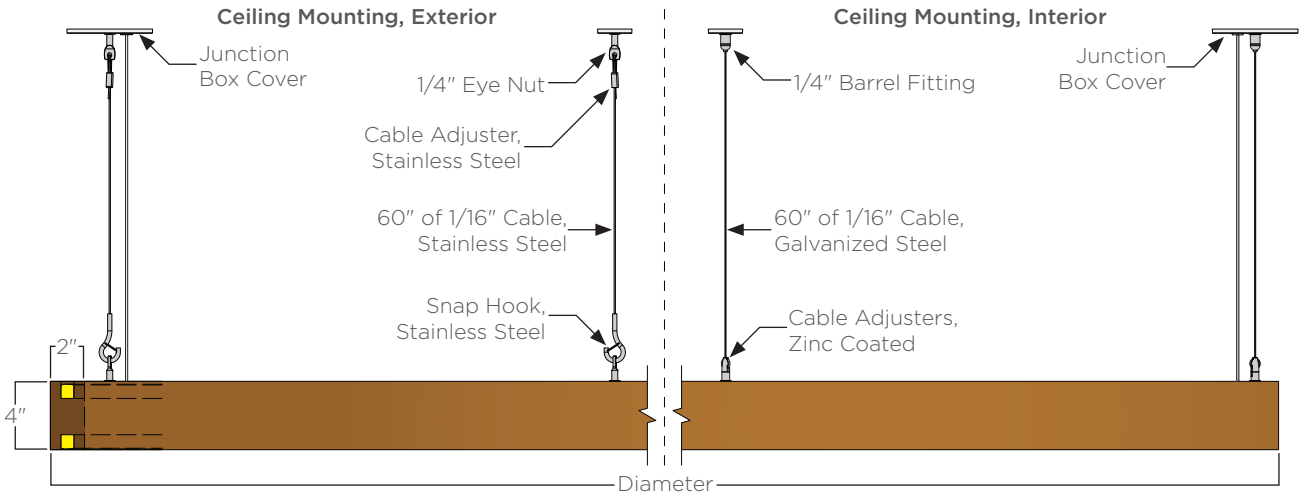
4	Diameter(4)
2	2′
3	3′
4	4′
5	5′
6	6′
8	8′
10	10′
12	12′

5	CCT
L27	2700K
L30	3000K
L35	3500K
L40	4000K
6	**Output**
SO	Standard Output
MO	Medium Output
HO	High Output

7	Wood Finish
S*	See color options on finishes technical sheet
8	**Mounting**
CA	Catenary Cable
CE/E	Ceiling Canopy, Exterior
CE/I	Ceiling Canopy, Interior
9	**Special**
STD	Standard
MOD	Modified

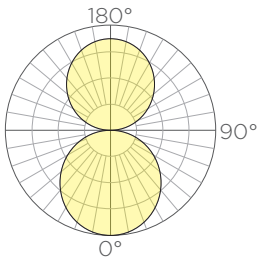
1. Catenary cable designed and provided separately.
2. Lumen output based upon 3000K CCT.
3. Weight and EPA based off of catenary mounting option.
4. Rings 10' diameter and larger will ship as multiple pieces that will need field assembly

Aura Ring - Direct/Indirect Lighting



	Standard Output		Medium Output		High Output			
Dia.	Lumens[1]	Watts	Lumens[1]	Watts	Lumens[1]	Watts	Weight	EPA
2′	1217	17	2211	34	3093	56	15lbs.	.57ft^2
3′	1835	26	3333	51	4663	85	23lbs.	.84ft^2
4′	2562	36	4653	71	6510	118	30lbs.	1.13ft^2
5′	3288	46	5973	91	8356	151	39lbs.	1.41ft^2
6′	3924	54	7128	108	9972	180	45lbs.	1.69ft^2
8′	5268	73	9570	145	13388	242	60lbs.	2.24ft^2
10′	6649	92	12078	183	16897	305	75lbs.	2.81ft^2
12′	7993	110	14520	220	20313	367	90lbs.	3.39ft^2

Candela - Direct/Indirect



Wet Location Under Canopy

ORDERING GUIDE: EXAMPLE: AURA-RNG-D/I-4-L30HO-S4-CE-STD

AURA	RNG	D/I						
1	2	3	4	5	6	7	8	9

1 Series
- **AURA** — Aura

2 Series
- **RNG** — Ring

3 Lighting
- **D/I** — Direct/Indirect[2]

4 Diameter[3]
- **2** — 2′
- **3** — 3′
- **4** — 4′
- **5** — 5′
- **6** — 6′
- **8** — 8′
- **10** — 10′
- **12** — 12′

5 CCT
- **L27** — 2700K
- **L30** — 3000K
- **L35** — 3500K
- **L40** — 4000K

6 Output
- **SO** — Standard Output
- **MO** — Medium Output
- **HO** — High Output

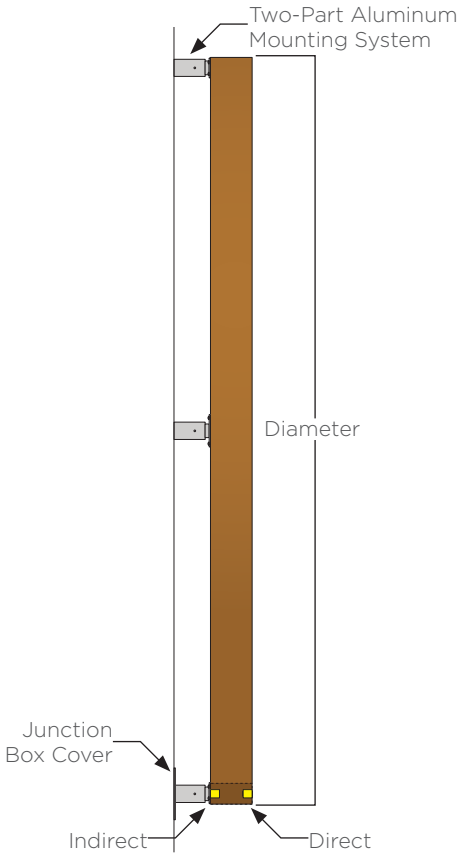
7 Wood Finish
- **S*** — See color options on finishes technical sheet

8 Mounting
- **CE/E** — Ceiling Canopy, Exterior
- **CE/I** — Ceiling Canopy, Interior

9 Special
- **STD** — Standard
- **MOD** — Modified

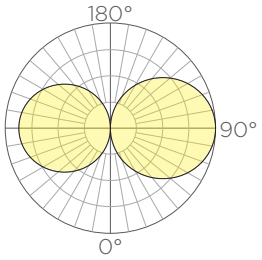
1. Lumen output based upon 3000K CCT.
2. Direct/indirect illumination controlled together. Contact Structura for independant control options.
3. Rings 10' diameter and larger will ship as multiple pieces that will need field assembly.

Aura Ring - Wall Mounting



	Standard Output		Medium Output		High Output		
Dia.	Watts D	Watts D/I	Watts D	Watts D/I	Watts D	Watts D/I	Weight
2′	9	17	18	34	29	56	7lbs.
3′	13	23	26	51	43	85	12lbs.
4′	18	36	36	71	60	118	16lbs.
5′	23	46	46	91	77	151	21lbs.
6′	28	54	55	108	91	180	26lbs.

Candela - Direct



ORDERING GUIDE: EXAMPLE: AURA-RNG-I-5-L30SO-S2-C4-WA4-STD

Wet Location

AURA	RNG								
1	2	3	4	5	6	7	8	9	10

1 Series
AURA Aura

2 Series
RNG Ring

3 Lighting
D Direct
I Indirect
D/I Direct/ Indirect[1]

4 Diameter
2 2′
3 3′
4 4′
5 5′
6 6′

5 CCT
L27 2700K
L30 3000K
L35 3500K
L40 4000K

6 Output
SO Standard Output
MO Medium Output
HO High Output

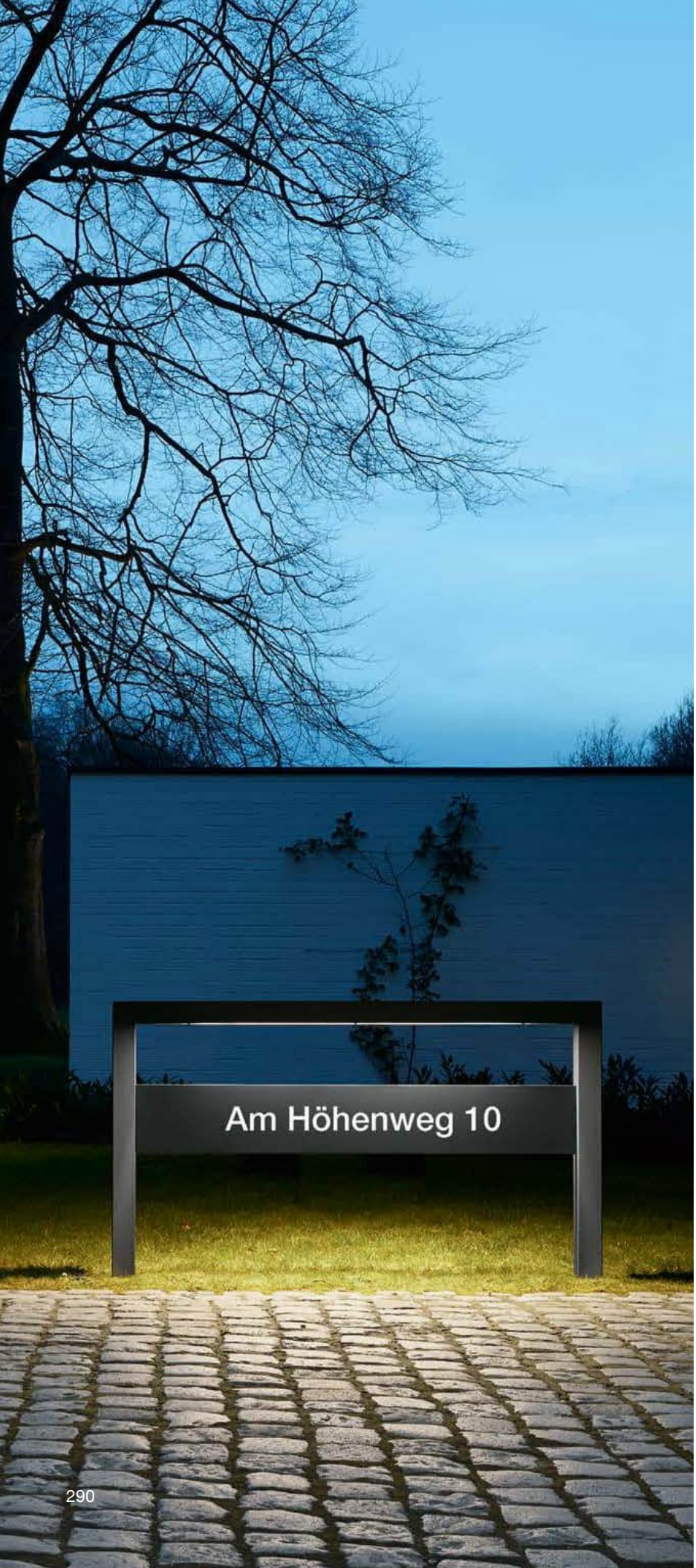
7 Wood Finish
S* See color options on finishes technical sheet

8 Metal Finish
******** See color options on finishes technical sheet
CSM Custom Color

9 Mounting
WA4 4″ Wall Mount
WA8 8″ Wall Mount

10 Special
STD Standard
MOD Modified

1. Direct/indirect illumination controlled together. Contact Structura for independant control options.



S8

Pathway and indication luminaires

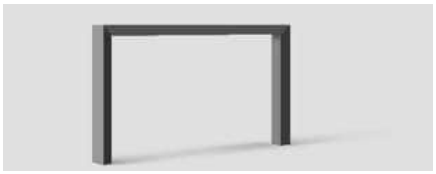
A series of pathway and indication luminaires available in two versions, with or without signage. Designed to illuminate pathways, entrances and driveways, or for wayfinding. The luminaires can be provided with externally illuminated
signage complete with individual lettering, symbols and logos, consult factory for details. Indication luminaires allow for fast and reliable wayfinding.

Die-cast and extruded aluminum · Galvanized steel anchorage · Safety glass

LED color temperatures: 2700 K, 3000 K, 3500 K, 4000 K
BEGA luminaires offer a minimum service life of 60,000 hours, with suitable LED replacement modules guaranteed for up to 20 years after date of purchase. Further LED technical data including luminous flux, CRI, dimming and electrical
characteristics are provided on the individual luminaire specification sheets, available at www.bega-us.com

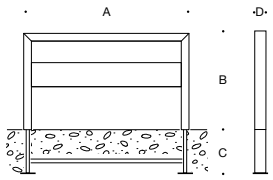
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure ® finish, a fluoropolymer technology, provides superior
fade protection in Black, Bronze, and Silver. BEGA standard White, as well as optionally available RAL and custom colors, are a polyester powder.

NRTL listed to North American standards · Suitable for wet locations Protection class IP 65



Pathway luminaire

Pathway luminaire with signage



Pathway luminaire					
	LED	A	B	C	D
99 061	50.4 W	69 1/8	39 1/2	23 5/8	7 1/8

Pathway luminaire · **with signage**					
	LED	A	B	C	D
99 069	50.4 W	69 1/8	39 1/2	23 5/8	7 1/8