URBAN DESIGN COMMISSION APPLICATION

UDC

City of Madison
Planning Division
Madison Municipal Building, Suite 017
215 Martin Luther King, Jr. Blvd.
P.O. Box 2985
Madison, WI 53701-2985
(608) 266-4635

FOR OFFICE USE ONLY:

Date Received _____ ☐ Initial Submittal

Paid _____ ☐ Revised Submittal

Complete all sections of this application, including the desired meeting date and the action requested. If your project requires both UDC and Land Use application submittals, a completed Land Use Application and accompanying submittal materials are also required to be submitted.

If you need an interpreter, translator, materials in alternate formats or other accommodations to access these forms, please call the Planning Division at (608) 266-4635.

Si necesita interprete, traductor, materiales en diferentes formatos, u otro tipo de ayuda para acceder a estos formularios, por favor llame al (608) 266-4635.

Yog tias koj xav tau ib tug neeg txhais lus, tus neeg txhais ntawv, los sis xav tau cov ntaub ntawv ua lwm hom ntawv los sis lwm cov kev pab kom paub txog cov lus qhia no, thov hu rau Koog Npaj (Planning Division) (608) 266-4635.

1. Project Information

Address (list all addresses on the project site): 1402 Wyoming Way, Madison WI 53704

Title: MMSD Black Hawk MS - Gompers ES

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

UDC meeting date requested October 22, 2025

☐ New development ☐ Alteration to an existing or previously-approved development

☐ Informational ☐ Initial Approval ☒ Final Approval

3. Project Type

☐ Project in an Urban Design District

☐ Project in the Downtown Core District (DC), Urban Mixed-Use District (UMX), or Mixed-Use Center District (MXC)

☐ Project in the Suburban Employment Center District (SEC), Campus Institutional District (CI), or Employment Campus District (EC)

☐ Planned Development (PD)

- ☐ General Development Plan (GDP)
- ☐ Specific Implementation Plan (SIP)

☐ Planned Multi-Use Site or Residential Building Complex

Signage

☐ Comprehensive Design Review (CDR)

☐ Modifications of Height, Area, and Setback

☐ Sign Exceptions as noted in Sec. 31.043(3), MGO

Other

☒ Please specify

Public Building

4. Applicant, Agent, and Property Owner Information

Applicant name Scott Chehak Company Madison Metropolitan School District

Street address 545 West Dayton Street City/State/Zip Madison, WI 53703

Telephone 608-235-4989 Email sachehak@madison.k12.wi.us

Project contact person Susan Bowersox Company OPN Architects

Street address 301 North Broom Street, Suite 100 City/State/Zip Madison, WI 53703

Telephone 319-551-9723 Email sbowersox@opnarchitects.com

Property owner (if not applicant) _____

Street address _____ City/State/Zip _____

Telephone _____ Email _____

URBAN DESIGN COMMISSION APPROVAL PROCESS

UDC

Introduction

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

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

Types of Approvals

There are three types of requests considered by the UDC:

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

Presentations to the Commission

The Urban Design Commission meets virtually via Zoom, typically on the second and fourth Wednesdays of each month at 4:30 p.m. Applicant presentations are strongly encouraged, although not required. Prior to the meeting, each individual speaker is required to complete an online registration form to speak at the meeting. A link to complete the online registration will be provided by staff prior to the meeting. Please note that individual presentations will be limited to a **maximum of three (3) minutes**. The pooling of time may be utilized to provide one speaker more time to present, however the additional time will be based on the number of registrants from the applicant team, i.e. two (2) applicant registrants = six (6) minutes for one (1) speaker.

Primarily, the UDC is interested in the appearance and design quality of projects. Emphasis should be given to the site plan, landscape plan, lighting plan, building elevations, exterior building materials, color scheme, and graphics. Please note that presentation slides, in a PDF file format, are required to be submitted **the Friday before** the UDC meeting.

URBAN DESIGN DEVELOPMENT PLANS CHECKLIST

UDC

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

1. Informational Presentation

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

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

Requirements for All Plan Sheets

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

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

2. Initial Approval

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

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

3. Final Approval

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

- ☐ Grading Plan
- ☐ Lighting Plan, including fixture cut sheets and photometrics plan (must be legible)
- ☐ Utility/HVAC equipment location and screening details (with a rooftop plan if roof-mounted)
- ☐ Site Plan showing site amenities, fencing, trash, bike parking, etc. (if applicable)
- ☐ PD text and Letter of Intent (if applicable)
- ☐ Samples of the exterior building materials
- ☐ Proposed sign areas and types (if applicable)

4. Signage Approval *(Comprehensive Design Review (CDR), Sign Modifications, and Sign Exceptions (per Sec. 31.043(3))*

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

5. Required Submittal Materials

☐ **Application Form**

- A completed application form is required for each UDC appearance. For projects also requiring Plan Commission approval, applicants must also have submitted an accepted application for Plan Commission consideration prior to obtaining any formal action (Initial or Final Approval) from the UDC.

☐ **Letter of Intent**

- If the project is within an Urban Design District, a summary of how the development proposal addresses the district criteria is required.
- For signage applications, a summary of how the proposed signage is consistent with the applicable Comprehensive Design Review (CDR) or Signage Modification review criteria is required.

☐ **Development Plans** (Refer to checklist on Page 4 for plan details)

☐ **Filing Fee** (Refer to Section 7 (below) for a list of application fees by request type)

☐ **Electronic Submittal**

- Complete electronic submittals must be received prior to the application deadline before an application will be scheduled for a UDC meeting. Late materials will not be accepted. All plans must be legible and scalable when reduced. Individual PDF files of each item submitted should be submitted via email to UDCapplications@cityofmadison.com. The email must include the project address, project name, and applicant name.
- Email Size Limits. Note that an individual email cannot exceed 20MB and it is the responsibility of the applicant to present files in a manner that can be accepted. Applicants who are unable to provide the materials electronically should contact the Planning Division at (608) 266-4635 for assistance.

☐ **Notification to the District Alder**

- Please provide an email to the District Alder notifying them that you are filing this UDC application. Please send this as early in the process as possible and provide a copy of that email with the submitted application.

6. Applicant Declarations

1. Prior to submitting this application, the applicant is required to discuss the proposed project with Urban Design Commission staff. This application was discussed with UDC Informational on 6/11/25.

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

Name of applicant Scott Chehak Relationship to property Senior Exec Dir of Building Services

Authorizing signature of property owner Scott Chehak Date 7/10/2025

7. Application Filing Fees

Fee payments are due by the submittal date. Payments received after the submittal deadline may result in the submittal being scheduled for the next application review cycle. Fees may be paid in-person, via US Mail, or City drop box. If mailed, please mail to: *City of Madison Building Inspection, P.O. Box 2984, Madison, WI 53701-2984*. The City's drop box is located outside the Municipal Building at 215 Martin Luther King, Jr. Blvd. on the E Doty Street side of the building. Please make checks payable to *City Treasurer*, and include a completed application form or cover letter indicating the project location and applicant information with all checks mailed or submitted via the City's drop box.

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

☐ Urban Design Districts: $350 *(per §33.24(6) MGO)*.

☐ Minor Alteration in the Downtown Core District (DC) or Urban Mixed-Use District (UMX) : $150 *(per §33.24(6)(b) MGO)*

☐ Comprehensive Design Review: $500 *(per §31.041(3)(d)(1)(a) MGO)*

☐ Minor Alteration to a Comprehensive Sign Plan: $100 *(per §31.041(3)(d)(1)(c) MGO)*

☐ All other sign requests to the Urban Design Commission, including, but not limited to: appeals from the decisions of the Zoning Administrator, requests for Sign Modifications (of height, area, and setback), and additional sign code approvals: $300 *(per §31.041(3)(d)(2) MGO)*

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

— Project in the Downtown Core District (DC), Urban Mixed-Use District (UMX), or Mixed-Use Center District (MXC)

— Project in the Suburban Employment Center District (SEC), Campus Institutional District (CI), or Employment Campus District (EC)

— Planned Development (PD): General Development Plan (GDP) and/or Specific Implementation Plan (SIP)

— Planned Multi-Use Site or Residential Building Complex

Cedar Rapids
200 Fifth Avenue SE Ste. 201
Cedar Rapids, Iowa 52401
(319) 363-6018

Des Moines
100 Court Avenue Ste. 100
Des Moines, Iowa 50309
(515) 309-0722

Iowa City
24 ½ S. Clinton Street Ste. 1
Iowa City, Iowa 52240
(319) 363-6018

Madison
301 N. Broom Street Ste. 100
Madison, Wisconsin 53703
(608) 819-0260

Minneapolis
212 N 3rd Avenue, Ste. 312
Minneapolis, Minnesota 55401
(612) 355-7111

opnarchitects.com

October 2025

Letter of Intent - City Submittal

Proposed Black Hawk Middle School – Gompers Elementary School
1402 Wyoming Way, Madison WI 53704

Madison Metropolitan School District is proposing to construct a new combination Middle School – Elementary School to replace the current school on the existing site located at 1402 Wyoming Way, Madison, WI 53704. The new school will be constructed on the unused portion of the site while the existing school is in use. Upon completion of the new construction the existing building will then be demolished with new parking and green space constructed on the site.

The proposed Black Hawk Middle School – Gompers Elementary School was reviewed by the Urban Design Council on September 3, 2025 and was granted initial approval with the condition that the building design incorporate more color where feasible.

In the resubmitted design, cues were taken from the balance between nature and the rich tone of the GFRC panels already present at both the Black Hawk and Gompers main entrances. The geometric pattern created by 'peeling away' the metal skin allows for the application of color to reveal itself from the inside surface of the metal skin. With the use of perforations, the metal forms serve double duty as accent colors and sunscreen elements. As you move around the building the subtle gradation of the color is dynamically weaving in and out with the metal geometric forms.

Please contact Susan Bowersox with OPN Architects or Scott Chehak with Madison Metropolitan School District if additional information is needed prior to the upcoming review meeting.

Cedar Rapids
200 Fifth Avenue SE Ste. 201
Cedar Rapids, Iowa 52401
(319) 363-6018

Des Moines
100 Court Avenue Ste. 100
Des Moines, Iowa 50309
(515) 309-0722

Iowa City
24 ½ S. Clinton Street Ste. 1
Iowa City, Iowa 52240
(319) 363-6018

Madison
301 N. Broom Street Ste. 100
Madison, Wisconsin 53703
(608) 819-0260

Minneapolis
212 N 3rd Avenue, Ste. 312
Minneapolis, Minnesota 55401
(612) 355-7111

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October 2025

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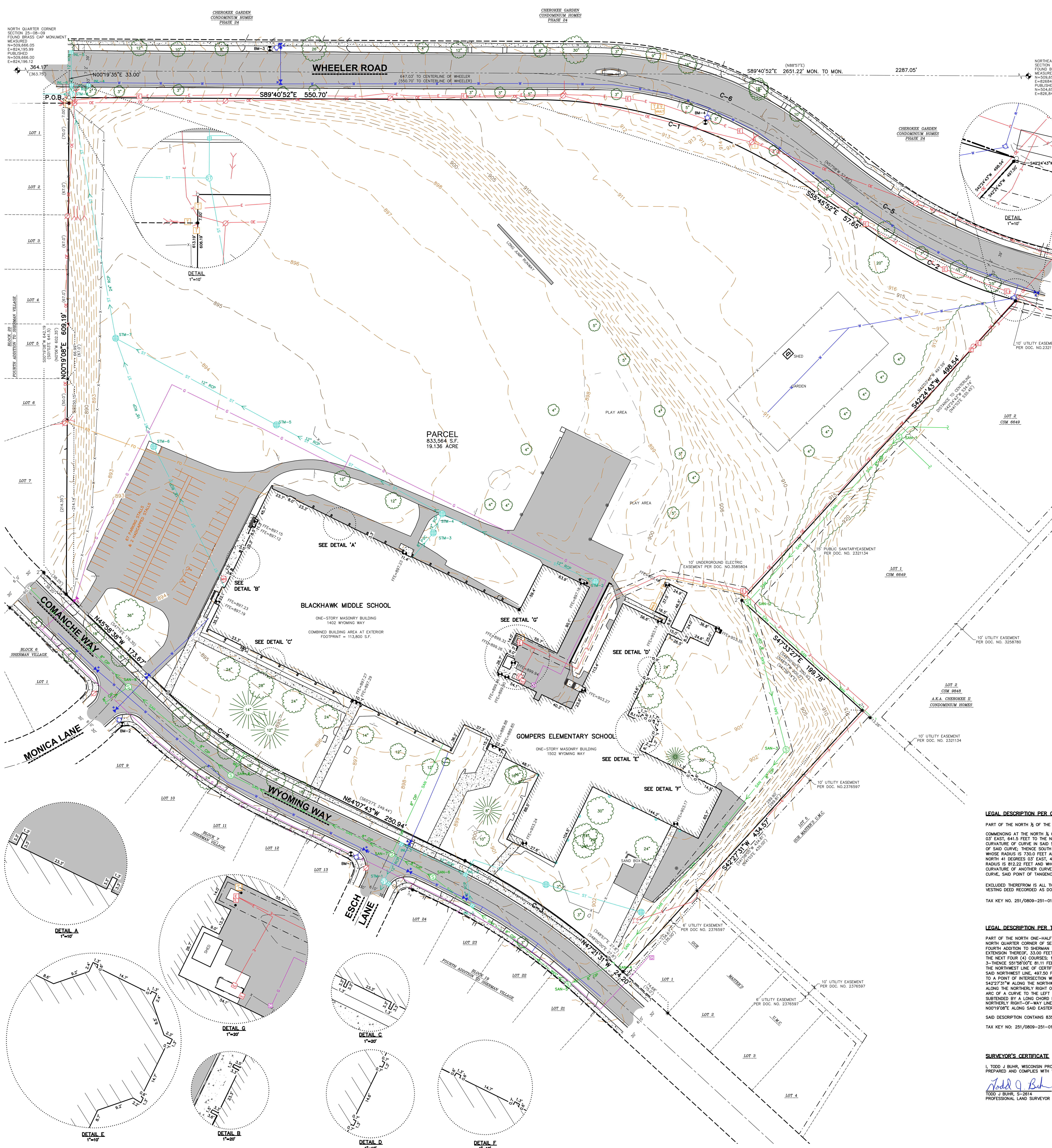
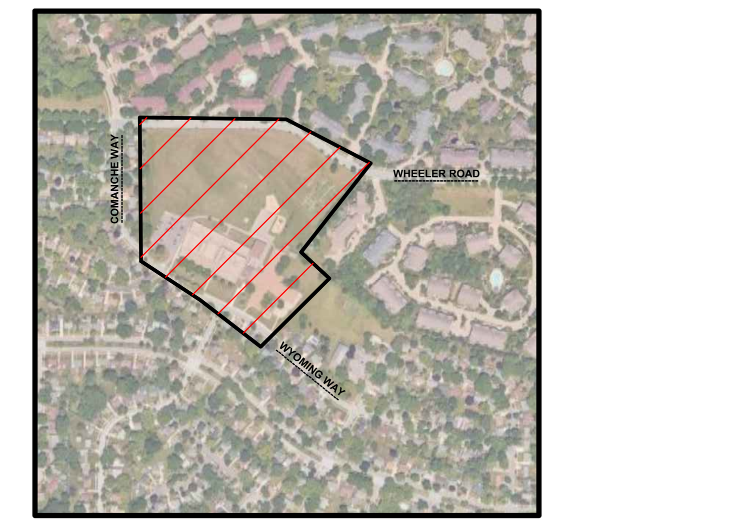
Please contact Susan Bowersox with OPN Architects or Scott Chehak with Madison Metropolitan School District if additional information is needed prior to the upcoming review meeting.

EXISTING CONDITIONS SURVEY

PART OF THE NORTH ONE-HALF OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 08 NORTH, RANGE 09 EAST, CITY OF MADISON, DANE, WISCONSIN.





VICINITY MAP
NOT TO SCALE

LEGEND

- GOVERNMENT CORNER
- 1" IRON PIPE FOUND
- 2" IRON PIPE FOUND
- ¾" REBAR FOUND
- 3/4" x 24" REBAR SET (1.50 LBS/LF)
- 1¼" x 30" REBAR SET (4.30 LBS/LF)
- CHISELED 'X' SET
- BENCHMARK
- FINISHED FLOOR SHOT LOCATION
- BOLLARD
- MAIL BOX
- SIGN
- SANITARY MANHOLE
- MANHOLE – UNVERIFIED TYPE
- HYDRANT
- WATER VALVE
- STORM MANHOLE
- ROUND CASTED INLET
- CURB INLET
- GAS REGULATOR/METER
- GAS VALVE
- POWER POLE
- BASKETBALL HOOP
- POWER POLE W/GUY
- LIGHT POLE
- ELECTRIC TRANSFORMER
- FLAG POLE
- VAULT
- TELEPHONE PEDESTAL
- DECIDUOUS TREE
- CONIFEROUS TREE
- HANDICAP PARKING
- PARCEL BOUNDARY
- SECTION LINE
- RIGHT–OF–WAY LINE
- PLATTED LOT LINE
- CHORD LINE
- SETBACK LINE
- EASEMENT LINE
- LANDSCAPE LIMITS
- FENCE LINE
- CONCRETE CURB & GUTTER
- EDGE OF PAVEMENT
- SAN — SANITARY SEWER
- W — WATER LINE
- ST — STORM SEWER
- G — NATURAL GAS
- OH — OVERHEAD LINE
- E — UNDERGROUND ELECTRIC
- BUILDING
- 875 — INDEX CONTOUR
- 874 — INTERMEDIATE CONTOUR
- BITUMINOUS PAVEMENT
- CONCRETE PAVEMENT
- PAVEMENT STRIPING
- END OF FLAGGED UTILITIES
- ( ) DENOTES RECORDED AS MEASUREMENTS DEPICTING THE SAME LINE ON THE GROUND AS RETRACED BY THIS SURVEY

NOTES

1. FIELD WORK PERFORMED BY ON DECEMBER 2ND THROUGH 6TH, 2024.
2. BEARINGS FOR THIS SURVEY AND MAP ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DANE ZONE THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 25, T08N, R09E BEARING S89°40'52"E.
3. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BENCHMARK IS A BRASS CAP MARKING THE NORTHEAST 1/4 CORNER OF SECTION 25, T08N, R09E, ELEVATION = 903.34'
4. CONTOUR INTERVAL IS ONE FOOT.
5. SUBSURFACE UTILITIES AND FEATURES SHOWN ON THIS MAP HAVE BEEN APPROXIMATED BY LOCATING SURFICIAL FEATURES AND APPURTENANCES, LOCATING DIGGERS HOTLINE FIELD MARKINGS AND BY REFERENCE TO UTILITY RECORDS AND MAPS. DIGGER'S HOTLINE TICKET NOs. 20244714662 AND 20244714634, WITH A CLEAR DATE OF 11/27/2024.
6. UTILITY COMPANIES CONTACTED THRU DIGGERS HOTLINE:
   CITY OF MADISON — MGE (ELECTRIC AND GAS)
   CHARTER COMMUNICATIONS — AT&T
7. BEFORE EXCAVATION, APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED. FOR EXACT LOCATION OF UNDERGROUND UTILITIES, CONTACT DIGGERS HOTLINE, AT 1.800.242.8511.
8. THE ACCURACY OF THE BENCHMARKS SHOWN ON THIS MAP SHALL BE VERIFIED BEFORE BEING UTILIZED.
9. THIS SURVEY REFLECTS TITLE 3191962 ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, WITH A COMMITMENT DATE OF DECEMBER 10, 2024.
10. RIGHT OF WAY AND CENTERLINE FOR WHEELER ROAD BASED ON RECORDED CHEROKEE GARDEN CONDOMINIUM HOMES PHASE 24, A CONDOMINIUM PLAT. RECORDED IN VOLUME 6–106B OF CONDOMINIUM PLATS, PAGE 1, DOCUMENT No. 4444679.

SANITARY SEWER MANHOLES

STRUCT. ID	RIM ELEVATION	INVERT	ELEVATION	PIPE SIZE	PIPE TYPE
SAN–1	917.59	NE	908.17	8"	CIP
		SW	908.05	8"	CIP
SAN–2	907.80	NE	898.36	8"	CIP
		S	898.32	8"	CIP
SAN–3	902.75	N	895.18	8"	CIP
		SW	895.15	8"	CIP
SAN–4	902.89	NE	893.90	8"	CIP
		SW	893.86	8"	CIP
SAN–5	901.95	NE	893.56	8"	CIP
		SE	892.40	8"	CIP
		SW	892.38	8"	CIP
SAN–6	898.25	SE	889.93	8"	CIP
		NW	889.80	8"	CIP
SAN–7	897.48	SE	–	8"	CIP
		NW	–	8"	CIP
SAN–8	894.25	NE	886.56	8"	CIP
		SE	885.84	8"	CIP
		NW	885.79	8"	CIP
SAN–9	892.17	SE	883.73	8"	CIP
		SW	883.74	8"	CIP
		NW	883.59	8"	CIP

STORM SEWER INLETS

INLET ID	RIM ELEVATION	INVERT	ELEVATION	PIPE SIZE	PIPE TYPE
INL–1	898.57	NW	894.57	12'	RCP
		NE	894.79	6"	PVC
INL–2	898.49	SE	894.79	12'	RCP
		NW	894.74	12'	RCP
INL–3	896.88	SW	894.03	12'	RCP
		SE	894.03	12'	RCP
		W	885.73	12'	RCP
INL–4	889.36	S	–	12'	RCP
INL–5	887.80	N	884.54	12'	RCP
INL–6	888.01	E	884.54	12'	RCP
		S	884.54	18"	RCP

STORM SEWER MANHOLES

STRUCT. ID	RIM ELEVATION	INVERT	ELEVATION	PIPE SIZE	PIPE TYPE
STM–1	896.50	NE	891.66	12"	RCP
		SE	891.66	12"	RCP
		SW	891.66	12"	RCP
STM–2	896.69	NE	894.01	12"	RCP
STM–3	895.45	NE	890.40	12"	RCP
		SW	890.40	8"	CPP
STM–4	896.11	SE	891.59	12"	RCP
		SW	891.59	12"	RCP
		NE	891.59	12"	RCP
STM–5	894.18	SE	890.20	12"	PVC
		NW	890.20	12"	PVC
STM–6	892.38	SE	887.46	18"	RCP
		NE	887.15	12"	RCP
STM–7	893.01	SE	888.48	12"	PVC
		S	885.31	18"	RCP
		N	885.31	24"	RCP
STM–8	890.87	N	883.46	18"	RCP
		S	883.43	24"	RCP
		W	883.13	30"	RCP

BENCHMARKS

BENCH MARK	ELEVATION	DESCRIPTION
BM–1	898.96	UPPER FLANGE BOLT EAST SIDE OF HYDRANT
BM–2	894.86	UPPER FLANGE BOLT EAST SIDE OF HYDRANT
BM–3	904.32	ARROW ON UPPER FLANGE OF HYDRANT
BM–4	917.43	NORTH BOLT OF UPPER FLANGE OF HYDRANT

CURVE TABLE

CURVE	RADIUS	DELTA	CHORD BEARING	CHORD	ARC LENGTH	TANGENT LENGTH
C1	580.58'	038°34'20"	S70°04'07"E	383.52'	390'	203.16
			(S70°09'14"E)			
C2	549.42'	023°09'58"	S63°15'50"E	220.63'	222.14'	112.61
			(S68°30'54"E)			
C3	730.00'	016°46'12"	N55°44'37"W	212.90'	213.66'	107.60
	(730.0')	(016°30')	(S57°12'E)	(209.50')		
C4	535.01'	018°09'05"	N55°03'11"W	168.78'	169.49'	85.46
	(535.01')	(018°08')	(S56°23'E)	(168.62')		
C5	572.90'	034°38'12"	N68°30'22"EW	341.08'	346.33'	178.64
	(812.22')		(N65°08'W)	(226.98')		
C6	409.25'	038°32'13"	N70°05'59"W	270.10'	275.26'	143.06
	(691.13')		(N74°05'30"W)	(403.17')		

LEGAL DESCRIPTION PER COMMITMENT

PART OF THE NORTH ½ OF THE NORTHEAST ¼ OF SECTION 25, TOWN 8 NORTH, RANGE 9 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, WHICH IS MORE FULLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH ¼ CORNER OF SAID SECTION 25; THENCE NORTH 88 DEGREES 57' EAST, ALONG THE NORTH LINE OF SAID SECTION, 363.75 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 1 DEGREE 03' EAST, 641.5 FEET TO THE NORTHEAST LINE OF STREET CALLED WYOMING WAY IN THE RECORDED PLAT OF SHERMAN VILLAGE; THENCE SOUTH 47 DEGREES 19' EAST, ALONG SAID NORTHEAST LINE OF STREET, 176.35 FEET TO POINT OF CURVATURE OF CURVE IN SAID STREET; THENCE ALONG A CURVE TO THE LEFT WHOSE RADIUS IS 535.01 FEET AND WHOSE MAIN CHORD BEARS SOUTH 56 DEGREES 23' EAST FOR A DISTANCE OF 168.62 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE SOUTH 65 DEGREES 27' EAST, ALONG THE NORTHEAST LINE OF WYOMING WAY AND SAID LINE EXTENDED, 249.44 FEET TO THE POINT OF CURVATURE OF ANOTHER CURVE; THENCE ON A CURVE TO THE RIGHT WHOSE RADIUS IS 730.0 FEET AND WHOSE MAIN CHORD BEARS SOUTH 57 DEGREES 12' EAST FOR A DISTANCE OF 209.50 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE SOUTH 48 DEGREES 57' EAST, 27.8 FEET; THENCE NORTH 41 DEGREES 03' EAST, 435.0 FEET; THENCE NORTH 48 DEGREES 57' WEST, 200.0 FEET; THENCE NORTH 41 DEGREES 03' EAST, 535.45 FEET TO THE CENTER LINE OF WHEELER ROAD; THENCE ON A CURVE TO THE RIGHT WHOSE RADIUS IS 812.22 FEET AND WHOSE MAIN CHORD BEARS NORTH 65 DEGREES 08' WEST FOR A DISTANCE OF 226.98 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE NORTH 57 DEGREES 08' WEST 57.65 FEET TO THE POINT OF CURVATURE OF ANOTHER CURVE; THENCE ON A CURVE TO THE LEFT WHOSE RADIUS IS 691.13 FEET AND WHOSE MAIN CHORD BEARS NORTH 74 DEGREES 05'30" WEST FOR A DISTANCE OF 403.17 FEET TO THE POINT OF TANGENCY OF SAID CURVE, SAID POINT OF TANGENCY ALSO BEING ON THE NORTH SIDE OF SAID SECTION 25; THENCE SOUTH 88 DEGREES 57' WEST, ALONG SAID NORTH LINE OF SECTION, 550.7 FEET TO THE POINT OF BEGINNING.

EXCLUDED THEREFROM IS ALL THAT PORTION OF THE ABOVE DESCRIBED PROPERTY DESIGNATED AND REQUIRED BY THE CITY OF MADISON FOR PUBLIC STREET RIGHT–OF–WAY USE, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED IN THE VESTING DEED RECORDED AS DOCUMENT NO. 3470680.

TAX KEY NO. 251/0809–251–0198–5

LEGAL DESCRIPTION PER THIS SURVEY

PART OF THE NORTH ONE–HALF OF THE NORTHEAST QUARTER OF SECTION 25, TOWNSHIP 08 NORTH, RANGE 09 EAST, IN THE CITY OF MADISON, DANE COUNTY WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTH QUARTER CORNER OF SECTION 25 AFORESAID; THENCE S89°40'52"E ALONG THE NORTH LINE OF SECTION 25, AFORESAID, 364.17 FEET TO A POINT OF INTERSECTION WITH THE NORTHERLY EXTENSION OF AN EASTERLY LINE OF FOURTH ADDITION TO SHERMAN VILLAGE, AS RECORDED IN VOLUME 29 OF PLATS, ON PAGES 6–7, AS DOCUMENT NUMBER 1119767, DANE COUNTY REGISTRY; THENCE S00°19'08"E ALONG SAID EASTERLY LINE AND ITS NORTHERLY EXTENSION THEREOF, 33.00 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY RIGHT–OF–WAY LINE OF WHEELER ROAD, SAID POINT ALSO BEING THE POINT OF BEGINNING; THENCE ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE FOR THE NEXT FOUR (4) COURSES; 1–THENCE S89°40'52"E, 649.94 FEET TO A POINT OF A CURVATURE; 2–THENCE 253.30 FEET ALONG THE ARC OF A CURVE TO THE RIGHT SUBTENDED BY A LONG CHORD BEARING S70°04'07"E, 248.54 FEET; 3–THENCE S51°58'00"E 81.11 FEET TO A POINT OF A CURVATURE; 4–THENCE 244.98 FEET ALONG THE ARC OF A CURVE TO THE LEFT SUBTENDED BY A LONG CHORD BEARING S62°47'32"E, 243.31 FEET TO A POINT OF INTERSECTION WITH THE NORTHWEST LINE OF CERTIFIED SURVEY MAP NUMBER 6649, AS RECORDED IN VOLUME 32 OF CERTIFIED SURVEY MAPS, ON PAGES 335–336, AS DOCUMENT NUMBER 2321134, DANE COUNTY REGISTRY; THENCE S42°24'43"W ALONG SAID NORTHWEST LINE, 497.50 FEET TO THE WESTERLY MOST CORNER OF SAID CERTIFIED SURVEY MAP NUMBER 6649; THENCE S47°33'27"E ALONG THE SOUTHWESTERLY LINE OF SAID CERTIFIED SURVEY MAP NUMBER 6649, 199.78 FEET TO A POINT OF INTERSECTION WITH THE NORTHERLY MOST CORNER OF OUR MASTER'S U.M.C., AS RECORDED IN VOLUME 56–134A OF PLATS, ON PAGE 395, AS DOCUMENT NUMBER 2376597, DANE COUNTY REGISTER OF DEEDS; THENCE S42°27'31"W ALONG THE NORTHWESTERLY LINE OF SAID OUR MASTER'S U.M.C., 434.57 FEET TO THE WESTERLY MOST CORNER THEREOF, AND A POINT OF INTERSECTION WITH THE NORTHERLY RIGHT–OF–WAY LINE OF WYOMING WAY; THENCE ALONG THE NORTHERLY RIGHT OF WAY OF WYOMING WAY AND ITS NORTHWESTERLY EXTENSION THEREOF FOR THE NEXT FIVE (5) COURSES; 1–THENCE N47°21'31"W, 24.20 FEET TO A POINT OF A CURVE; 2–THENCE 213.66 FEET ALONG THE ARC OF A CURVE TO THE LEFT SUBTENDED BY A LONG CHORD BEARING N55°44'37"W, 212.90 FEET; 3–THENCE N64°07'43"W, 250.94 FEET TO A POINT OF A CURVE; 4–THENCE 169.49 FEET ALONG THE ARC OF A CURVE TO THE RIGHT SUBTENDED BY A LONG CHORD BEARING N55°03'11"W, 168.78 FEET TO A POINT OF INTERSECTION WITH THE SOUTHEASTERLY EXTENSION OF THE NORTHERLY RIGHT–OF–WAY LINE OF COMANCHE WAY; 5–THENCE N45°58'38"W ALONG THE NORTHERLY RIGHT–OF–WAY LINE OF COMANCHE DRIVE AND ITS SOUTHEASTERLY EXTENSION THEREOF, 173.67 FEET TO A POINT OF INTERSECTION WITH THE AFORESAID EASTERLY LINE OF FOURTH ADDITION TO SHERMAN VILLAGE; THENCE N00°19'08"E ALONG SAID EASTERLY LINE AND ITS NORTHERLY EXTENSION THEREOF, 609.19 FEET TO THE POINT OF BEGINNING.

SAID DESCRIPTION CONTAINS 835,501 SQUARE FEET, OR 19.180 ACRES.

TAX KEY NO: 251/0809–251–0198–5

SURVEYOR'S CERTIFICATE

I, TODD J BUHR, WISCONSIN PROFESSIONAL LAND SURVEYOR NO. S–2614, HEREBY CERTIFY THAT UNDER THE DIRECTION OF THE MADISON METROPOLITAN SCHOOL DISTRICT THIS SURVEY AND MAP HAS BEEN PREPARED AND COMPLIES WITH WISCONSIN ADMINISTRATIVE CODE A–E7 AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF IN ACCORDANCE WITH THE INFORMATION PROVIDED.

Todd J. Buhr — 10-08-2025
TODD J BUHR, S–2614 — DATE
PROFESSIONAL LAND SURVEYOR

WISCONSIN — TODD J. BUHR S–2614 DEFOREST, WI — LAND SURVEYOR

JSD
CREATE THE VISION TELL THE STORY
jsdinc.com
MADISON REGIONAL OFFICE
507 WEST VERONA AVENUE, SUITE 500
VERONA, WISCONSIN 53593
P. 608.848.5060

CLIENT:
MADISON METROPOLITAN SCHOOL DISTRICT

CLIENT ADDRESS:
301 NORTH BROOM STREET
MADISON, WI 53703

PROJECT:
BLACKHAWK MIDDLE & GOMPERS ELEMENTARY SCHOOLS

PROJECT LOCATION:
1402 & 1502 WYOMING WAY
MADISON, DANE COUNTY
WISCONISN

north
SCALE IN FEET
50' 0 50'

MODIFICATIONS:

#	Date:	Description:
1	01/17/25	PRELIMINARY MAP
2	03/11/25	FINAL MAP
3	10/08/25	BOUNDARY REVISION

Prepared By: SMN 03/11/2025

SHEET TITLE:
EXISTING CONDITIONS SURVEY

SHEET NUMBER:
1 OF 1

PROJECT NO: 24-14662

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF JSD PROFESSIONAL SERVICES, INC.

GENERAL NOTES

1. REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGENDS.
2. ALL WORK IN THE RIGHT-OF-WAY AND/OR PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, JURISDICTIONAL SPECIFICATIONS, AND APPROVED BY THE JURISDICTION HAVING AUTHORITY.
3. EXISTING GRADE SPOT ELEVATIONS SHOWN FOR INFORMATIONAL PURPOSES. DURING CONSTRUCTION MATCH EXISTING GRADES AT CONSTRUCTION LIMITS.
4. NO SITE GRADING OUTSIDE OR DOWNSLOPE OF PROPOSED SILT FENCE LOCATION. NO LAND DISTURBANCE BEYOND PROPERTY LINES.
5. JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES.
6. CONTRACTOR SHALL RESTORE ALL BUILDINGS, PAVEMENT, PIPES, SLOPES, AND STRUCTURES DAMAGED BY THE CONTRACTOR TO PRE-EXISTING OR BETTER CONDITIONS.
7. THE RIGHT-OF-WAY IS THE SOLE JURISDICTION OF THE JURISDICTIONAL AUTHORITY AND IS SUBJECT TO CHANGE AT ANY TIME.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY DURING THE CONSTRUCTION OF THESE IMPROVEMENTS.
9. ANY REFERENCES TO THE TERMS OR ENTITY ABBREVIATIONS IN THE FOLLOWING NOTES AND SPECIFICATIONS SHALL BE UNDERSTOOD AS FOLLOWS:
   - 9.1. "JURISDICTION " - THE LOCAL GOVERNMENTAL AGENCY (I.E., CITY, VILLAGE, TOWN, COUNTY, STATE, OR UTILITY SERVICE PROVIDER) HAVING AUTHORITY.
   - 9.2. "STATE HIGHWAY SPECIFICATIONS" - STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION AND SUPPLEMENTS
   - 9.3. "STANDARD SPECIFICATIONS" - STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, CURRENT EDITION AND SUPPLEMENTS
   - 9.4. WISCONSIN DEPARTMENT OF TRANSPORTATION - "WISDOT"
   - 9.5. WISCONSIN DEPARTMENT OF NATURAL RESOURCES - "WDNR"
   - 9.6. DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES - "DSPS" OR "SPS"

CONSTRUCTION SEQUENCING

1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION, AND CONSTRUCTION ENTRANCE.
2. STRIP AND STOCKPILE TOPSOIL AND INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
3. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES.
4. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
5. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
6. PLACE TOPSOIL AND IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROL MEASURES AS INDICATED ON PLANS.
7. EROSION CONTROLS SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED OR 70% CONTIGUOUS VEGETATIVE COVER IS ESTABLISHED.

CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM NO. 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

DEMOLITION NOTES

1. THIS PLAN INDICATES ITEMS ON THE PROPERTY INTENDED FOR DEMOLITION BASED ON THE CURRENT SITE DESIGN THAT HAVE BEEN IDENTIFIED BY A REASONABLE OBSERVATION OF THE EXISTING CONDITIONS THROUGH FIELD SURVEY RECONNAISSANCE, "DIGGERS HOTLINE" LOCATION, AND GENERAL "STANDARD OF CARE". THERE MAY BE ADDITIONAL ITEMS THAT CAN NOT BE IDENTIFIED BY A REASONABLE ABOVEGROUND OBSERVATION, OF WHICH THE ENGINEER WOULD HAVE NO KNOWLEDGE OR MAY BE A PART OF ANOTHER DESIGN DISCIPLINE. IT IS THE CONTRACTOR'S/BIDDER'S RESPONSIBILITY TO REVIEW THE PLANS, INSPECT THE SITE, AND PROVIDE THEIR OWN DUE DILIGENCE TO INCLUDE IN THEIR BID WHAT ADDITIONAL ITEMS, IN THEIR OPINION, MAY BE NECESSARY FOR DEMOLITION. ANY ADDITIONAL ITEMS IDENTIFIED BY THE CONTRACTOR/BIDDER SHALL BE IDENTIFIED IN THE BID AND REPORTED TO THE ENGINEER OF RECORD. JSD TAKES NO RESPONSIBILITY FOR ITEMS ON THE PROPERTY THAT COULD NOT BE LOCATED BY A REASONABLE OBSERVATION OF THE PROPERTY OR OF WHICH THEY WOULD HAVE NO KNOWLEDGE.
2. CONTRACTOR SHALL KEEP ALL STREETS AND PRIVATE DRIVES FREE AND CLEAR OF ALL CONSTRUCTION-RELATED DIRT, DUST, AND DEBRIS.
3. ALL TREES WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS SPECIFICALLY CALLED OUT FOR PROTECTION. ALL TREES TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. STUMPS MAY BE GROUND TO PROPOSED SUBGRADE IN GRASSED AREAS ONLY UNLESS DIRECTED BY ENGINEER.
4. ALL LIGHT POLES TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY, INCLUDING BASE AND ALL APPURTENANCES. SALVAGE FOR RELOCATION. COORDINATE RELOCATION AND/OR ABANDONMENT OF ALL ELECTRIC LINES WITH ELECTRICAL ENGINEER AND OWNER PRIOR TO DEMOLITION.
5. ABANDONED/REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF OFFSITE UNLESS OTHERWISE NOTED.
6. CONTRACTOR TO REPLACE ALL SIDEWALK AND CURB AND GUTTER ABUTTING THE PROPERTIES THAT WERE DAMAGED BY THE CONSTRUCTION.
7. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO:
   - 7.1. EXAMINE ALL SITE CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - 7.2. VERIFY UTILITY ELEVATIONS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCIES ARE RESOLVED.
   - 7.3. NOTIFY ALL UTILITIES OWNER'S PRIOR TO THE REMOVAL OF ANY UNDERGROUND UTILITIES.
   - 7.4. NOTIFY THE DESIGN ENGINEER AND LOCAL CONTROLLING MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION INSPECTION.
8. ANY UTILITIES THAT ARE DAMAGED BY THE CONTRACTORS SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR SHALL COORDINATE PRIVATE UTILITY REMOVAL/ABANDONMENT AND NECESSARY RELOCATION WITH RESPECTIVE UTILITY COMPANY. CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY COMPANIES PRIOR TO CONSTRUCTION.
10. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE APPROVED JURISDICTION'S RECYCLING PLAN.
11. ANY CONTAMINATED SOILS ENCOUNTERED SHALL BE REMOVED IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS TO AN APPROPRIATE AND APPROVED LANDFILL.
12. ALL EXISTING UTILITIES SHALL BE FIELD LOCATED AND CLEARLY MARKED BY CONTRACTOR PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ANY DISCREPANCIES OCCUR IN THE LOCATION SHOWN OR PROPOSED IMPROVEMENTS IMPACTING EXISTING UTILITY LINE LOCATION(S). CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING UTILITY LINE OPENINGS (ULO) TO CONFIRM LOCATIONS OR ELEVATIONS, AS REQUESTED BY THE ENGINEER.
13. SEWER ABANDONMENT SHALL BE IN ACCORDANCE WITH SECTION 3.2.24 OF THE STANDARD SPECIFICATIONS AND JURISDICTIONAL SPECIFICATIONS.
14. WATER ABANDONMENT SHALL BE IN ACCORDANCE WITH SECTION 4.14.0 OF THE STANDARD SPECIFICATIONS AND JURISDICTIONAL SPECIFICATIONS.
15. ALL PERIMETER EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF DEMOLITION ACTIVITIES. CONTRACTOR SHALL KEEP ALL STREETS AND PAVEMENTS FREE AND CLEAR OF ALL CONSTRUCTION RELATED DIRT, DUST, AND DEBRIS.
16. BUILDING REMOVALS SHALL BE PREFORMED BY A QUALIFIED CONTRACTOR. CONTRACTOR SHALL FOLLOW ALL DEMOLITION REGULATIONS, DISCONNECT ALL UTILITIES, OBTAIN ALL APPLICABLE PERMITS, AND DISPOSE OF ALL BUILDING MATERIALS IN APPROPRIATE AND APPROVED LANDFILLS. DEMOLISHED MATERIALS SHALL NOT BE BURNED OR BURIED ONSITE.
17. CONTRACTOR SHALL REMOVE EXISTING UTILITY PIPE OR PROVIDE PIPE BACKFILLING AFTER REMOVAL OF EXISTING UTILITIES WITHIN BUILDING FOOTPRINT USING "LOW DENSITY CONCRETE/FLOWABLE FILL".
18. RESTORATION OF THE EXISTING ROADWAY RIGHT-OF-WAYS ARE CONSIDERED INCIDENTAL AND SHALL BE PART OF THE COST OF THE UNDERGROUND IMPROVEMENTS, DEMOLITION, AND REMOVAL. THIS INCLUDES CURB AND GUTTER, SIDEWALK, TOPSOIL, SEEDING, AND MULCHING.

EXCAVATION, FILL PLACEMENT, & COMPACTION SPECIFICATIONS

1. ALL EXCAVATIONS SHALL BE TO THE ELEVATIONS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR DEMOLITION PURPOSES, AND SHALL INCLUDE SUFFICIENT DEPTHS FOR PLACEMENT OF FILL MATERIALS, BASE COURSES, PAVEMENTS, TOPSOIL AND OTHER MATERIALS TO THE SPECIFIED DEPTHS.
2. CONTRACTOR SHALL NOT EXCAVATE BELOW ELEVATIONS OR DESIGN GRADES SHOWN ON THE DRAWINGS WITHOUT PRIOR AUTHORIZATION FROM ENGINEER AND OWNER.
3. PRIOR TO ALL EXCAVATION OR FILLING OPERATIONS, CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL TOPSOIL FROM PROPOSED LOCATIONS OF BUILDINGS, STRUCTURES, ROADS, WALKS, OTHER PAVED AREAS, OR WITHIN THE GRADING EXTENTS WHERE EXISTING GRADES ARE ALTERED BY MORE THAN 3 INCHES. REMOVED OR STRIPPED TOPSOIL SHALL BE SEGREGATED AND STOCKPILED ON-SITE IN AN APPROPRIATE LOCATION TO BE RESPREAD AS INDICATED ON THE DRAWINGS.
4. WHERE CONTRACTOR ENCOUNTERS ROCK IN EXCAVATIONS OR TRENCHES, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER FOR FURTHER DETERMINATION OF EXCAVATION LIMITS AND SPECIFICATIONS.
5. CONTRACTOR SHALL NOT PLACE ANY FILL OR OTHER MATERIALS ON AREAS THAT HAVE NOT HAD TOPSOIL REMOVED, ARE FROZEN, SATURATED OR YIELDING. CONTRACTOR SHALL NOTIFY OWNER OR ENGINEER IF SUB-SOIL CONDITIONS NOT SUITABLE FOR SUPPORTING FILL AND A FURTHER DETERMINATION SHALL BE PROVIDED BY OWNER OR ENGINEER.
6. ALL FILL SHALL BE PLACED TO THE ELEVATIONS AND GRADES SHOWN ON THE DRAWINGS AND SHALL INCLUDE SUFFICIENT DEPTHS FOR PLACEMENT OF BASE COURSES, PAVEMENTS, TOPSOIL AND OTHER FILL MATERIALS TO THE SPECIFIED DEPTHS.
7. ALL FILLS UNDER PROPOSED BUILDINGS, STRUCTURES, PAVEMENTS AND TURF AREAS SHALL BE PLACED IN HORIZONTAL LIFTS, NOT EXCEEDING A THICKNESS OF 1-FOOT, UNLESS OTHERWISE DIRECTED BY OWNER OR ENGINEER. FILLS UNDER INFILTRATION AREAS SHALL BE PLACED TO MITIGATE COMPACTION WHICH COMPROMISES INFILTRATION CAPACITIES OF THE SOILS. REFER TO STORM WATER SPECIFICATIONS FOR FURTHER DETAILS.
8. PLACEMENT AND COMPACTION OF FILL MATERIALS SHALL BE COMPLETED TO MINIMIZE SETTLEMENT AND AVOID DAMAGE TO EXISTING BUILDINGS, STRUCTURES, PAVEMENTS UTILITIES AND OTHER WORK IN PLACE OR IN PROGRESS.
9. CONTRACTOR SHALL PLACE THE FILLS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND THE BELOW COMPACTION SPECIFICATIONS. THE GEOTECHNICAL REPORT RECOMMENDATIONS SHALL GOVERN IF DISCREPANCIES BETWEEN THE BELOW COMPACTION SPECIFICATIONS AND THE REPORT OCCUR.
   - 9.1. AREAS BENEATH FOOTINGS, FLOOR SLABS AND BUILDINGS: 95% MODIFIED PROCTOR
   - 9.2. AREAS BENEATH PAVEMENTS, SIDEWALKS OR OTHER EXTERIOR HARD SURFACES: 95% MODIFIED PROCTOR
   - 9.3. AREAS OUTSIDE 10' OF STRUCTURE OR PAVEMENTS AND IN TURF: 90% MODIFIED PROCTOR
     - 9.3.1. EXCLUDING STORM WATER INFILTRATION AREAS.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY COMPACTION AND GRADING EQUIPMENT AND MEANS AND METHODS TO ACHIEVE THE SPECIFIED COMPACTION REQUIREMENTS, INCLUDING USE OF HAND GUIDED VIBRATORY OR TAMPING COMPACTORS WHEN SPACE CONSTRAINTS OF COMPACTING BACKFILL ALONG WALLS, FOOTINGS, OR BUILDINGS MAY REQUIRE SUCH MEANS.
11. PRIOR TO PLACEMENT OF BASE COURSE MATERIALS IN PAVEMENT OR HARD SURFACE AREAS OR UNDERCUTTING OR EXCAVATION BELOW SUBGRADE (EBS) ELEVATIONS, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER TO CONDUCT AN INSPECTION OF THE PREPARED SUB-GRADE AND PROOF-ROLLING. PROOF-ROLLING SHALL BE CONDUCTED BY THE CONTRACTOR IN WITNESS OF THE OWNER AND ENGINEER. OWNER AND ENGINEER SHALL DETERMINE IF AREAS OF UNDERCUTTING OR EBS IS REQUIRED. UNDERCUTTING OR EBS SHALL BE COMPLETED BY THE CONTRACTOR PER THE DIRECTION OF THE OWNER AND ENGINEER.

GRADING AND EARTHWORK NOTES

1. ALL SITE PREP AND EARTHWORK SHALL CONFORM TO THE GEOTECHNICAL REPORT PREPARED BY CGC TITLED "GEOTECHNICAL EXPLORATION REPORT - PROPOSED PUBLIC LIBRARY" DATED 1/14/25. ALL REFERENCES TO THE "GEOTECHNICAL REPORT" SHALL BE UNDERSTOOD AS THE AFOREMENTIONED REPORT.
2. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY, AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR COMPUTATIONS OF ALL GRADING QUANTITIES. WHILE JSD PROFESSIONAL SERVICES, INC. ATTEMPTS TO PROVIDE A COST-EFFECTIVE APPROACH TO BALANCE EARTHWORK, GRADING DESIGN IS BASED ON MANY FACTORS, INCLUDING SAFETY, AESTHETICS, AND COMMON ENGINEERING STANDARDS OF CARE. THEREFORE, NO GUARANTEE CAN BE MADE FOR A BALANCED SITE.
4. ALL EXCAVATIONS AND FILLS SHALL BE TO THE ELEVATIONS SHOWN ON THE DRAWINGS AND SHALL INCLUDE SUFFICIENT DEPTHS FOR PLACEMENT OF FILL MATERIALS, BASE COURSES, PAVEMENTS, TOPSOIL, AND OTHER MATERIALS TO THE SPECIFIED DEPTHS.
5. CONTRACTOR SHALL NOT EXCAVATE BELOW ELEVATIONS OR DESIGN GRADES SHOWN ON THE DRAWINGS WITHOUT PRIOR AUTHORIZATION FROM ENGINEER AND OWNER.
6. PRIOR TO ALL EXCAVATION OR FILLING OPERATIONS, CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL TOPSOIL FROM PROPOSED LOCATIONS OF BUILDINGS, STRUCTURES, ROADS, WALKS, OTHER PAVED AREAS, STORM WATER FACILITIES OR WITHIN THE GRADING EXTENTS WHERE EXISTING GRADES ARE ALTERED BY MORE THAN 3". REMOVED OR STRIPPED TOPSOIL SHALL BE SEGREGATED AND STOCKPILED ON-SITE IN AN APPROPRIATE LOCATION TO BE RESPREAD AS SPECIFIED ON THE DRAWINGS.
7. CONTRACTOR SHALL NOT PLACE ANY FILL OR OTHER MATERIALS ON AREAS THAT HAVE NOT HAD TOPSOIL REMOVED, ARE FROZEN, SATURATED, OR YIELDING. CONTRACTOR SHALL NOTIFY OWNER OR ENGINEER IF SUBGRADE CONDITIONS ARE NOT SUITABLE FOR SUPPORTING FILL AND A FURTHER DETERMINATION SHALL BE PROVIDED BY OWNER OR ENGINEER.
8. CONTRACTOR SHALL PLACE THE FILLS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT INCLUDING LIFT DEPTHS AND COMPACTION EFFORTS.
9. PRIOR TO PLACEMENT OF BASE COURSE MATERIALS IN PAVEMENT OR HARD SURFACE AREAS OR CONDUCTING EXCAVATION BELOW SUBGRADE (EBS) ELEVATIONS, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER TO CONDUCT AN INSPECTION OF THE PREPARED SUBGRADE AND PROOF-ROLLING. PROOF-ROLLING SHALL BE CONDUCTED BY THE CONTRACTOR IN WITNESS OF THE OWNER AND ENGINEER. OWNER AND ENGINEER SHALL DETERMINE IF AREAS OF EBS ARE REQUIRED. EBS SHALL BE COMPLETED BY THE CONTRACTOR PER THE DIRECTION OF THE OWNER AND ENGINEER.

CITY FORESTRY NOTES

1. ALL PROPOSED STREET TREE REMOVALS WITHIN THE RIGHT OF WAY SHALL BE REVIEWED BY CITY FORESTRY BEFORE THE PLAN COMMISSION MEETING. STREET TREE REMOVALS REQUIRE APPROVAL AND A TREE REMOVAL PERMIT ISSUED BY CITY FORESTRY. ANY STREET TREE REMOVALS REQUESTED AFTER THE DEVELOPMENT PLAN IS APPROVED BY THE PLAN COMMISSION OR THE BOARD OF PUBLIC WORKS AND CITY FORESTRY WILL REQUIRE A MINIMUM OF A 72-HOUR REVIEW PERIOD WHICH SHALL INCLUDE THE NOTIFICATION OF THE ALDERPERSON WITHIN WHO'S DISTRICT IS AFFECTED BY THE STREET TREE REMOVAL(S) PRIOR TO A TREE REMOVAL PERMIT BEING ISSUED.
2. AS DEFINED BY THE SECTION 107.13 OF CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION: NO EXCAVATION IS PERMITTED WITHIN 5 FEET OF THE TRUNK OF THE STREET TREE OR WHEN CUTTING ROOTS OVER 3 INCHES IN DIAMETER. IF EXCAVATION IS NECESSARY, THE CONTRACTOR SHALL CONTACT MADISON CITY FORESTRY (266-4816) PRIOR TO EXCAVATION. CITY OF MADISON FORESTRY PERSONNEL SHALL ASSESS THE IMPACT TO THE TREE AND TO ITS ROOT SYSTEM PRIOR TO WORK COMMENCING. TREE PROTECTION SPECIFICATIONS CAN BE FOUND ON THE FOLLOWING WEBSITE: HTTPS://WWW.CITYOFMADISON.COM/BUSINESS/PW/SPECS.CFM
3. CONTRACTOR SHALL TAKE PRECAUTIONS DURING CONSTRUCTION TO NOT DISFIGURE, SCAR, OR IMPAIR THE HEALTH OF ANY STREET TREE. CONTRACTOR SHALL OPERATE EQUIPMENT IN A MANNER AS TO NOT DAMAGE THE BRANCHES OF THE STREET TREE(S). THIS MAY REQUIRE USING SMALLER EQUIPMENT AND LOADING AND UNLOADING MATERIALS IN A DESIGNATED SPACE AWAY FROM TREES ON THE CONSTRUCTION SITE. ANY DAMAGE OR INJURY TO EXISTING STREET TREES (EITHER ABOVE OR BELOW GROUND) SHALL BE REPORTED IMMEDIATELY TO CITY FORESTRY AT 266-4816. PENALTIES AND REMEDIATION SHALL BE REQUIRED.
4. SECTION 107.13(G) OF CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ADDRESSES SOIL COMPACTION NEAR STREET TREES AND SHALL BE FOLLOWED BY CONTRACTOR. THE STORAGE OF PARKED VEHICLES, CONSTRUCTION EQUIPMENT, BUILDING MATERIALS, REFUSE, EXCAVATED SPOILS OR DUMPING OF POISONOUS MATERIALS ON OR AROUND TREES AND ROOTS WITHIN FIVE (5) FEET OF THE TREE OR WITHIN THE PROTECTION ZONE IS PROHIBITED.
5. ON THIS PROJECT, STREET TREE PROTECTION ZONE FENCING IS REQUIRED. THE FENCING SHALL BE ERECTED BEFORE THE DEMOLITION, GRADING OR CONSTRUCTION BEGINS. THE FENCE SHALL INCLUDE THE ENTIRE WIDTH OF TERRACE AND, EXTEND AT LEAST 5 FEET ON BOTH SIDES OF THE OUTSIDE EDGE OF THE TREE TRUNK. DO NOT REMOVE THE FENCING TO ALLOW FOR DELIVERIES OR EQUIPMENT ACCESS THROUGH THE TREE PROTECTION ZONE.
6. STREET TREE PRUNING SHALL BE COORDINATED WITH MADISON FORESTRY AT A MINIMUM OF TWO WEEKS PRIOR TO THE START OF CONSTRUCTION FOR THIS PROJECT. ALL PRUNING SHALL FOLLOW THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) A300 - PART 1 STANDARDS FOR PRUNING.
7. ADDITIONAL STREET TREES ARE NEEDED FOR THIS PROJECT. TREE PLANTING SPECIFICATIONS CAN BE FOUND IN SECTION 209 OF CITY OF MADISON STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (WEBSITE: HTTPS://WWW.CITYOFMADISON.COM/BUSINESS/PW/SPECS.CFM) - ALL STREET TREE PLANTING LOCATIONS AND TREE SPECIES WITHIN THE RIGHT OF WAY SHALL BE DETERMINED BY CITY FORESTRY. A LANDSCAPE PLAN AND STREET TREE PLANTING PLAN SHALL BE SUBMITTED IN PDF FORMAT TO CITY FORESTRY FOR APPROVAL OF PLANTING LOCATIONS WITHIN THE RIGHT OF WAY AND TREE SPECIES. ALL AVAILABLE STREET TREE PLANTING LOCATIONS SHALL BE PLANTED WITHIN THE PROJECT BOUNDARIES.
8. AT LEAST ONE WEEK PRIOR TO STREET TREE PLANTING, CONTRACTOR SHALL CONTACT CITY FORESTRY AT (608) 266-4816 TO SCHEDULE INSPECTION AND APPROVAL OF NURSERY TREE STOCK AND REVIEW PLANTING SPECIFICATIONS WITH THE LANDSCAPER.

CITY TRAFFIC ENGINEERING NOTES

1. THE RIGHT-OF-WAY IS THE SOLE JURISDICTION OF THE CITY OF MADISON AND IS SUBJECT TO CHANGE AT ANY TIME PER THE RECOMMENDED PLAN BY TRAFFIC ENGINEERING AND CITY ENGINEERING DEPARTMENT

PUBLIC IMPROVEMENTS NOTES

1. ALL PROPOSED IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY OR CONNECTIONS TO CITY OWNED UTILITIES SHALL BE COMPLETED PER THE CITY ISSUED IMPROVEMENTS PLAN (CONTRACT NO. XXXX, PROJECT NO. XXXX)

UTILITY NOTES

1. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATIONS OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR/OWNER SHALL CALL "DIGGERS HOTLINE" PRIOR TO ANY CONSTRUCTION.
2. PRIOR TO CONSTRUCTION, THE PRIME CONTRACTOR IS RESPONSIBLE FOR:
   - 2.1. EXAMINING ALL SITE CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
   - 2.2. OBTAINING ALL PERMITS INCLUDING PERMIT COSTS, TAP FEES, METER DEPOSITS, BONDS, AND ALL OTHER FEES REQUIRED FOR PROPOSED WORK TO OBTAIN OCCUPANCY.
   - 2.3. VERIFYING ALL ELEVATIONS, LOCATIONS, AND SIZES OF SANITARY, WATER, AND STORM LATERALS AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS. NOTIFY ENGINEER OF ANY DISCREPANCY. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS RESOLVED.
   - 2.4. NOTIFYING ALL UTILITIES PRIOR TO INSTALLATION OF ANY UNDERGROUND IMPROVEMENTS.
   - 2.5. NOTIFYING THE DESIGN ENGINEER AND JURISDICTIONAL AUTHORITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION OBSERVATION.
   - 2.6. COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTION OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OR DISCREPANCIES BETWEEN THESE PLANS AND PLANS PREPARED BY OTHERS.
3. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC UTILITIES AND STATE DSPS/SPS AND LOCAL CODES AND SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHICH SPECIFICATIONS AND CODES APPLY, AND TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE APPROPRIATE JURISDICTIONAL AUTHORITIES.
4. SPECIFICATIONS SHALL COMPLY WITH THE JURISDICTIONAL AUTHORITY'S SPECIAL PROVISIONS.
5. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS SHALL BE VERIFIED IN THE FIELD DURING CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY DURING THE CONSTRUCTION OF IMPROVEMENTS.
7. CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVERNIGHT AS REQUIRED IN CONSTRUCTION SITES WHERE THE POTENTIAL FOR PEDESTRIAN INJURY EXISTS.
8. CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT ALL UTILITY COVERS (SUCH AS MANHOLE COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION.
9. ALL NON-METALLIC UTILITY PIPES (SANITARY SEWER, STORM SEWER, AND WATER PIPING) SHALL BE INSTALLED IN CONJUNCTION WITH TRACER WIRE AS REQUIRED BY SPS 382.30(11)(H), SPS 382.36(7)(C)10., AND SPS 382.40(8)(K). COLOR OF TRACER WIRE SHALL BE: SANITARY SEWER - GREEN, STORM SEWER - BROWN, WATER - BLUE, NON-POTABLE WATER - PURPLE.
10. THE PRIME CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTION OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OR DISCREPANCIES BETWEEN THESE PLANS AND PLANS PREPARED BY OTHERS.
11. ANY SANITARY SEWER, SANITARY SEWER SERVICES, WATER MAIN, WATER SERVICES, STORM SEWER, OR OTHER UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE JURISDICTIONAL AUTHORITY'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE INSTALLED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
13. IN ANY LOCATIONS WHERE BUILDING SEWERS (STORM AND SANITARY) ARE INSTALLED WITH LESS THAN THE MINIMUM COVER AS SPECIFIED IN SPS 382.30(11)(c) OR WATER PIPING 382.40(8)(a), CONTRACTOR SHALL INSTALL INSULATION IN ACCORDANCE WITH SPS 382.30(11)(c)2. FOR PROTECTION FROM FROST.
18. SEPARATION DISTANCES
    - WHERE PRIVATE WATER MAIN OR WATER SERVICES CROSSES A SANITARY SEWER OR SANITARY LATERAL, THE WATER PIPE WITHIN 5 FEET OF THE CROSSING SHALL BE INSTALLED WITH THE FOLLOWING:
      - WATER PIPING SHALL BE INSTALLED AT LEAST 12 INCHES ABOVE THE TOP OF SANITARY PIPING
      - WATER PIPING SHALL BE INSTALLED AT LEAST 18 INCHES BELOW THE BOTTOM OF SANITARY PIPING.

PAVING NOTES

1. GENERAL:
   - 1.1. PAVING SHALL CONFORM TO STATE HIGHWAY SPECIFICATIONS, APPLICABLE JURISDICTIONAL SPECIFICATIONS, AND THE GEOTECHNICAL REPORT PREPARED BY CGC TITLED "GEOTECHNICAL EXPLORATION REPORT - PROPOSED PUBLIC LIBRARY" DATED 1/14/25. ALL REFERENCES TO THE "GEOTECHNICAL REPORT" SHALL BE UNDERSTOOD AS THE AFOREMENTIONED REPORT.
   - 1.2. ALL PAVING DIMENSIONS ARE TO FACE OF CURB UNLESS SPECIFIED OTHERWISE.
   - 1.3. ALL SPOT GRADES ARE TO EDGE OF PAVEMENT UNLESS SPECIFIED OTHERWISE.
   - 1.4. SURFACE PREPARATION - NOTIFY ENGINEER/OWNER OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
   - 1.5. ANY REQUIRED REPLACEMENT OF PUBLIC CURB AND GUTTER, PAVEMENT, OR SIDEWALK SHALL MATCH EXISTING AND MEET JURISDICTIONAL REQUIREMENTS.

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF RECORD AND OFFICIALS OF ANY CHANGES TO THE EROSION CONTROL AND STORMWATER MANAGEMENT PLANS.
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS AND JURISDICTIONAL REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THESE STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL EROSION CONTROL MEASURES WHICH MAY BE NECESSARY TO MEET UNFORESEEN FIELD CONDITIONS.
3. INSTALL PERIMETER EROSION CONTROL MEASURES (SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE, AND EXISTING INLET PROTECTION) PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE COVER. MODIFICATIONS TO THE APPROVED EROSION CONTROL DESIGN IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS IS ALLOWED IF MODIFICATIONS CONFORM TO WDNR TECHNICAL STANDARDS AND JURISDICTIONAL REQUIREMENTS. ALL DESIGN MODIFICATIONS MUST BE APPROVED BY THE JURISDICTIONAL AUTHORITIES PRIOR TO DEVIATION OF THE APPROVED PLAN.
4. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED BY JURISDICTIONS HAVING AUTORITY AND/OR ENGINEER OF RECORD SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
5. INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY.
6. ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE INSPECTED WITHIN 24 HOURS OF ALL RAIN EVENTS EXCEEDING 0.5". ANY DAMAGED EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED IMMEDIATELY UPON INSPECTION.
7. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. ADDITIONAL LOCATIONS OTHER THAN AS SHOWN ON THE PLANS MUST BE PRE-APPROVED BY THE JURISDICTION. CONSTRUCTION ENTRANCES SHALL BE 50' LONG AND NO LESS THAN 12" THICK BY USE OF 3" SELECTED CRUSHED. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENTOFF-SITE AFTER EACH WORKING DAY OR MORE FREQUENTLY AS REQUIRED.
8. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL, DIRT, AND/OR DUST AFTER THE END OF EACH WORK DAY AND AS REQUESTED BY THE JURISDICTIONAL AUTHORITIES.
9. INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLETS OF ALL INSTALLED STORM SEWER. STONE DITCH CHECKS FENCE SHALL BE IMMEDIATELY FITTED AT ALL INSTALLED CULVERT INLETS TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS.
10. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES. IF STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES IS REQUIRED. IF DISTURBANCE OCCURS BETWEEN NOVEMBER 15TH AND MAY 15TH, THE MULCHING SHALL BE PERFORMED BY HYDRO-MULCHING WITH A "TACKIFIER."
11. DITCH CHECKS AND APPLICABLE EROSION NETTING/MATTING SHALL BE INSTALLED IMMEDIATELY AFTER COMPLETION OF GRADING EFFORTS WITHIN DITCHES/SWALES TO PREVENT SOIL TRANSPORTATION.
12. EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):
    - 12.1. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
    - 12.2. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
    - 12.3. DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH THE WDNR DEWATERING TECHNICAL STANDARD NO. 1061 PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM, OR DRAINAGE DITCH.
13. ALL SLOPES 4:1 OR GREATER SHALL BE STABILIZED WITH CLASS I, TYPE B EROSION MATTING PER STATE HIGHWAY SPECIFICATIONS OR APPLICATION OF A WISDOT APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED WITHIN SEVEN (7) DAYS OF REACHING FINAL GRADE. DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II, TYPE B EROSION MATTING PER STATE HIGHWAY SPECIFICATIONS. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND WDNR TECHNICAL STANDARDS 1052 AND 1053.
14. CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CONTROL DUST ARISING FROM CONSTRUCTION OPERATIONS. REFER TO WDNR TECHNICAL STANDARD 1068.
15. A CONCRETE WASHOUT AREA SHALL BE DESIGNATED ONSITE. CONTRACTOR SHALL USE PRE-MANUFACTURED ABOVE GROUND WASHOUT TOTE OR EQUIVALENT CONTAINMENT AREA FOR ALL CONCRETE WASTE. CONCRETE WASTE SHALL ONLY BE CONTAINED IN ABOVE GROUND PRE-FABRICATED CONTAINERS OR CONSTRUCTED CONTAINMENT AREA AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FREQUENTLY DISPOSE OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS TO MAINTAIN THE SYSTEMS EFFECTIVENESS.
16. EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL LAND DISTURBING CONSTRUCTION ACTIVITY AT THE SITE HAS BEEN COMPLETED AND THAT A UNIFORM PERENNIAL VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A CONTIGUOUS DENSITY OF AT LEAST 70% FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES OR THAT EMPLOY EQUIVALENT PERMANENT STABILIZATION MEASURES.
17. CONTRACTOR/OWNER SHALL FILE A NOTICE OF TERMINATION UPON COMPLETION OF THE PROJECT IN ACCORDANCE WITH WDNR REQUIREMENTS AND/OR REQUEST FOR PERMIT CLOSURE IN ACCORDANCE WITH JURISDICTION PERMIT AND SPECIFICATION REQUIREMENTS.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY
- PROPOSED CITY ROW IMPROVEMENTS
- EXISTING / PROPOSED EASEMENT
- DEMOLITION – REMOVAL OF CURB
- DEMOLITION – REMOVAL OF FENCE
- DEMOLITION – REMOVAL OF RETAINING WALL
- DEMOLITION – REMOVAL OF ASPHALT SURFACES
- DEMOLITION – REMOVAL OF CONCRETE SURFACES
- DEMOLITION – REMOVAL OF BUILDINGS/STRUCTURES
- DEMOLITION – REMOVAL OF UTILITIES
- SIGN AND HOOP REMOVAL
- SAWCUT EXISTING PAVEMENT
- TREE REMOVAL
- SHRUB REMOVAL
- PROTECT EXISTING TREE
- BUILDING OUTLINE
- BUILDING OVERHANG
- BUILDING SETBACK LINE
- SF — SILT FENCE
- RIP-RAP
- CONSTRUCTION ENTRANCE
- EROSION MATTING
- TURF REINFORCEMENT MATTING
- DITCH CHECK
- INLET PROTECTION
- S — SANITARY SEWER
- WATERMAIN
- D — STORM SEWER
- 6" UNDERDRAIN
- 6" PVC
- GEOTHERMAL DARCY WELL-HEAD
- GEOTHERMAL WELL LINES
- E — ELECTRIC LINE
- TRANSFORMER CLEAR ZONE
- 8'x4'x4" INSULATION (PLAN VIEW)
- 8'x4'x4" INSULATION (PROFILE VIEW)
- 959 — PROPOSED 1 FOOT CONTOUR
- 960 — PROPOSED 5 FOOT CONTOUR
- 959 — EXISTING 1 FOOT CONTOUR
- 960 — EXISTING 5 FOOT CONTOUR
- DRAINAGE DIRECTION
- GRADE BREAK
- STORMWATER MANAGEMENT AREA
- FG: XXX.XX — SPOT ELEVATION
  - EP – EDGE OF PAVEMENT
  - FG – FINISH GRADE
  - EC – EDGE OF CONCRETE
  - EX – MATCH EXISTING GRADE
  - HP – HIGH POINT
  - SW – SIDEWALK
- EDGE OF PAVEMENT
- 18" STANDARD CURB AND GUTTER
- 18" REJECT CURB AND GUTTER
- 18" MOUNTABLE CURB AND GUTTER
- CONCRETE VALLEY CURB/RIBBON CURB
- ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- HEAVY DUTY CONCRETE PAVEMENT
- CONCRETE PAVEMENT
- CONCRETE PAVEMENT WITH COLOR/TEXTURE
- MOWED WALKING PATH
- SEAT WALL / RETAINING WALL
- LIGHT POLE (REFER TO PHOTOMETRIC PLAN)
- SIGN
- BOLLARD
- BOLLARD WITH ADA PARKING SIGN
- BIKE RACK
- EV CHARGING
- EV READY
- BENCH
- TRASH
- RAILING
- FENCE
- FLAG POLE

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Key Plan

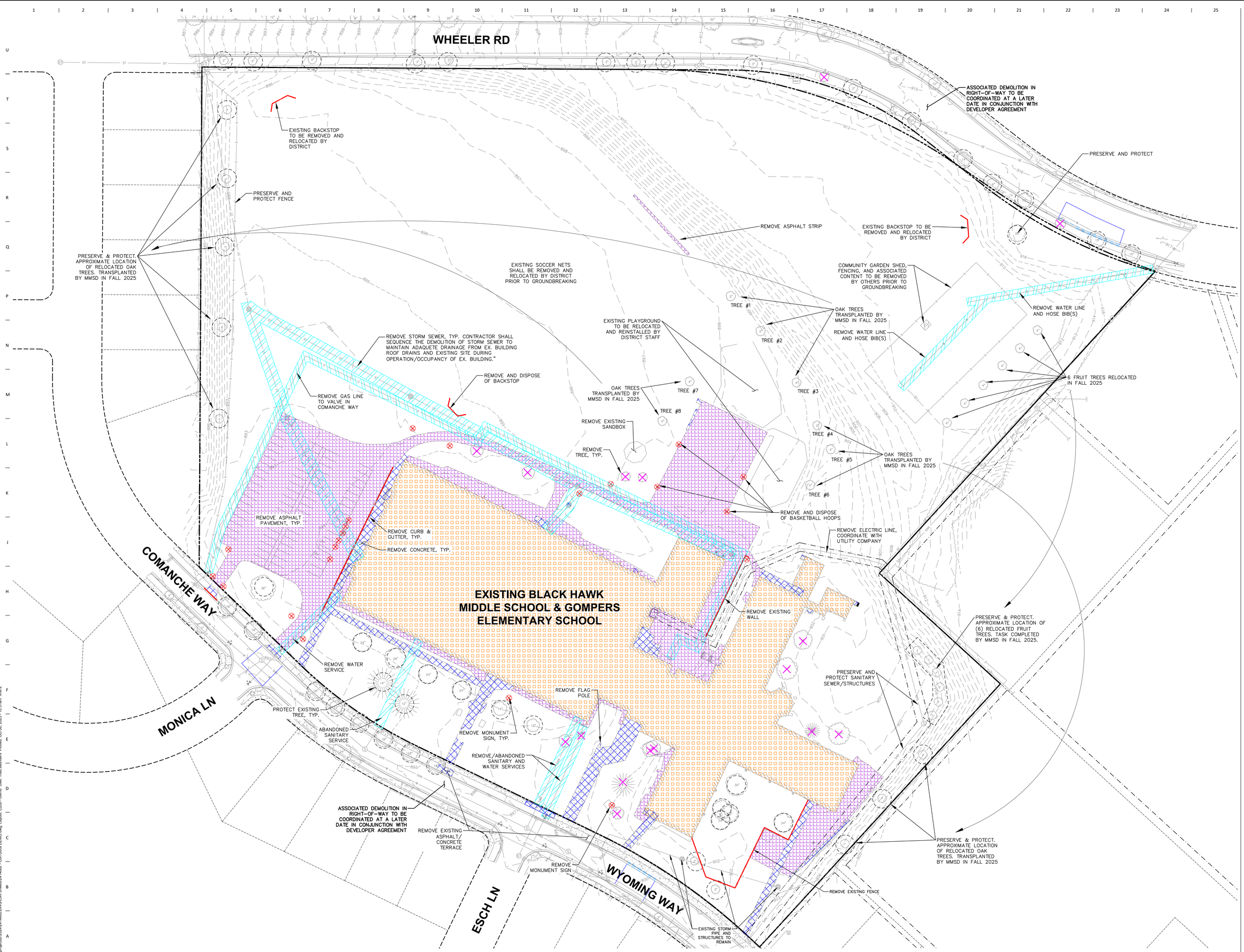
Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
GENERAL NOTES & LEGEND

Sheet Number
C100



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Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
DEMOLITION PLAN

Sheet Number
C200

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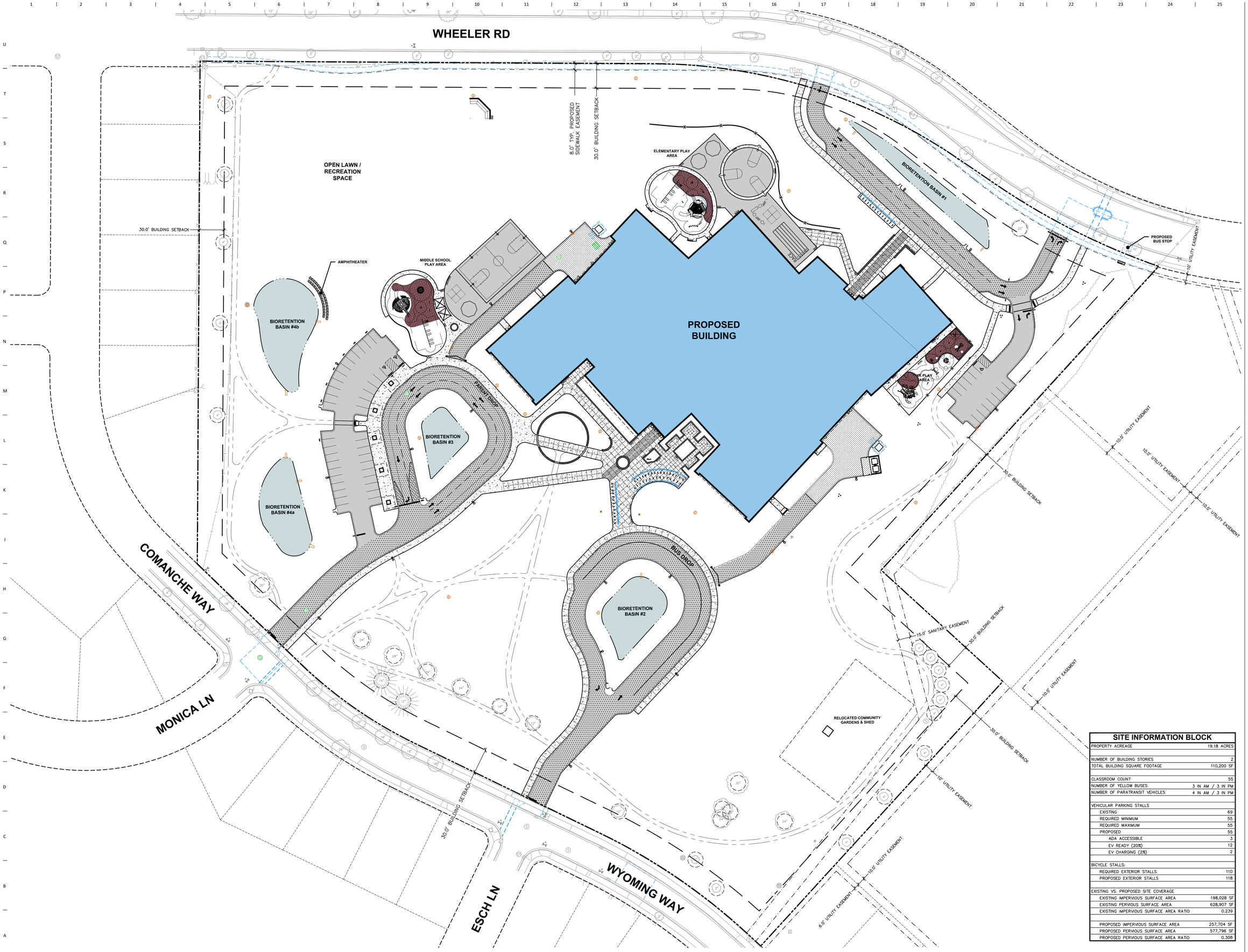

SITE INFORMATION BLOCK

PROPERTY ACREAGE	19.18 ACRES
NUMBER OF BUILDING STORIES	2
TOTAL BUILDING SQUARE FOOTAGE	110,200 SF
CLASSROOM COUNT	55
NUMBER OF YELLOW BUSES	3 IN AM / 3 IN PM
NUMBER OF PARATRANSIT VEHICLES	4 IN AM / 3 IN PM
VEHICULAR PARKING STALLS	
EXISTING	69
REQUIRED MINIMUM	55
REQUIRED MAXIMUM	55
PROPOSED	55
ADA ACCESSIBLE	3
EV READY (20%)	12
EV CHARGING (2%)	2
BICYCLE STALLS:	
REQUIRED EXTERIOR STALLS	110
PROPOSED EXTERIOR STALLS	118
EXISTING VS. PROPOSED SITE COVERAGE	
EXISTING IMPERVIOUS SURFACE AREA	198,028 SF
EXISTING PERVIOUS SURFACE AREA	628,907 SF
EXISTING IMPERVIOUS SURFACE AREA RATIO	0.239
PROPOSED IMPERVIOUS SURFACE AREA	257,704 SF
PROPOSED PERVIOUS SURFACE AREA	577,796 SF
PROPOSED PERVIOUS SURFACE AREA RATIO	0.308

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north
SCALE IN FEET
40' 0 40'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
SITE PLAN

Sheet Number
C300

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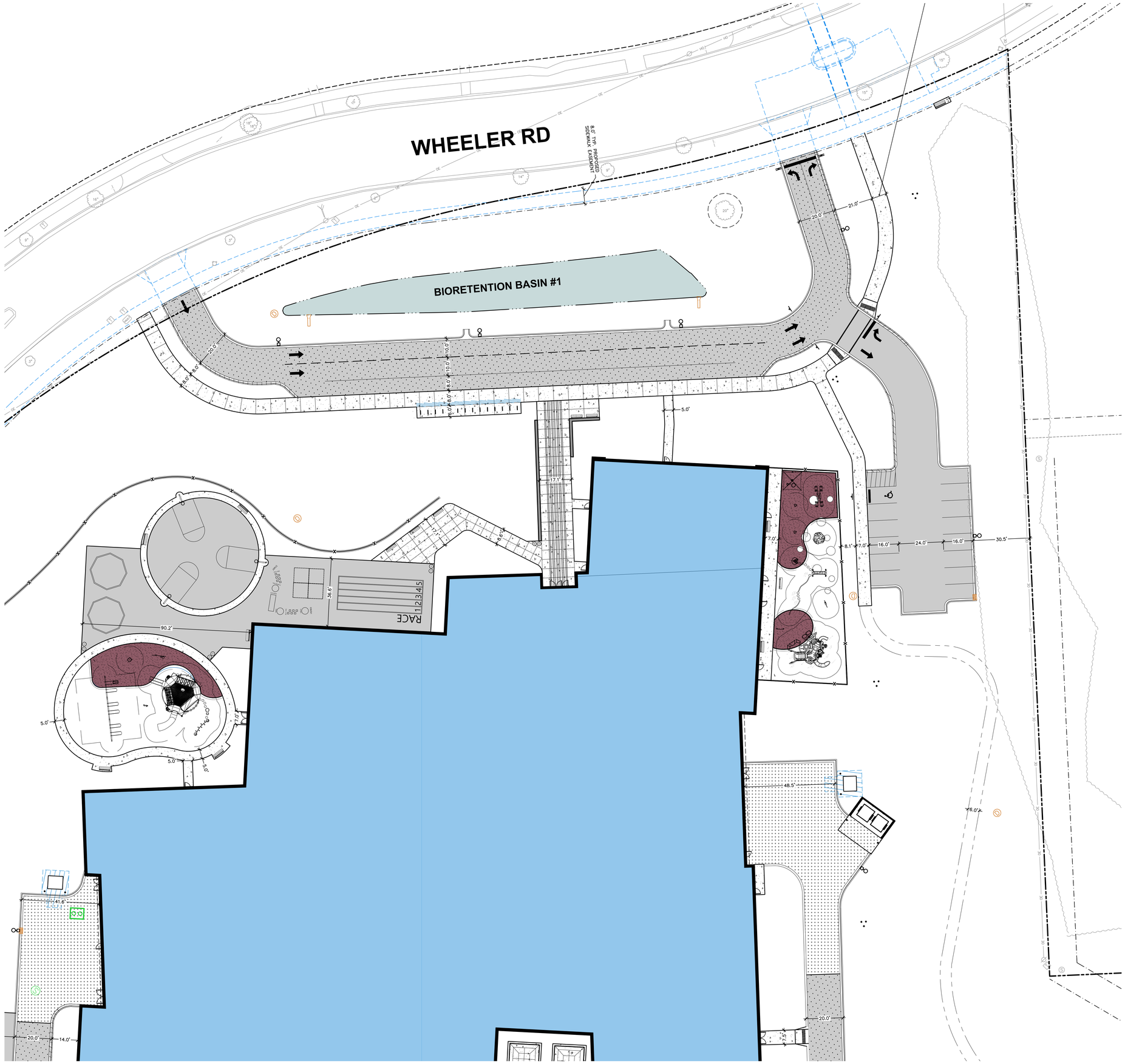

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Key Plan

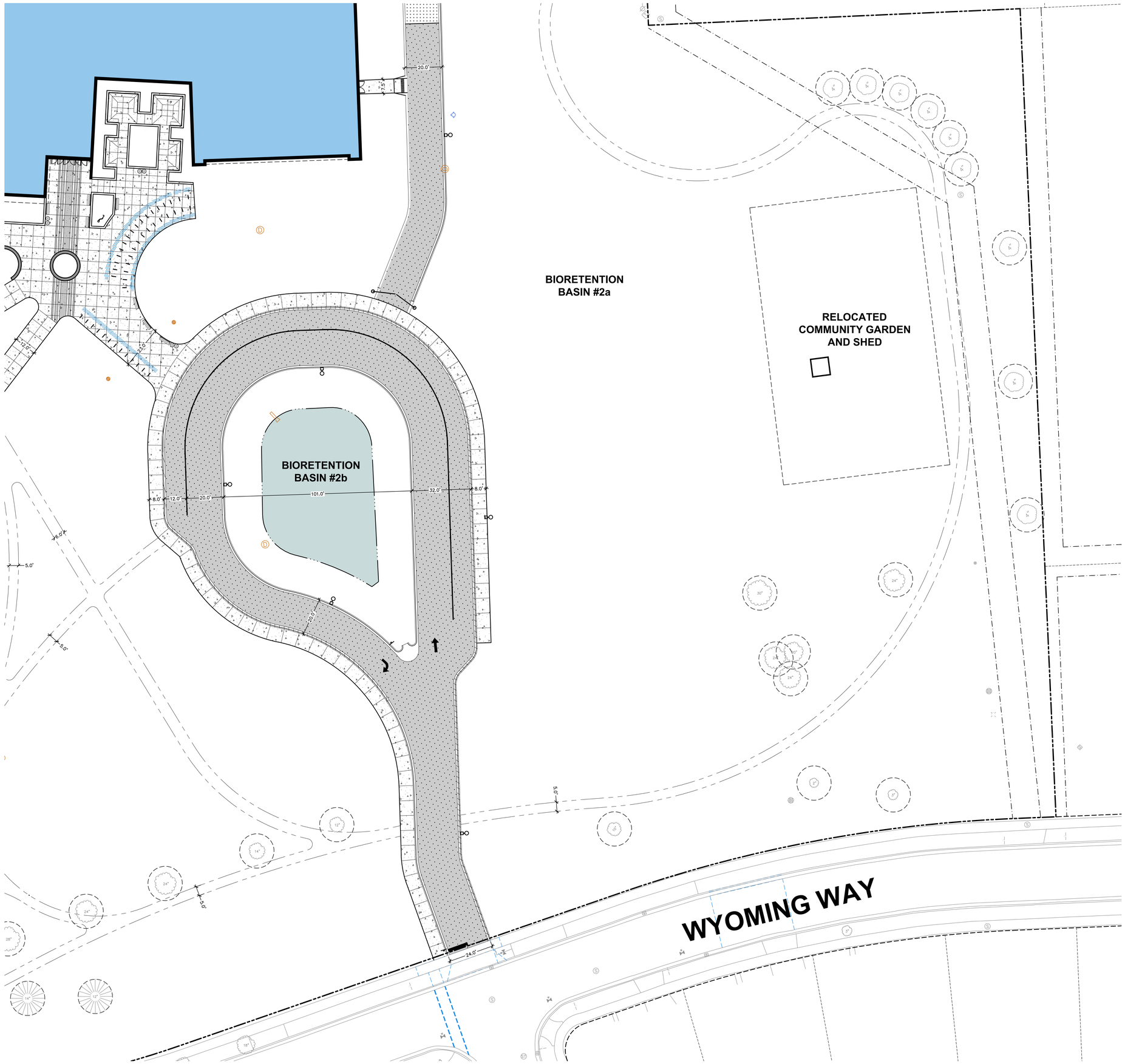
Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DIMENSIONED SITE PLAN - NORTHEAST

Sheet Number
C301



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Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DIMENSIONED SITE PLAN - SOUTHEAST

Sheet Number
C302

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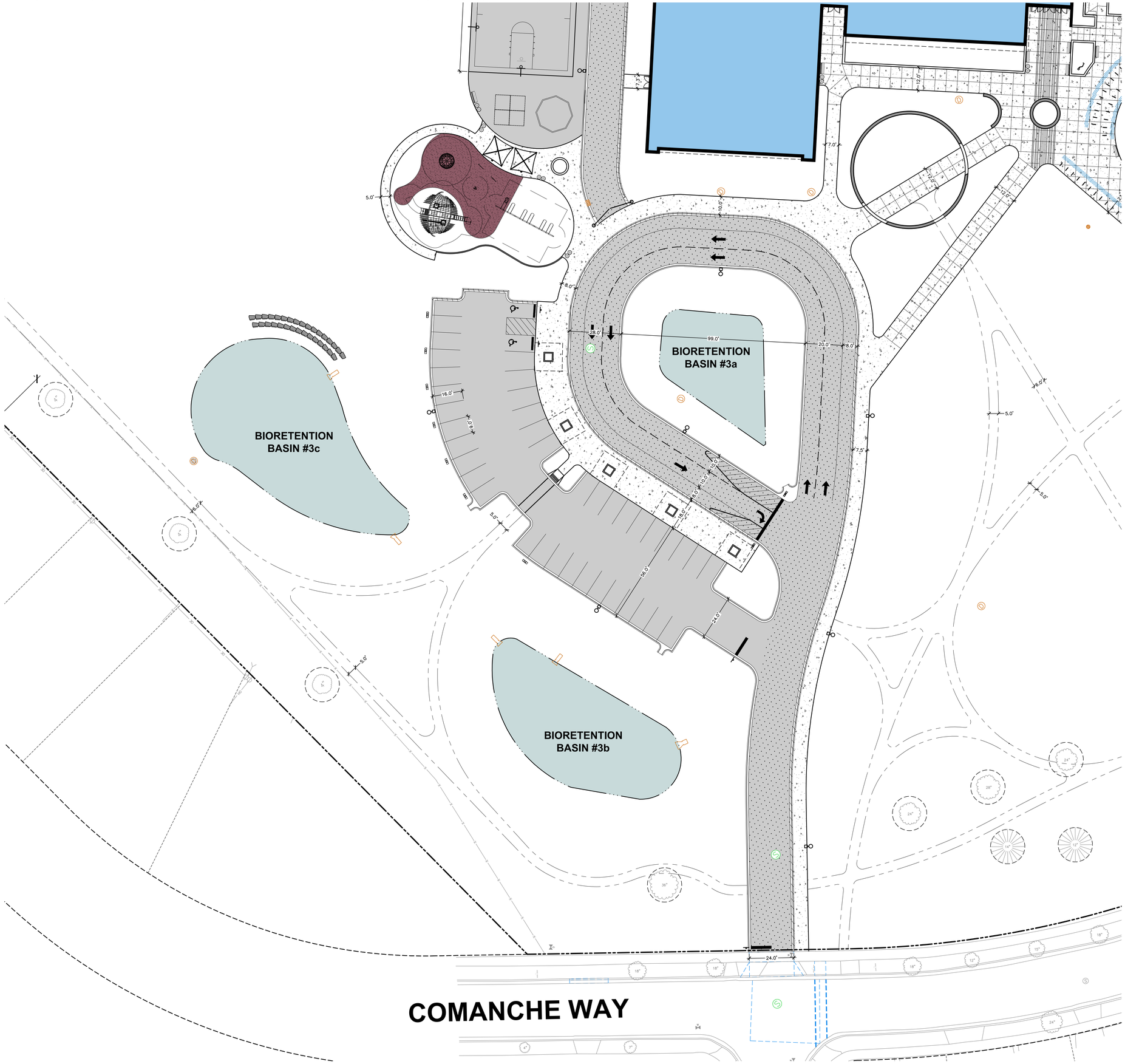

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north

SCALE IN FEET
20' 0 20'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DIMENSIONED SITE PLAN - SOUTHWEST

Sheet Number
C303

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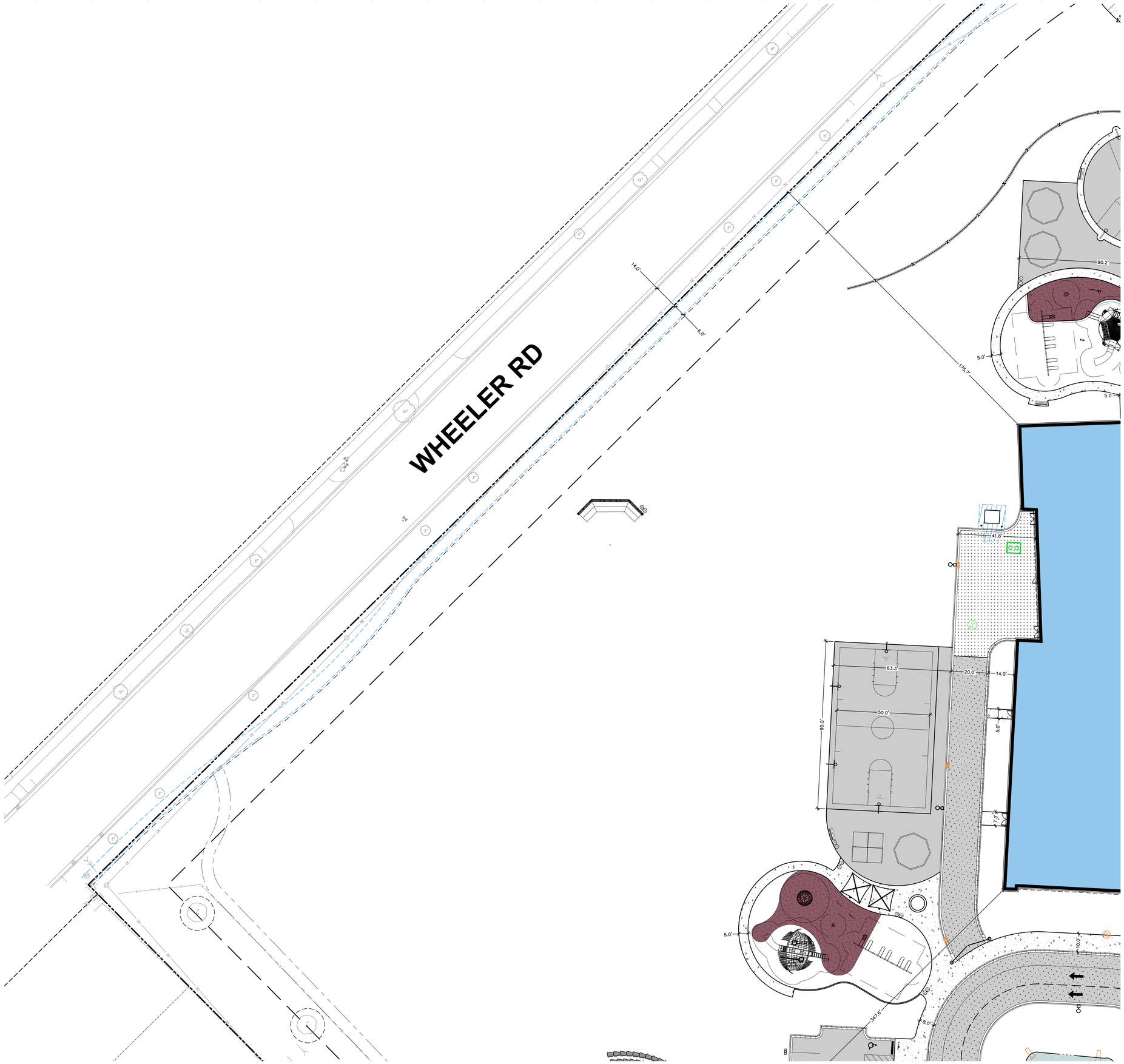

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SCALE IN FEET
20' 0 20'

Key Plan

Revision	Description	Date

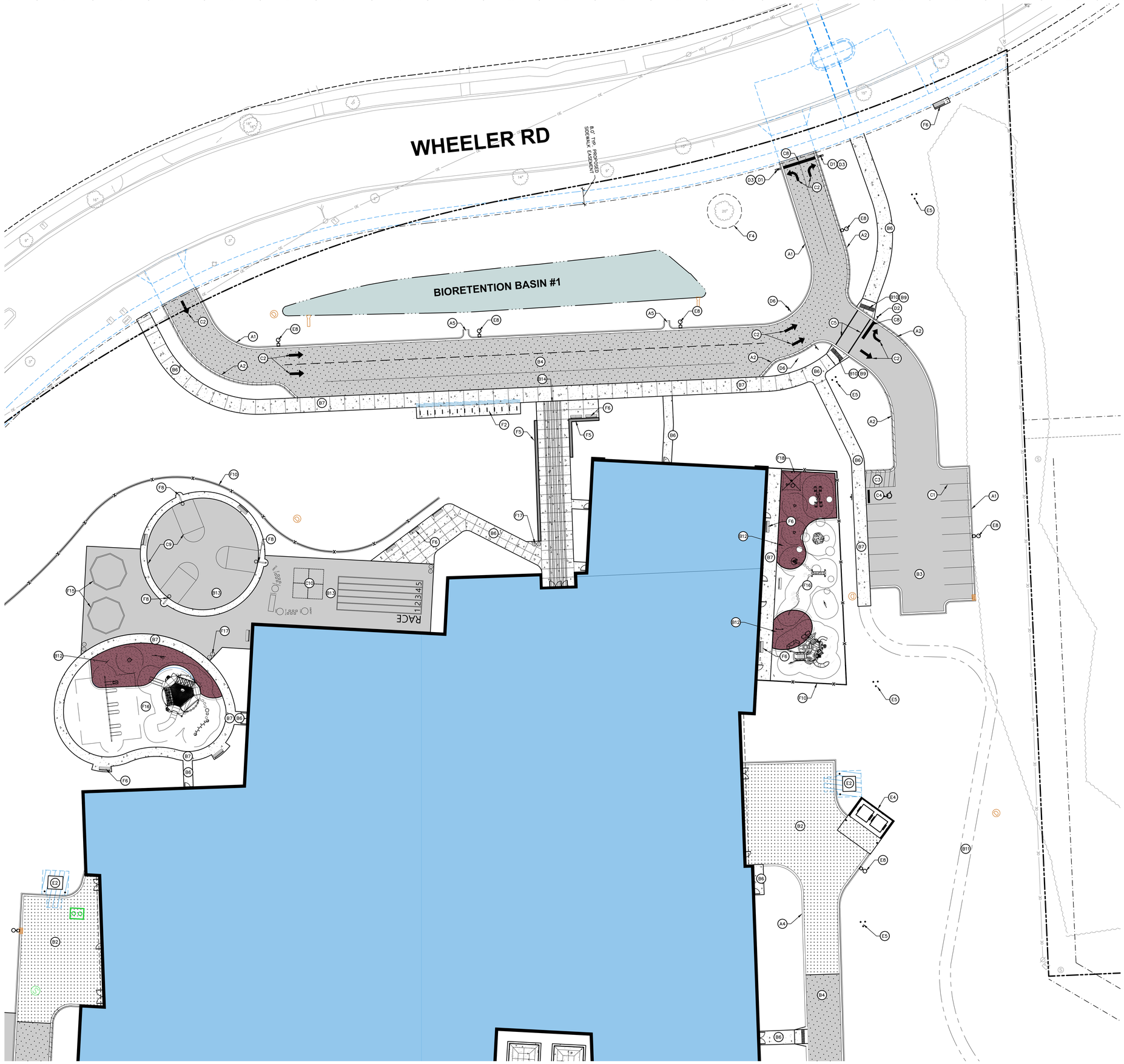
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DIMENSIONED SITE PLAN - NORTHWEST

Sheet Number
C304

File: \\JSDINC\projects\2020\24241468\2\DWG\Civil Sheets\24146R2 - Con Docs - Site.dwg Layout: C304 - SITE DIM.NW User: michael.sersopitch Plotted: Oct 01, 2025 - 8:25am XrefS:



KEY NOTES

- A1 18" STANDARD CURB AND GUTTER
- A2 18" REJECT CURB AND GUTTER
- A3 18" MOUNTABLE CURB AND GUTTER
- A4 12" RIBBON CURB
- A5 CURB FLUME
- A6 3' CURB HEAD TAPER
- A7 CONCRETE INLET COLLAR
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- B7 THICKENED EDGE SIDEWALK
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north

SCALE IN FEET
20' 0 20'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
ANNOTATED SITE PLAN - NORTHEAST

Sheet Number
C305

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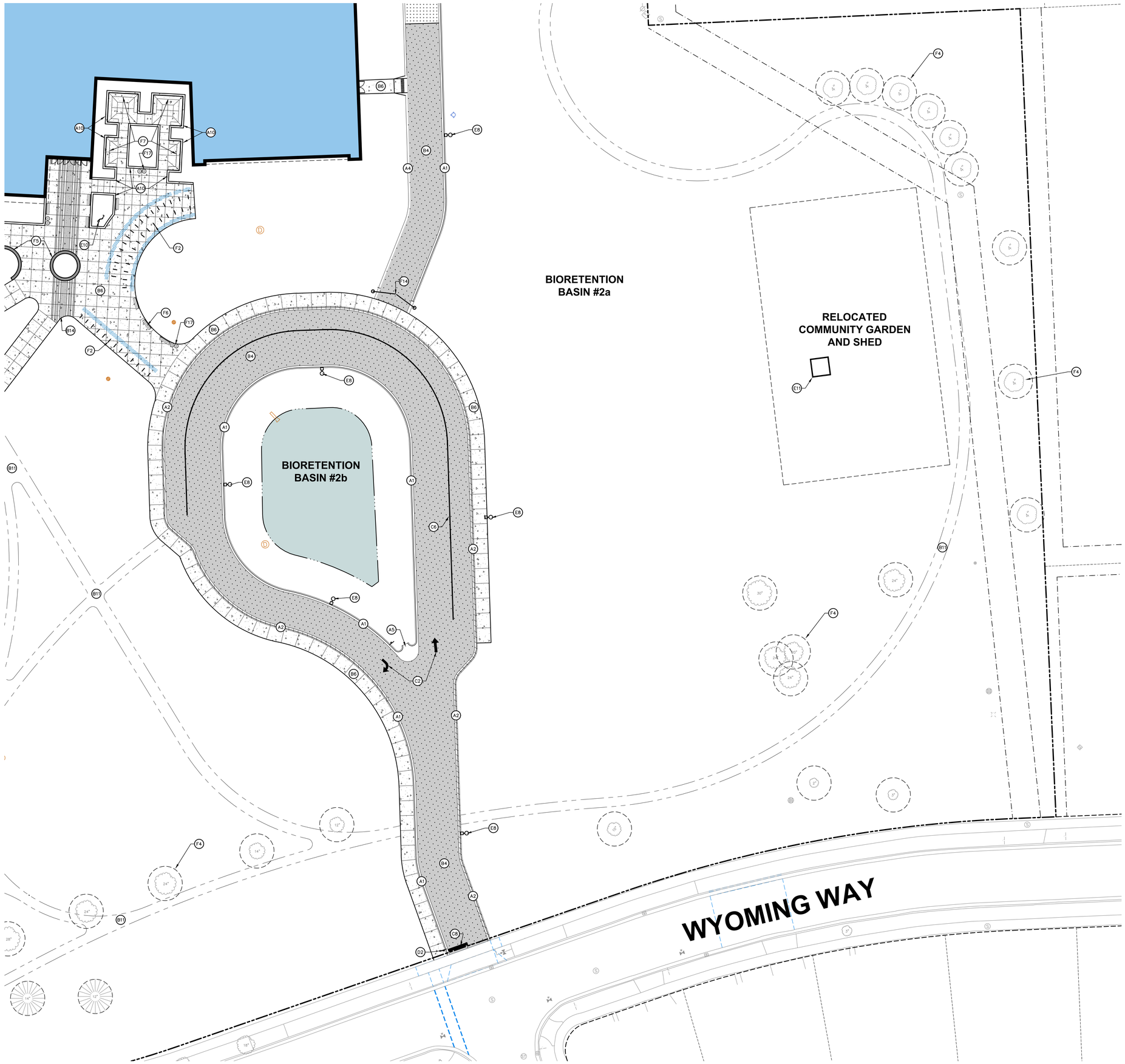

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north
SCALE IN FEET
20' 0 20'
Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
ANNOTATED SITE PLAN - SOUTHEAST

Sheet Number
C306

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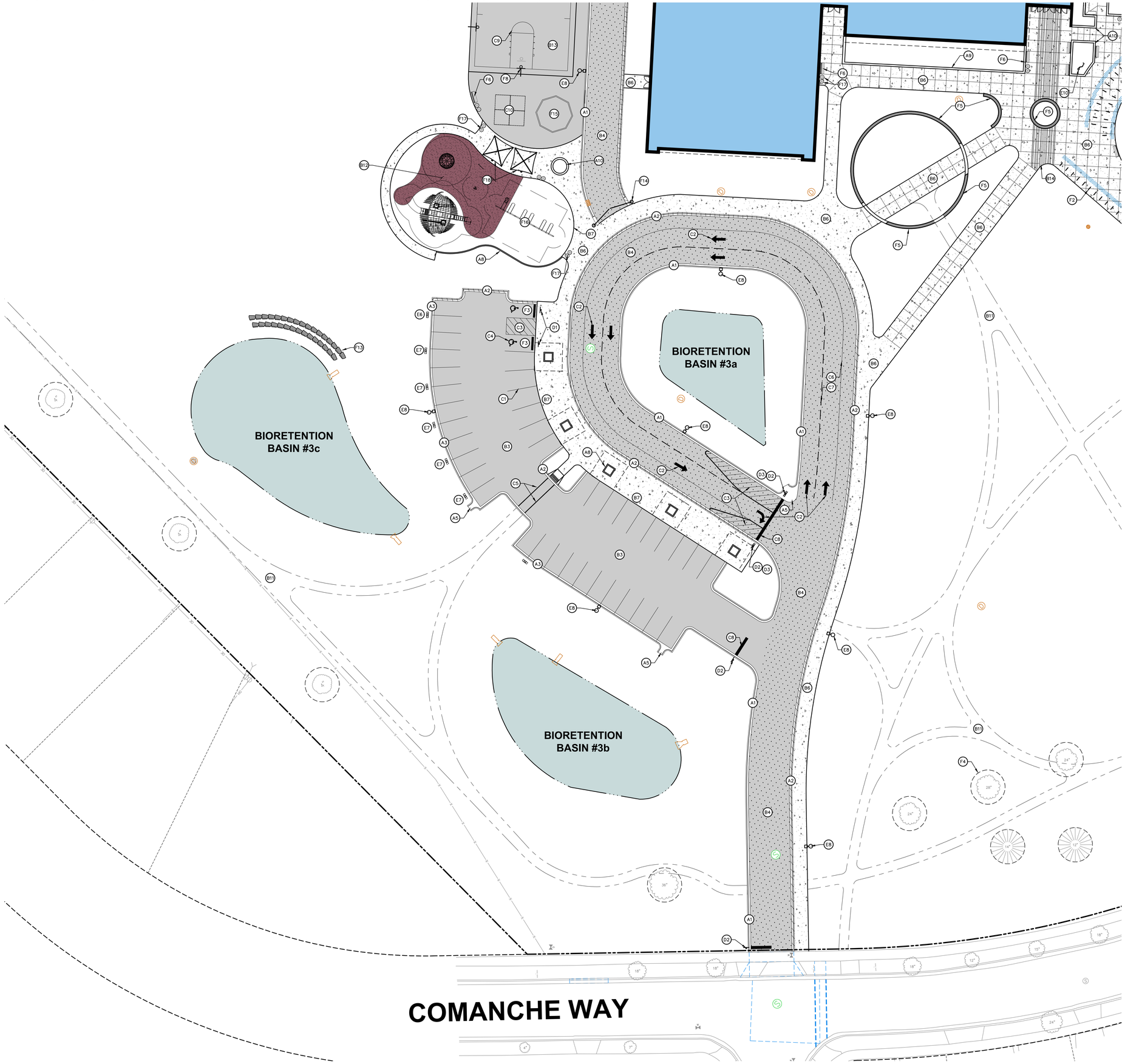

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north
SCALE IN FEET
20' 0 20'
Key Plan

Revision	Description	Date

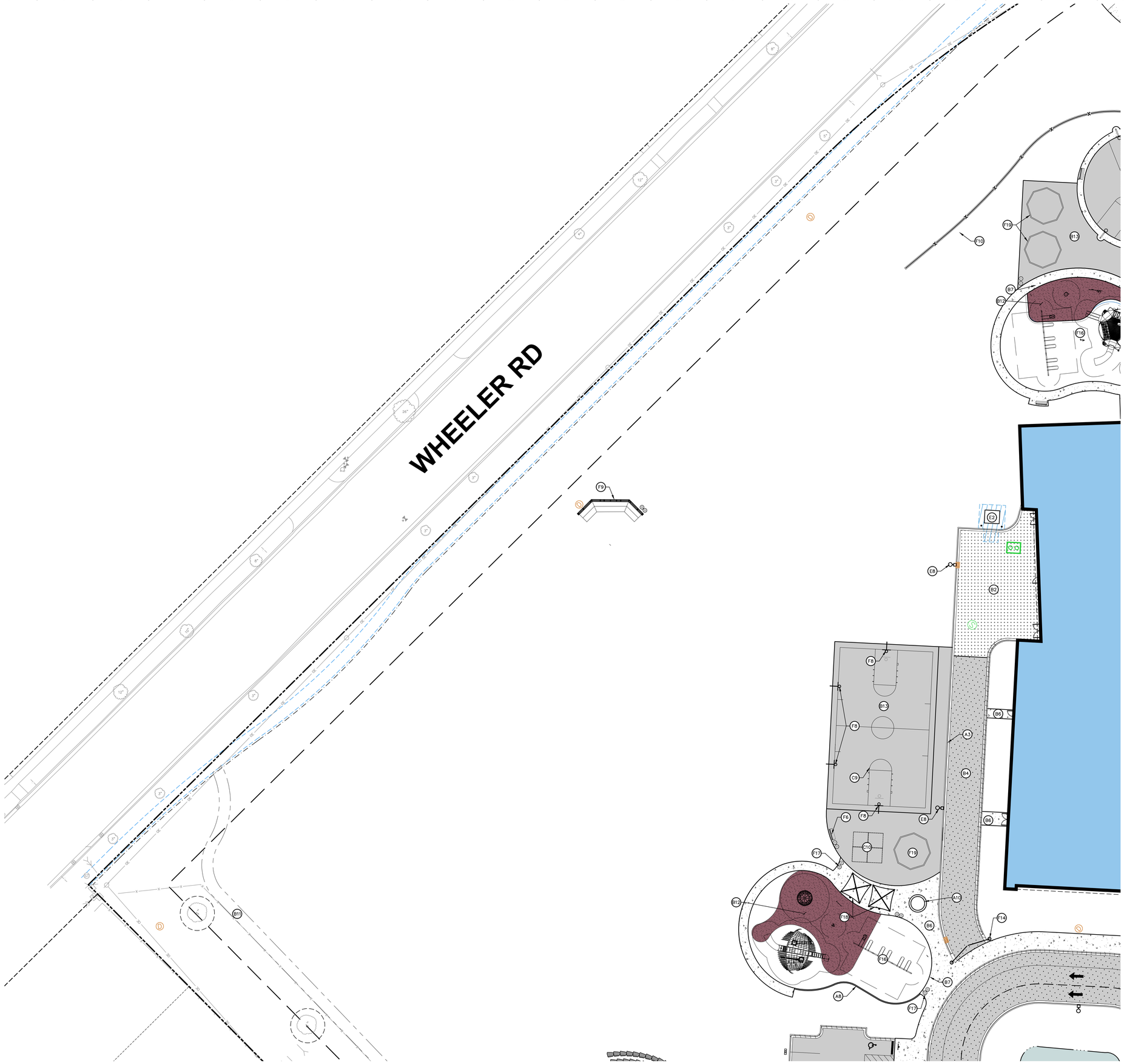
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
ANNOTATED SITE PLAN - SOUTHWEST

Sheet Number
C307

File: \\JSDINC\projects\2024\24146\62\DWG\Civil Sheets\24146\62 - Con Docs - Site.dwg Layout: C307 - SITE ANNO SW User: cade.ferrette Plotted: Oct 07, 2025 - 4:34pm XrefS:



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- D5 5–MINUTE PARKING SIGN
- D6 RIGHT TURN ONLY SIGN

- E1 MONUMENT SIGN (REFER TO ARCHITECTURAL)
- E2 TRANSFORMER (REFER TO ELECTRICAL)
- E3 GENERATOR (REFER TO ELECTRICAL)
- E4 TRASH ENCLOSURE (REFER TO ARCHITECTURAL)
- E5 GEOTHERMAL WELL–HEAD (REFER TO MECHANICAL)
- E6 EV PARKING CHARGING STATION & PAD (REFER TO ELECTRICAL)
- E7 EV READY STATION (REFER TO ELECTRICAL)
- E8 LIGHT POLE (REFER TO ELECTRICAL)
- E9 INTENTIONALLY OMMITTED
- E10 FLAG POLE (REFER TO DETAIL)

- F1 8" CONCRETE BOLLARD WITH SLEEVE (REFER TO DETAIL)
- F2 BIKE RACK (REFER TO DETAIL)
- F3 RECYCLED RUBBERIZED CURB STOP
- F4 PROTECT EXISTING TREE
- F5 FREESTANDING SEAT WALL (REFER TO DETAIL)
- F6 BENCH (REFER TO DETAIL)
- F7 CUSTOM BENCH, THERMALLY TREATED ASH, SURFACE MOUNTED
- F8 BASKETBALL HOOP
- F9 BACKSTOP FENCE (REFER TO DETAIL)
- F10 CHAIN LINK FENCE W/ CONCRETE RIBBON BASE
- F11 SILVA CELL
- F12 INTENTIONALLY OMITTED
- F13 LIMESTONE AMPHITHEATER
- F14 22' DOUBLE DOOR SWING GATE
- F15 GAGA BALL – COACH CLIFF'S OCTAGON 8–WALL COMPOSITE LUMBER W ACCESSIBLE DOOR, SOURCED AND INSTALLED BY MMSD
- F16 PLAYGROUND (REFER TO PLAYGROUND DRAWINGS)
- F17 TRASH/RECYCLING BIN, FORMS + SURFACES DISPATCH MODEL
- F18 SHADE SHELTER. SOURCED AND INSTALLED BY MMSD

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north

SCALE IN FEET
20' 0 20'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
ANNOTATED SITE PLAN - NORTHWEST

Sheet Number
C308

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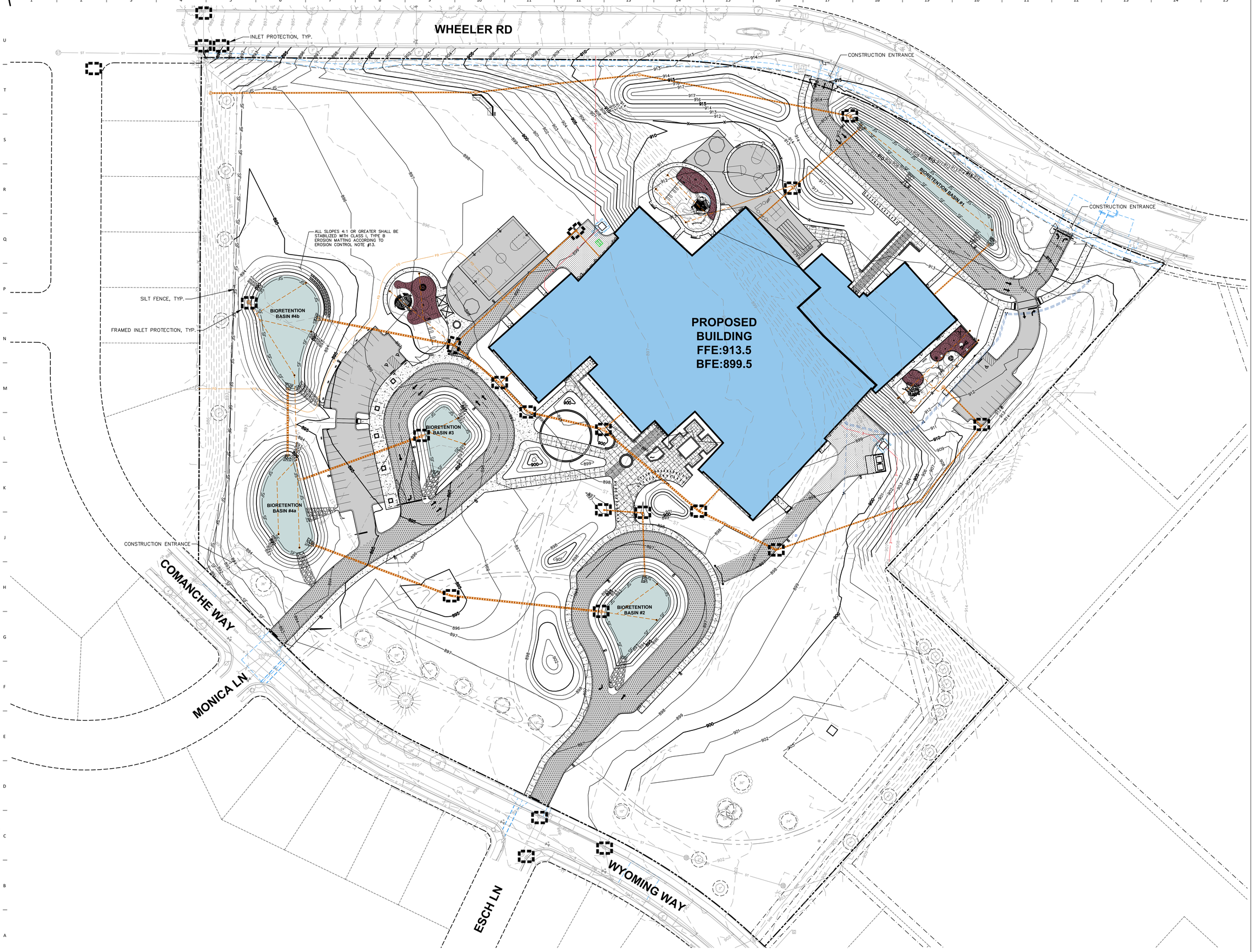

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north
SCALE IN FEET
40' 0 40'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
EROSION CONTROL PLAN

Sheet Number
C400

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north
SCALE IN FEET
40' 0 40'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
OVERALL GRADING PLAN

Sheet Number
C500

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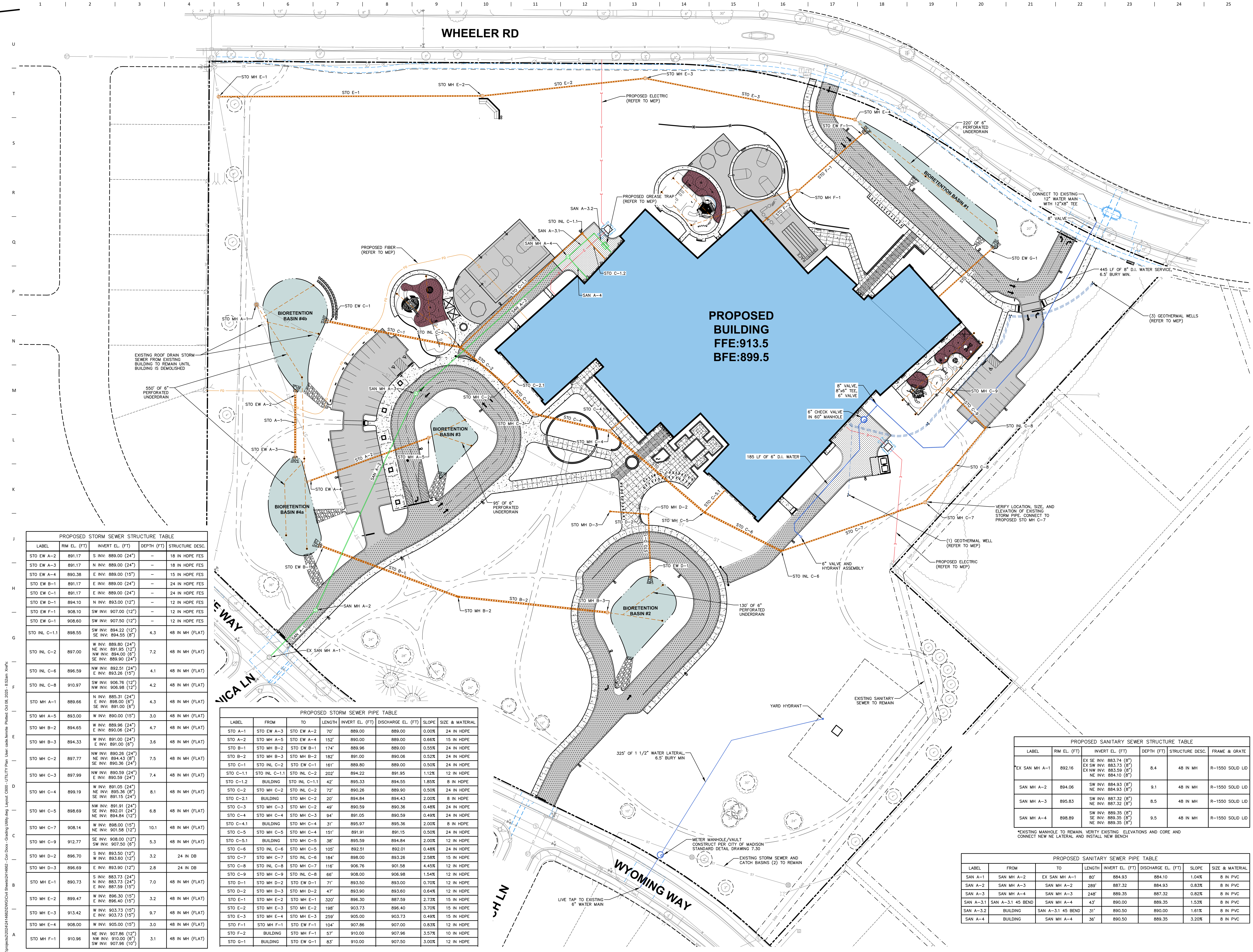

PROPOSED STORM SEWER STRUCTURE TABLE				
LABEL	RIM EL. (FT)	INVERT EL. (FT)	DEPTH (FT)	STRUCTURE DESC.
STO EW A-2	891.17	S INV: 889.00 (24")	–	18 IN HDPE FES
STO EW A-3	891.17	N INV: 889.00 (24")	–	18 IN HDPE FES
STO EW A-4	890.38	E INV: 889.00 (15")	–	15 IN HDPE FES
STO EW B-1	891.17	E INV: 889.00 (24")	–	24 IN HDPE FES
STO EW C-1	891.17	E INV: 889.00 (24")	–	24 IN HDPE FES
STO EW D-1	894.10	N INV: 893.00 (12")	–	12 IN HDPE FES
STO EW F-1	908.10	SW INV: 907.00 (12")	–	12 IN HDPE FES
STO EW G-1	908.60	SW INV: 907.50 (12")	–	12 IN HDPE FES
STO INL C-1.1	898.55	SW INV: 894.22 (12") SE INV: 894.55 (8")	4.3	48 IN MH (FLAT)
STO INL C-2	897.00	W INV: 889.80 (24") NE INV: 891.95 (12") NW INV: 894.00 (6") SE INV: 889.90 (24")	7.2	48 IN MH (FLAT)
STO INL C-6	896.59	NW INV: 892.51 (24") E INV: 893.26 (15")	4.1	48 IN MH (FLAT)
STO INL C-8	910.97	SW INV: 906.76 (12") NW INV: 906.98 (12")	4.2	48 IN MH (FLAT)
STO MH A-1	889.66	N INV: 885.31 (24") E INV: 898.00 (6") SE INV: 891.00 (6")	4.3	48 IN MH (FLAT)
STO MH A-5	893.00	W INV: 890.00 (15")	3.0	48 IN MH (FLAT)
STO MH B-2	894.65	W INV: 889.96 (24") E INV: 890.06 (24")	4.7	48 IN MH (FLAT)
STO MH B-3	894.33	W INV: 891.00 (24") E INV: 891.00 (6")	3.6	48 IN MH (FLAT)
STO MH C-2	897.77	NW INV: 890.26 (24") NE INV: 894.43 (8") SE INV: 890.36 (24")	7.5	48 IN MH (FLAT)
STO MH C-3	897.99	NW INV: 890.59 (24") E INV: 890.59 (24")	7.4	48 IN MH (FLAT)
STO MH C-4	899.19	W INV: 891.05 (24") NE INV: 895.36 (8") SE INV: 891.15 (24")	8.1	48 IN MH (FLAT)
STO MH C-5	898.69	NW INV: 891.91 (24") SE INV: 892.01 (24") NE INV: 894.84 (12")	6.8	48 IN MH (FLAT)
STO MH C-7	908.14	W INV: 898.00 (15") NE INV: 901.58 (12")	10.1	48 IN MH (FLAT)
STO MH C-9	912.77	SE INV: 908.00 (12") SW INV: 907.50 (6")	5.3	48 IN MH (FLAT)
STO MH D-2	896.70	S INV: 893.50 (12") W INV: 893.60 (12")	3.2	24 IN DB
STO MH D-3	896.69	E INV: 893.90 (12")	2.8	24 IN DB
STO MH E-1	890.73	S INV: 883.73 (24") N INV: 883.73 (24") E INV: 887.59 (15")	7.0	48 IN MH (FLAT)
STO MH E-2	899.47	W INV: 896.30 (15") E INV: 896.40 (15")	3.2	48 IN MH (FLAT)
STO MH E-3	913.42	W INV: 903.73 (15") E INV: 903.73 (15")	9.7	48 IN MH (FLAT)
STO MH E-4	908.00	W INV: 905.00 (15")	3.0	48 IN MH (FLAT)
STO MH F-1	910.96	NE INV: 907.86 (12") NW INV: 910.00 (6") SW INV: 907.96 (10")	3.1	48 IN MH (FLAT)

PROPOSED STORM SEWER PIPE TABLE							
LABEL	FROM	TO	LENGTH	INVERT EL. (FT)	DISCHARGE EL. (FT)	SLOPE	SIZE & MATERIAL
STO A-1	STO EW A-3	STO EW A-2	70'	889.00	889.00	0.00%	24 IN HDPE
STO A-2	STO MH A-5	STO EW A-4	152'	890.00	889.00	0.66%	15 IN HDPE
STO B-1	STO MH B-2	STO EW B-1	174'	889.96	889.00	0.55%	24 IN HDPE
STO B-2	STO MH B-3	STO MH B-2	182'	891.00	890.06	0.52%	24 IN HDPE
STO C-1	STO INL C-2	STO EW C-1	161'	889.80	889.00	0.50%	24 IN HDPE
STO C-1.1	STO INL C-1.1	STO INL C-2	202'	894.22	891.95	1.12%	12 IN HDPE
STO C-1.2	BUILDING	STO INL C-1.1	42'	895.33	894.55	1.85%	8 IN HDPE
STO C-2	STO MH C-2	STO INL C-2	72'	890.26	889.90	0.50%	24 IN HDPE
STO C-2.1	BUILDING	STO MH C-2	20'	894.84	894.43	2.00%	8 IN HDPE
STO C-3	STO MH C-3	STO MH C-2	49'	890.59	890.36	0.48%	24 IN HDPE
STO C-4	STO MH C-4	STO MH C-3	94'	891.05	890.59	0.49%	24 IN HDPE
STO C-4.1	BUILDING	STO MH C-4	31'	895.97	895.36	2.00%	8 IN HDPE
STO C-5	STO MH C-5	STO MH C-4	151'	891.91	891.15	0.50%	24 IN HDPE
STO C-5.1	BUILDING	STO MH C-5	38'	895.59	894.84	2.00%	12 IN HDPE
STO C-6	STO INL C-6	STO MH C-5	105'	892.51	892.01	0.48%	24 IN HDPE
STO C-7	STO MH C-7	STO INL C-6	184'	898.00	893.26	2.58%	15 IN HDPE
STO C-8	STO INL C-8	STO MH C-7	116'	906.76	901.58	4.45%	12 IN HDPE
STO C-9	STO MH C-9	STO INL C-8	66'	908.00	906.98	1.54%	12 IN HDPE
STO D-1	STO MH D-2	STO EW D-1	71'	893.50	893.00	0.70%	12 IN HDPE
STO D-2	STO MH D-3	STO MH D-2	47'	893.90	893.60	0.64%	12 IN HDPE
STO E-1	STO MH E-2	STO MH E-1	320'	896.30	887.59	2.73%	15 IN HDPE
STO E-2	STO MH E-3	STO MH E-2	198'	903.73	896.40	3.70%	15 IN HDPE
STO E-3	STO MH E-4	STO MH E-3	259'	905.00	903.73	0.49%	15 IN HDPE
STO F-1	STO MH F-1	STO EW F-1	104'	907.86	907.00	0.83%	12 IN HDPE
STO F-2	BUILDING	STO MH F-1	57'	910.00	907.96	3.57%	10 IN HDPE
STO G-1	BUILDING	STO EW G-1	83'	910.00	907.50	3.00%	12 IN HDPE

PROPOSED SANITARY SEWER STRUCTURE TABLE					
LABEL	RIM EL. (FT)	INVERT EL. (FT)	DEPTH (FT)	STRUCTURE DESC.	FRAME & GRATE
*EX SAN MH A-1	892.16	EX SE INV: 883.74 (8") EX SW INV: 883.73 (8") EX NW INV: 883.59 (8") NE INV: 884.10 (8")	8.4	48 IN MH	R-1550 SOLID LID
SAN MH A-2	894.06	SW INV: 884.93 (8") NE INV: 884.93 (8")	9.1	48 IN MH	R-1550 SOLID LID
SAN MH A-3	895.83	SW INV: 887.32 (8") NE INV: 887.32 (8")	8.5	48 IN MH	R-1550 SOLID LID
SAN MH A-4	898.89	SW INV: 889.35 (8") SE INV: 889.35 (8") NE INV: 889.35 (8")	9.5	48 IN MH	R-1550 SOLID LID

*EXISTING MANHOLE TO REMAIN. VERITY EXISTING ELEVATIONS AND CORE AND CONNECT NEW NE LATERAL AND INSTALL NEW BENCH

PROPOSED SANITARY SEWER PIPE TABLE							
LABEL	FROM	TO	LENGTH	INVERT EL. (FT)	DISCHARGE EL. (FT)	SLOPE	SIZE & MATERIAL
SAN A-1	SAN MH A-2	EX SAN MH A-1	80'	884.93	884.10	1.04%	8 IN PVC
SAN A-2	SAN MH A-3	SAN MH A-2	289'	887.32	884.93	0.83%	8 IN PVC
SAN A-3	SAN MH A-4	SAN MH A-3	248'	889.35	887.32	0.82%	8 IN PVC
SAN A-3.1	SAN A-3.1 45 BEND	SAN MH A-4	43'	890.00	889.35	1.53%	8 IN PVC
SAN A-3.2	BUILDING	SAN A-3.1 45 BEND	31'	890.50	890.00	1.61%	8 IN PVC
SAN A-4	BUILDING	SAN MH A-4	36'	890.50	889.35	3.20%	8 IN PVC

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Key Plan

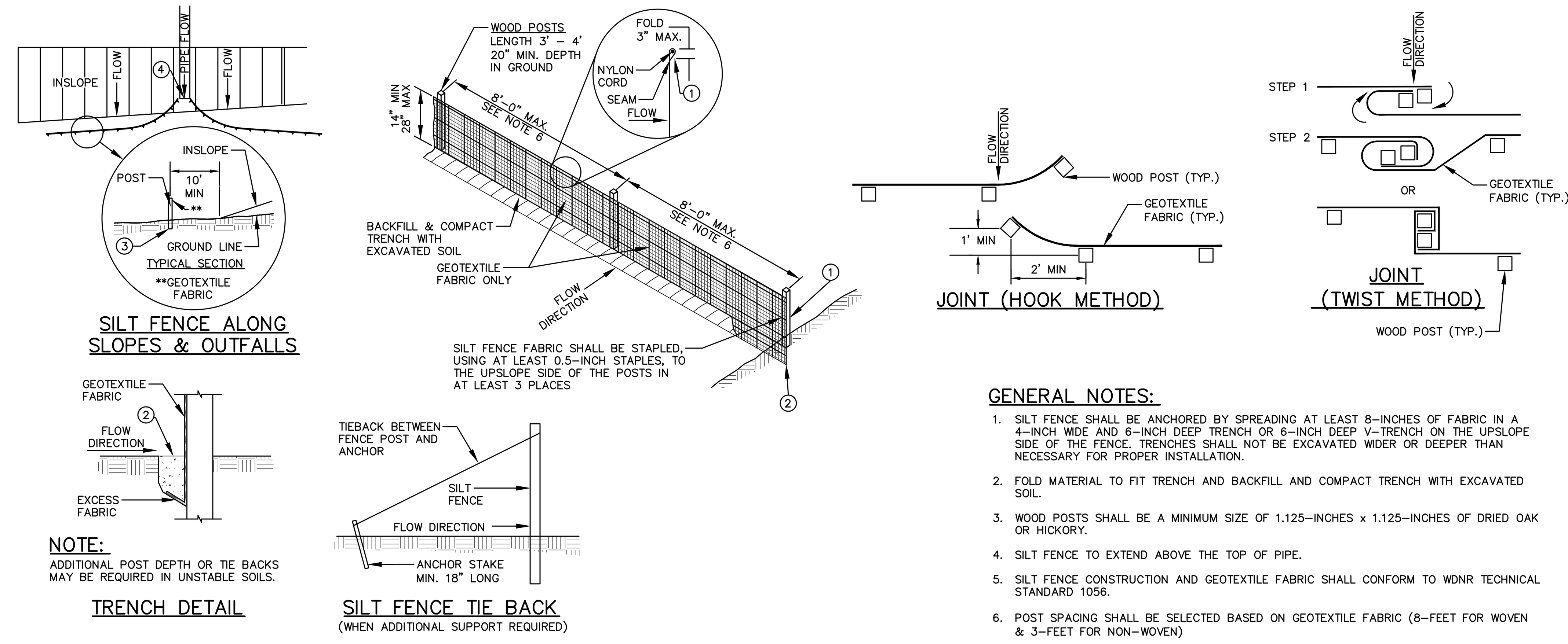
Revision Description Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
UTILITY PLAN

Sheet Number
C600



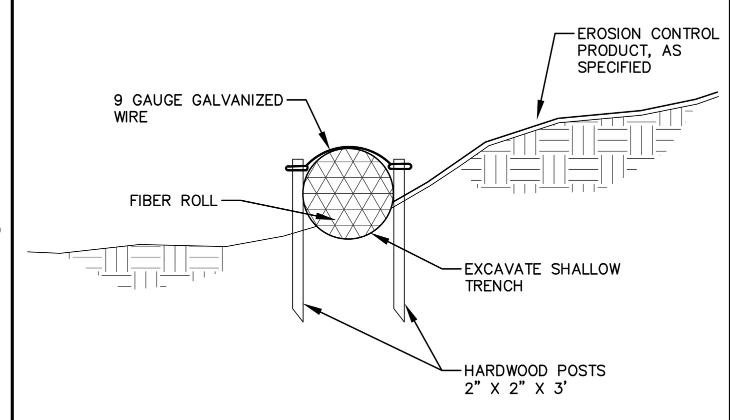
GENERAL NOTES:

1. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8–INCHES OF FABRIC IN A 4–INCH WIDE AND 6–INCH DEEP TRENCH OR 6–INCH DEEP V–TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCHES SHALL NOT BE EXCAVATED WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION.
2. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.125–INCHES x 1.125–INCHES OF DRIED OAK OR HICKORY.
4. SILT FENCE TO EXTEND ABOVE THE TOP OF PIPE.
5. SILT FENCE CONSTRUCTION AND GEOTEXTILE FABRIC SHALL CONFORM TO WDNR TECHNICAL STANDARD 1056.
6. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8–FEET FOR WOVEN & 3–FEET FOR NON–WOVEN)

REV. 7–01–2019

SILT FENCE

N.T.S.



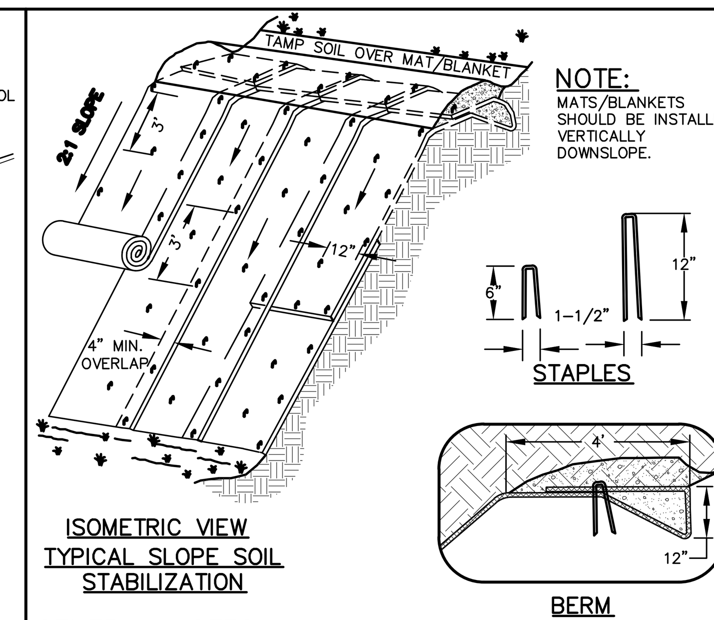
GENERAL NOTES:

1. EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS.
2. PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2" X 2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED LATERALLY ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
3. NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
4. PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED.

REV. 12–7–2018

FIBER SILT SOCK

N.T.S.



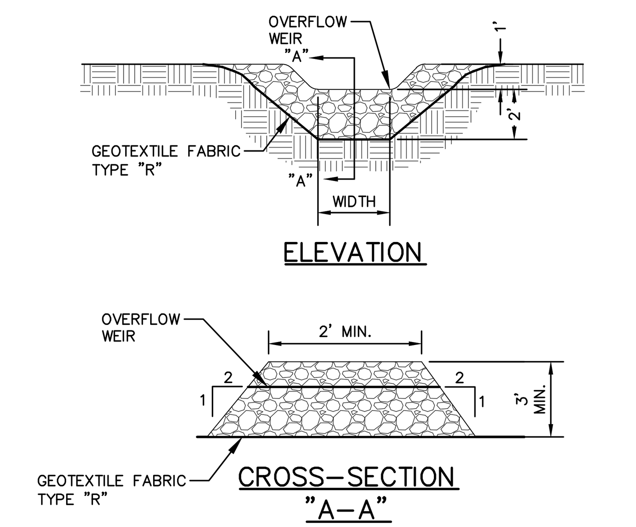
GENERAL NOTES:

1. EROSION MAT CONSTRUCTION SHALL BE IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARD 1052 "NON–CHANNEL EROSION MAT".
2. ONLY WisDOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST (PAL) APPROVED MATS SHALL BE ALLOWED. REFER TO EROSION CONTROL PLAN FOR EXACT MAT CLASSIFICATION.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

REV. 11–19–2018

EROSION MATTING

N.T.S.



GENERAL NOTES:

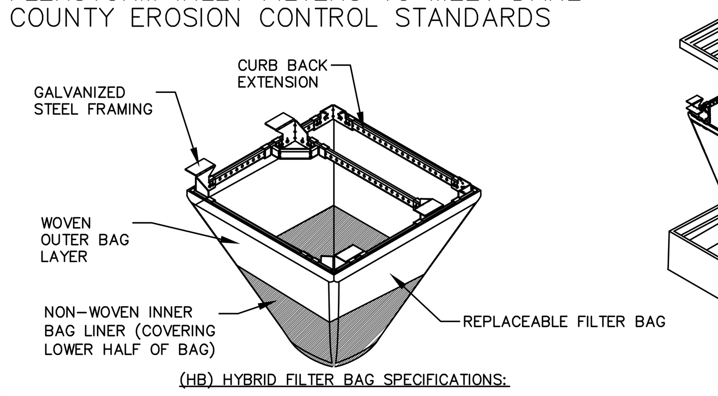
1. STONE DITCH CHECKS SHALL BE CONSTRUCTED OF A WELL–GRADED ANGULAR STONE, A D50 OF 3 INCH DIAMETER OR GREATER, SOMETIMES REFERRED TO AS BREAKER RUN OR SHOT ROCK.
2. EXTEND DITCH CHECK ACROSS CHANNEL OPENING TO MEET SWALE/DITCH SIDE SLOPES. WHERE CHANNEL IS LESS THAN 3 FEET DEEP, REDUCE WEIR HEIGHT TO 1 FOOT AND INCREASE THE TOP OF DITCH CHECK FROM 2 FEET TO 4 FEET.

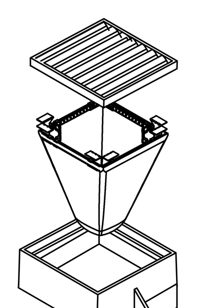
REV. 7–31–2018

STONE DITCH CHECK

N.T.S.

FLEXSTORM INLET FILTERS TO MEET DANE COUNTY EROSION CONTROL STANDARDS





INSTALLATION INSTRUCTIONS:
1. REMOVE GRATE FROM THE DRAINAGE STRUCTURE
2. CLEAN STONE AND DIRT FROM LEDGE (LIP) OF DRAINAGE STRUCTURE
3. DROP THE INLET FILTER THROUGH THE CLEAR OPENING SUCH THAT THE HANGERS REST FIRMLY ON THE LIP OF THE STRUCTURE
4. REPLACE THE GRATE AND CONFIRM IT IS NOT ELEVATED MORE THAN 1/8"

MAINTENANCE GUIDELINES:
1. EMPTY THE SEDIMENT BAG IF MORE THAN HALF FILLED WITH SEDIMENT AND DEBRIS
2. REMOVE THE GRATE, ENGAGE THE LIFTING POINTS, AND LIFT FILTER FROM THE DRAINAGE STRUCTURE.
3. DISPOSE OF SEDIMENT AND DEBRIS BY THE ENGINEERING OR MAINTENANCE CONTRACT 4. ALTERNATIVELY, AN INDUSTRIAL VACUUM CAN BE USED TO COLLECT SEDIMENT FROM THE FILTER BAG

(HB) HYBRID FILTER BAG SPECIFICATIONS:

CATCH-IT INLET FILTER (Temporary Inlet Protection)

Neenah Casting	Inlet Type	Grate Size	Opening Size	Bag Cap (ft^3)	Flow Ratings (CFS) HB (Hybrid Bag)	Flow Ratings (CFS) Bypass	ADS P/N
3067	Curb Box	35.25 x 17.75	33.0 x 15.0	4.4	2.0	5.8	62LCBEXTHB
3246A	Curb Box	35.75 x 23.875	33.5 x 21.0	4.2	1.1	3.3	62LCB3624HB
3030	Square/Rect (SQ)	23 x 16	20.5 x 13.5	1.6	0.7	2.2	62MCB2316HB
3067-C	Square/Rect (SQ)	35.25 x 17.75	33 x 15	3.2	1.0	5.2	62LSQ3618HB
R-2501	Round (RD)	~26	~24	2.3	0.8	5.2	62MRD26HB
R-1772/2560	Round (RD)	22.25-23.5	20.5-21	1.5	0.6	4.6	62MRD22HB

Woven and Non-Woven Geotextile Filter Bag Properties (Minimum Average Roll Values)

PROPERTY	TEST METHOD	WOVEN (OUTER)	NON-WOVEN (LINER)
TENSILE STRENGTH	ASTM D4632	350 x 225 Lbs	100 Lbs
ELONGATION	ASTM D4632	20% x 15%	50%
CBR PUNCTURE	ASTM D6241	1000 Lbs	65 Lbs
TRAPEZOIDAL TEAR	ASTM D4533	110 x 75 Lbs	45 Lbs
UV RESISTANCE	ASTM D4355	90%	70%
OPENING SIZE (AOS)	ASTM D4751	20 US STD SIEVE	40 US STD SIEVE
PERMITTIVITY	ASTM D4491	$1.5 Sec^{-1}$	$2.0 Sec^{-1}$
WATER FLOW RATE	ASTM D4491	$200 gal/min/ft^2$	$145 gal/min/ft^2$
MINIMUM FILTER BAG VOLUME		2 CUBIC FT	

FRAMED INLET PROTECTION TO BE INSTALLED BEFORE/DURING CONSTRUCTION ON OPEN GRATE STRUCTURES

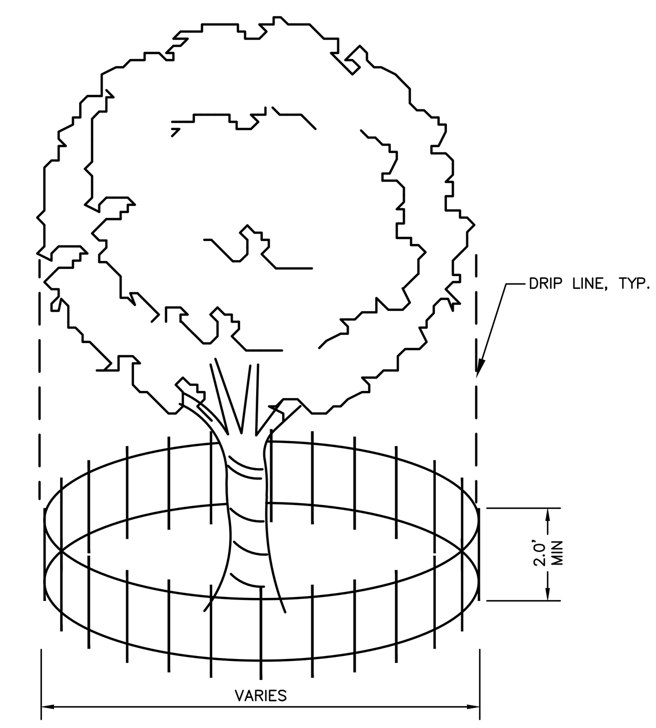
FLEXSTORM INLET FILTERS CATCH IT

SIZE C | DWG NO IPP Flexstorm HD Specifications | SHEET 1 OF 1

REV. 7–01–2019

FRAMED INLET PROTECTION

N.T.S.



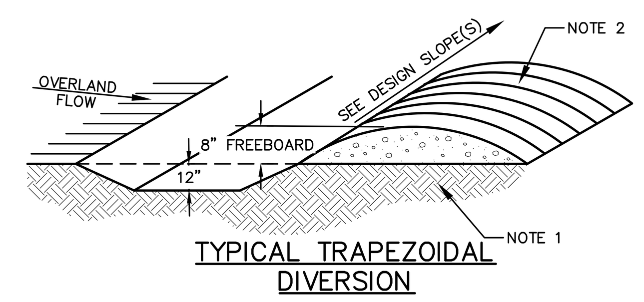
NOTE:

FENCE TO BE INSTALLED TO PROTECT EXISTING TREE(S) DURING CONSTRUCTION. CONTRACTOR TO COORDINATE FENCE LOCATION WITH OWNER PRIOR TO INSTALLATION. SILT FENCE MATERIAL OR OTHER APPROVED BARRIER MATERIAL MAY BE USED.

REV. 11–26–2018

TREE PROTECTION

N.T.S.



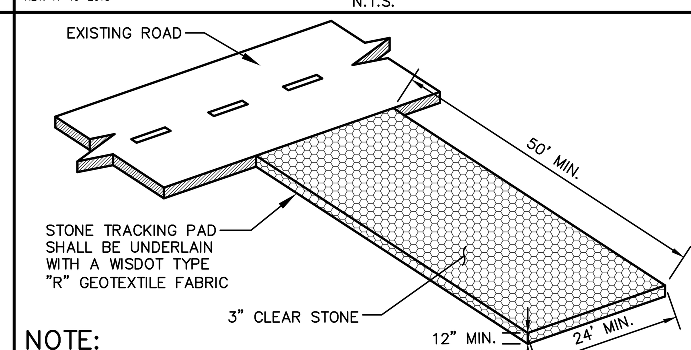
GENERAL NOTES:

1. REMOVE ANY EXISTING VEGETATION AND SCARIFY OR BENCH ADJACENT SOILS PRIOR TO PLACING BERM.
2. SIDE SLOPES OF BERM SHALL BE STABILIZED AS SOON AS THEY ARE CONSTRUCTED.
3. BERM SHALL NOT BE CONSTRUCTED OF TOPSOIL.

REV. 7–25–2018

DIVERSION SWALES

N.T.S.

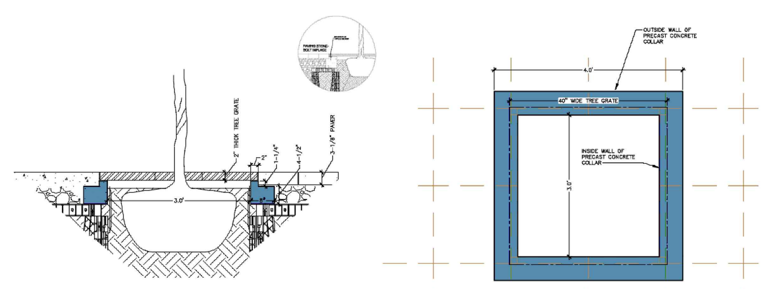


NOTE:
- CONTRACTOR TO VERIFY LOCATION WITH OWNER.
- MANUFACTURED TRACKOUT MATS ARE AN ACCEPTABLE ALTERNATIVE PER WDNR TECHNICAL STANDARD 1057.

REV. 04–24–2024

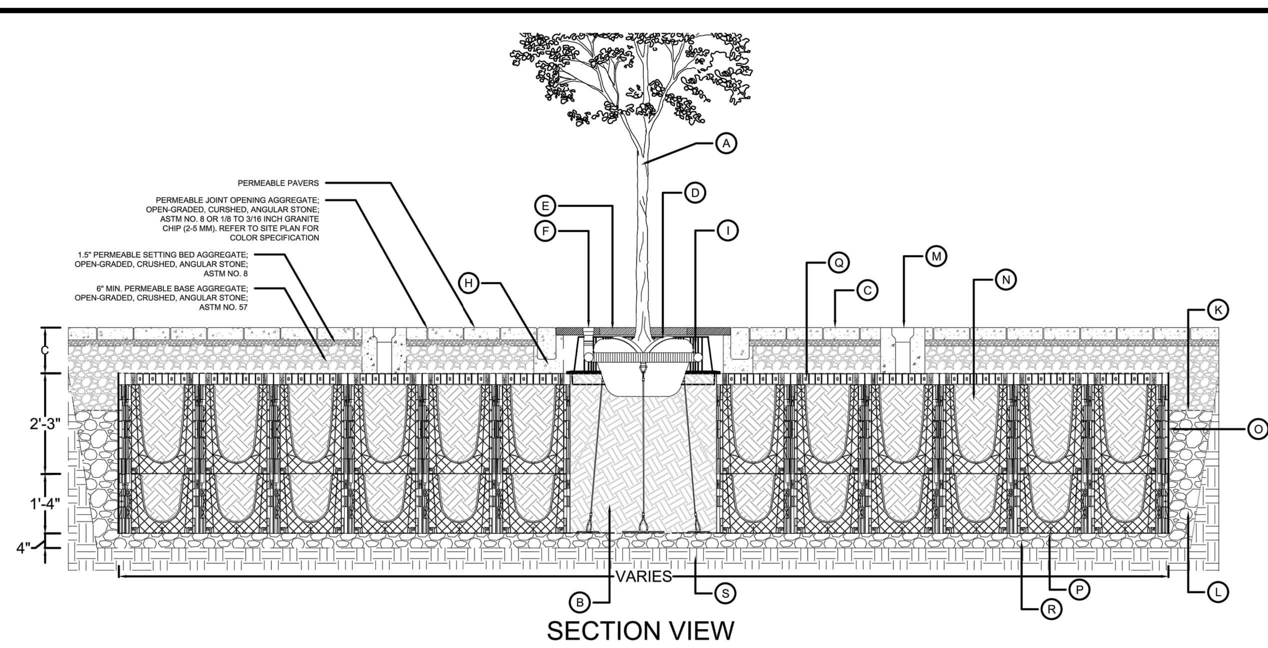
CONSTRUCTION ENTRANCE

N.T.S.



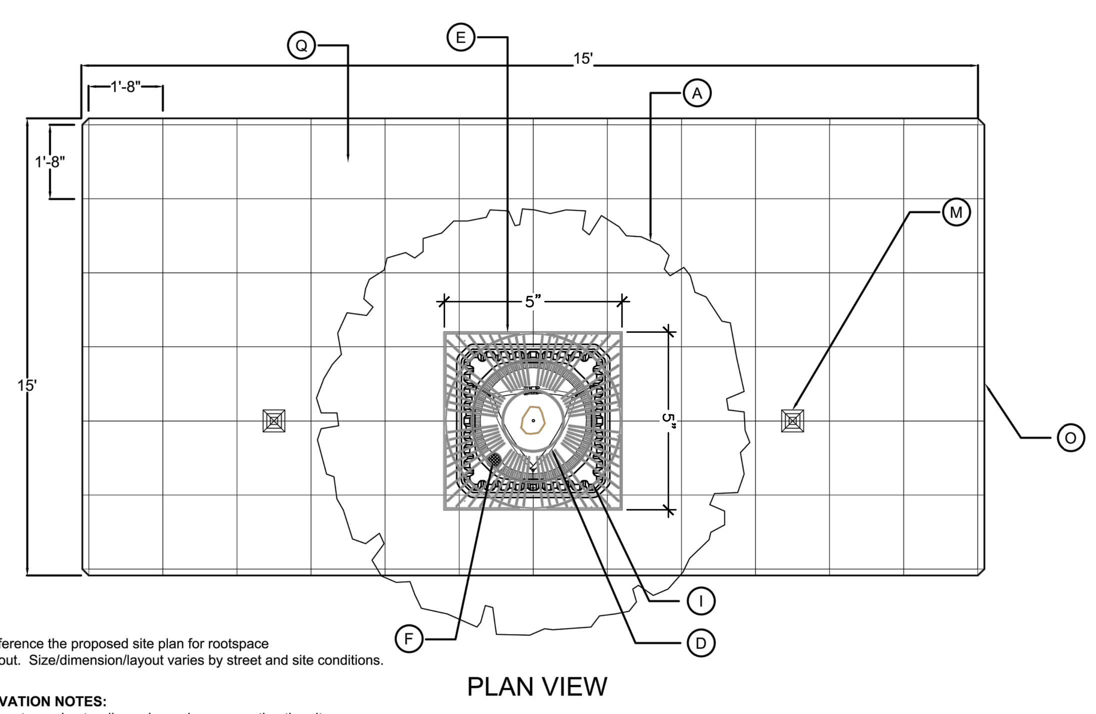
TREE GRATE CONCRETE COLLAR DETAIL

N.T.S.



SECTION VIEW

	Keyed Notes
A	TREE (See details for species and proper planting depth.)
B	COMPACTED SOIL BASE TO SUPPORT ROOTBALL, OR AS SPECIFIED.
C	PERMEABLE PAVERS & PERMEABLE AGGREGATE BASE (Design per specifications. Thicken edge at treepit opening. Compact to 95% minimum standard proctor density.)
D	ARBORGUY™ ANCHORPLATE ROOTBALL ANCHORING SYSTEM
E	TREE GRATE AND GUARD, ADUR TREE GRATE, UNFINISHED STEEL WASH
F	ROOTRAIN™ HYDROGRILLE INLET & PIPE (Rootball irrigation and aeration system.)
G	(INTENTIONALLY OMITTED)
H	CONCRETE HAUNCH TO SUPPORT TREE GRATE
I	ROOTDIRECTOR™ 1000 MODULAR ROOT MANAGEMENT SYSTEM (Installed on top of the RootSpace® System. Cut the Geocomposite fabric and lap it up the outside of the RootDirector™.)
J	(INTENTIONALLY OMITTED)
K	COMBIGRID GEOCOMPOSITE/GRID (Placed horizontally on top of the soil cells. Fold the geocomposite/grid down the outer edge of RootSpace 10" - 12" and fold it out horizontally 10" - 12". Overlap seams 10" - 12") (Option - Soil geogrid)
L	COMPACTED BACKFILL Backfill material for outer perimeter adjacent to soil cells shall be free of organic material, trash and other debris, shall be free of toxic material harmful to plant growth. (Compactable fill or as specified.) (Compact to 95% minimum standard proctor density)
M	ARBORVENT™ 150 AERATION INLET & PIPE (Soil aeration and irrigation system.) (Location as per plans.) Cast-in-place support collar if required.
N	PLANTING SOIL (Screened sandy loam with 4-8% organics by volume. See Planting Soil Specification.) (Foot compaction only.)
O	ROOTSTOP™ 600 ROOT BARRIER (Wraps vertically around the soil cells. Seams must overlap 10" - 12" and be sealed with joining tape.)
P	ARBORMESH (Soil Reinforcement Mesh) Laid on top of compacted base course.
Q	ROOTSPACE® 600 PAVEMENT SUPPORT SYSTEM / 2-LAYER (Filled with planting soil as specified.)
R	AGGREGATE SUB-BASE / DRAINAGE LAYER Free draining, 1/4" to 1" crushed angular stone. Compact to minimum of 95% standard proctor density.
S	COMPACTED SUB-GRADE



PLAN VIEW

GENERAL NOTES:
1. Contractor shall reference the proposed site plan for rootspace size/dimension/layout. Size/dimension/layout varies by street and site conditions.

INSTALLATION/EXCAVATION NOTES:
1. Add 6" minimum to outer perimeter dimensions when excavating the pit.
2. Always check the pit dimensions at the base of the pit, ensuring that sides are clean and square.
3. Ensure the aggregate base is screeded, leveled and compacted properly before installing the RootSpace® system.
4. Use RootSpace® Infill Panels adjacent to vehicle traffic areas.
5. Where a single row of RootSpace® is used, anchor the Upright Panels to the pit base using 3/8" x 8" galvanized spiral spikes.
6. See the RootSpace® Installation & Maintenance Manual and/or the Utilities & RootSpace® Guide for additional details.

SILVA CELL DETAIL

N.T.S.

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Key Plan

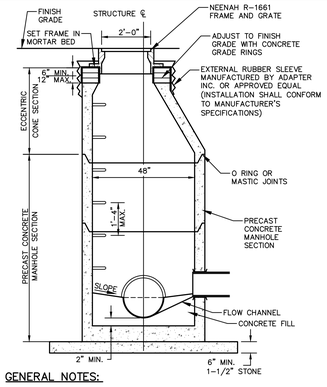
Revision | Description | Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C700



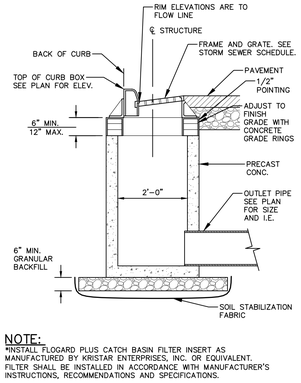
GENERAL NOTES:

1. MANHOLE CONSTRUCTION TO MEET REQUIREMENTS OF ASTM C478.
2. JOINTS SHALL BE WATERTIGHT. USE BUTYL RUBBER GASKET.
3. USE MORTAR FOR PIPE CONNECTIONS.
4. ALL MANHOLES SHALL HAVE RUBBER CHIMNEY BOOT SEALS.

SANITARY SEWER MANHOLE

REV. 12-6-2018

N.T.S.

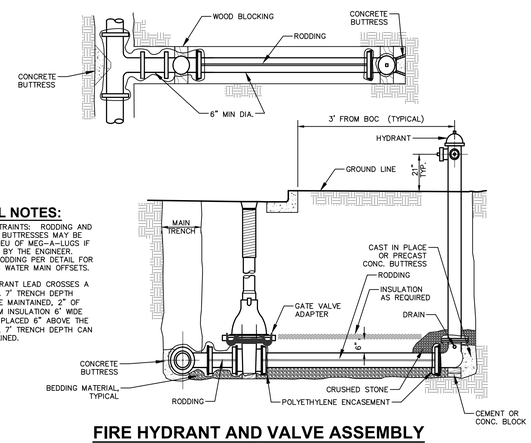


NOTE:
*INSTALL FLOGARD PLUS CATCH BASIN FILTER INSERT AS MANUFACTURED BY KRISTAR ENTERPRISES, INC. OR EQUIVALENT. FILTER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, RECOMMENDATIONS AND SPECIFICATIONS.

STORM INLET W/ OIL & GREASE FILTER

REV. 11-26-2018

N.T.S.



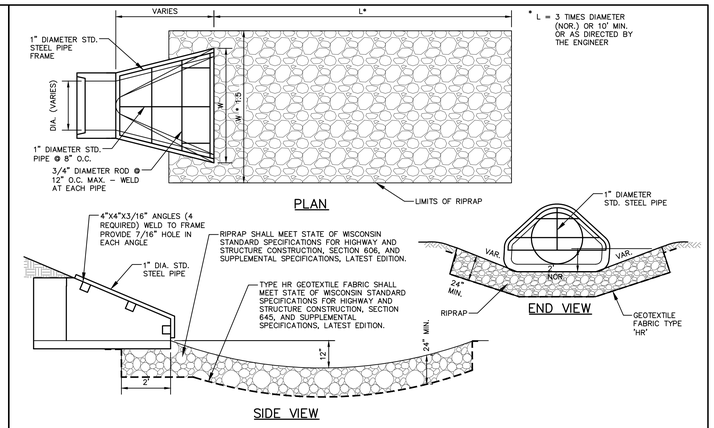
GENERAL NOTES:

1. JOINT RESTRAINTS: RODDING AND CONCRETE BUTTRESSES MAY BE USED IN LIEU OF MEG-A-LUGS IF APPROVED BY THE ENGINEER. PROVIDE RODDING PER DETAIL FOR STRAPPING WATER MAIN OFFSETS.
2. WHEN HYDRANT LEAD CROSSES A DITCH & A 7' TRENCH DEPTH CANNOT BE MAINTAINED, 2" OF STYROFOAM INSULATION 6' WIDE SHALL BE PLACED 6" ABOVE THE PIPE UNTIL 7' TRENCH DEPTH CAN BE MAINTAINED.

FIRE HYDRANT AND VALVE ASSEMBLY

REV. 12-03-2018

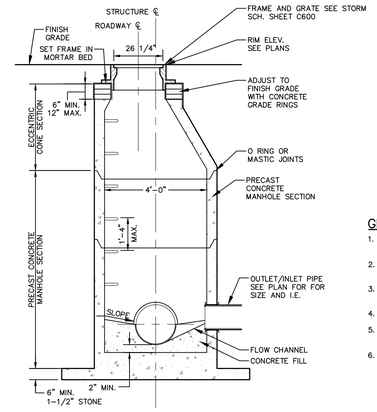
N.T.S.

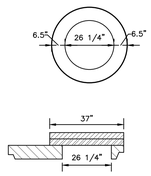


APRON ENDWALL W/ GRATE - RIPRAP

REV. 12-7-2018

N.T.S.





FLAT TOP SLAB

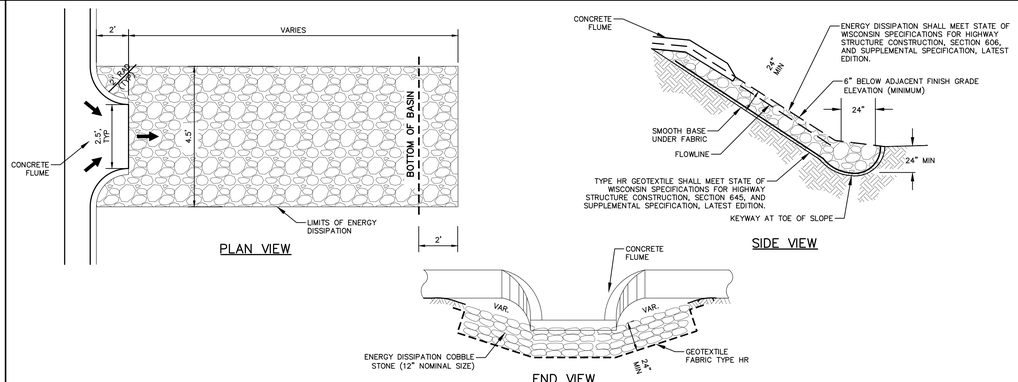
GENERAL NOTES:

1. MANHOLE CONSTRUCTION TO MEET REQUIREMENTS OF ASTM C478.
2. PROVIDE FLAT TOP SLAB FOR MANHOLES 5' OR LESS IN DEPTH. FLAT TOP SLABS TO BE IN-BELL TYPE.
3. JOINTS SHALL BE WATERTIGHT. USE BUTYL RUBBER GASKET.
4. USE MORTAR FOR PIPE CONNECTIONS.
5. ECCENTRIC CONE SECTION OF MANHOLE TO BE SET OUTSIDE OF VEHICULAR WHEEL PATH NEAR ℄ ROADWAY.
6. USE NEENAH R-2501-Q BEEHIVE FRAME AND GRATE WHEN IN LANDSCAPE AREAS.

STORM SEWER MANHOLE

REV. 12-07-2018

N.T.S.

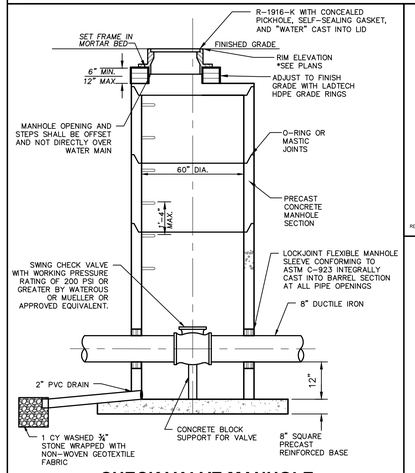


GENERAL NOTES:

1. PITCH CONCRETE/ASPHALT AT 2% FROM FLOW LINE OF GUTTER SECTION TO END OF FLUME.

CURB FLUME

N.T.S.



CHECK VALVE MANHOLE

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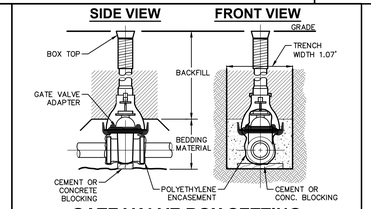

GATE VALVE BOX SETTING

REV. 12-04-2018

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Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C701

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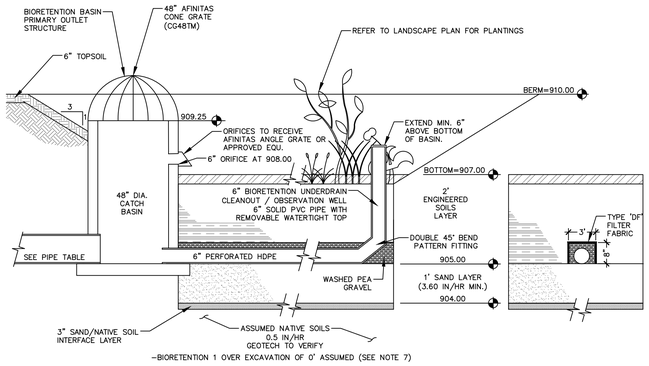
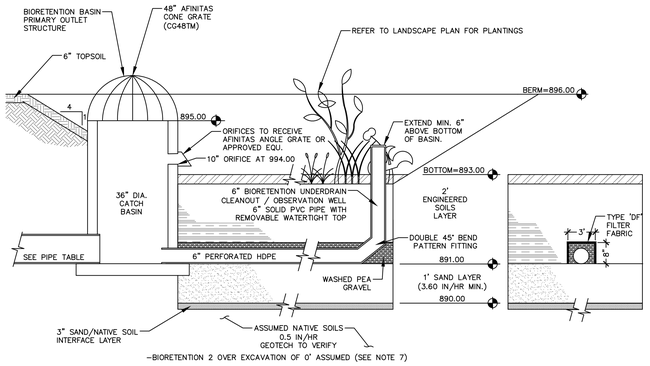
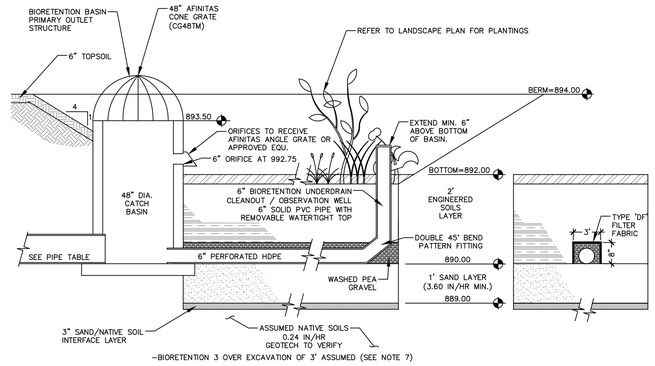


BIORETENTION BASIN #1 (NORTH)



BIORETENTION BASIN #2 (SOUTHEAST)



BIORETENTION BASIN #3 (SOUTHWEST PARENT DROP-OFF LOOP)

GENERAL NOTES:

1. ALL CONSTRUCTION PRACTICES SHALL MEET THE SPECIFICATIONS OF THE WDNR TECHNICAL STANDARD 1004 – BIORETENTION FOR INFILTRATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THIS STANDARD AND CONSTRUCT THE BIORETENTION DEVICE IN ACCORDANCE WITH THE REQUIREMENTS OUTLINED THEREIN.
2. REFER TO SPECIFICATION SECTION 32 91 13.50 FOR MORE INFORMATION ON BASIN MATERIALS AND CONSTRUCTION.
3. CONFIRM WITH GEOTECHNICAL ENGINEER THAT THE 0.5 IN/HR SOIL PROFILE HAS BEEN REACHED PRIOR TO BACKFILLING THE BIORETENTION BASIN.
4. NATIVE SOIL TO BE TILLED 2 FEET TO PROMOTE INFILTRATION.
5. IF ADDITIONAL OVER-EXCAVATION IS REQUIRED BELOW THE SAND PROFILE TO REACH THE LISTED NATIVE SOIL LAYER, THE BACKFILL USED TO RETURN THE BOTTOM OF THE BIORETENTION SYSTEM TO THE BOTTOM OF THE SAND/GRAVEL LAYER ELEVATION MUST HAVE AN EQUAL OR HIGHER INFILTRATION RATE THAN THE LISTED NATIVE SOIL LAYER AS CONFIRMED BY A GEOTECHNICAL ENGINEER.
6. FILTER FABRIC SHALL BE PLACED ABOVE AND ON THE SIDES OF THE PERFORATED PIPE, BETWEEN THE PEA GRAVEL AND THE ENGINEERED SOIL, A WIDTH OF 3 FEET CENTERED OVER THE FLOW LINE OF THE PIPE.
7. AREAS SURROUNDING THE BASIN SHALL BE SEEDED PER LANDSCAPE PLAN PRIOR TO DIGGING TO NATIVE SOIL, INSTALLING SAND LAYER AND INSTALLING ENGINEERED SOILS.
8. NATIVE SOILS, SAND STORAGE, AND ENGINEERED SOILS SHALL BE PROTECTED FROM EROSION SEDIMENT BY USE OF FIBER SILT LOGS AROUND THE PERIMETER OF THE BASIN BOTTOM.
9. RUNOFF MUST INFILTRATE WITHIN 24–HOURS. BASINS UNABLE TO MAINTAIN THESE RATES MUST BE DEEP TILLED, REGRADED, AND IF NECESSARY REPLANTED TO RESTORE ORIGINAL INFILTRATION RATES.
10. SEE LANDSCAPING PLAN FOR APPROPRIATE SEED MIX, PLANTS AND PLANTING CONFIGURATIONS. IF PLUGGING IS USED INSTEAD OF NATIVE VEGETATIVE MATTING BASIN BOTTOM TO RECEIVE TYPE II, CLASS B OR C MATTING.
11. ALL WORK TO BE CONDUCTED IN CONFORMANCE WITH APPLICABLE LOCAL, REGIONAL, AND STATE STORMWATER STANDARDS FOR THE PROJECT SITE AS APPROVED BY THE REGULATORY ENGINEER.

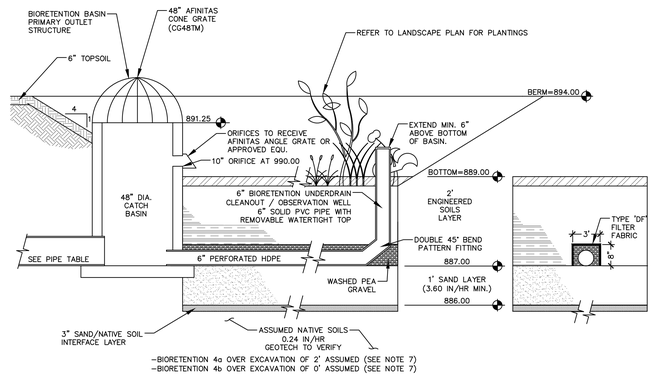
NOTE:
INFILTRATION DEVICES ARE DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR), COUNTY, MUNICIPALITY, AND ENGINEERING STANDARD OF CARE. ALL DESIGNATED INFILTRATION AREAS (e.g. RAIN GARDENS, INFILTRATION BASINS, BIORETENTION DEVICES) SHALL BE FENCED PRIOR TO CONSTRUCTION AND REMAIN UNDISTURBED AND PROTECTED DURING THE CONSTRUCTION OF PROPOSED SITE IMPROVEMENTS. PROPOSED BIORETENTION DEVICES SHALL NOT BE CONSTRUCTED UNTIL THE DEVICE'S CONTRIBUTING WATERSHED AREA MEETS ESTABLISHED VEGETATION REQUIREMENTS SET FORTH WITHIN THE RESPECTIVE WDNR TECHNICAL STANDARDS. IF THE LOCATION OF THE INFILTRATION AREA CONFLICTS WITH CONSTRUCTION STAGING AND/OR CONSTRUCTION TRAFFIC AND IS DISTURBED, COMPACTION MITIGATION WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR IS REQUIRED TO PROVIDE QUALIFIED STAFF FOR INSPECTION AND OBSERVATION OF THE CONSTRUCTION ACTIVITIES RELATING TO ALL JOB SITE REGULATORY COMPLIANCE INCLUDING THE PROTECTION AND CONSTRUCTION OF ALL STORMWATER MANAGEMENT FEATURES. ANY OBSERVATION OF PLAN OR SITE DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.

THE STORMWATER MANAGEMENT FEATURES CONTAINED WITHIN THIS PLAN SET HAVE BEEN DESIGNED IN ACCORDANCE WITH APPLICABLE STANDARDS SET FORTH IN WISCONSIN DNR NR151 AND LOCAL ORDINANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER CONSTRUCTION PRACTICES HAVE BEEN UTILIZED AND THAT STORMWATER MANAGEMENT FEATURES HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH APPROVED DESIGN PLANS. JSD PROFESSIONAL SERVICES, INC. (JSD) SHALL NOT BE LIABLE FOR ANY CONSTRUCTION PRACTICES OR INSTALLATION WHICH DEVIATES FROM THE APPROVED PLAN SET. ONCE THE OWNER HAS PROVIDED FINAL APPROVAL TO THE WORK PERFORMED BY THE CONTRACTOR AND ENSURED COMPLIANCE WITH THE PLAN, IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN STORMWATER MANAGEMENT FEATURES IN ACCORDANCE WITH THE RECORDED MAINTENANCE AGREEMENT. PROPER OPERATION IS DEPENDENT ON A MULTITUDE OF VARIABLES INCLUDING WEATHER. THESE COMPONENTS REQUIRE ONGOING MAINTENANCE FOR WHICH THE OWNER IS RESPONSIBLE. JSD TAKES NO RESPONSIBILITY FOR PROPER OPERATION OF THE WATER QUALITY COMPONENTS.

AS–BUILT SURVEY AND CERTIFICATION: DURING CONSTRUCTION, PRIOR TO COMPLETION, AND UPON CONSTRUCTION COMPLETION AND STABILIZATION, AN AS–BUILT SURVEY IS TO BE CONDUCTED FOR BASIN AND CERTIFIED BY THE ISSUING ENGINEER. AS–BUILT PLANS ARE TO BE SUBMITTED TO MUNICIPALITY FOR FINAL APPROVAL.

ALL BASIN INFORMATION REQUIRED TO MEET DANE COUNTY STORMWATER MANUAL AS–BUILT CERTIFICATIONS CAN BE FOUND AT THE LINK BELOW AND WITHIN THE CHECKLISTS PROVIDED AT THE LINK. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY INFORMATION DURING CONSTRUCTION AND SHALL PROVIDE REQUIRED DATA TO THE ENGINEER FOR COMPLETION OF THE AS–BUILT CERTIFICATION, INCLUDING BUT NOT LIMITED TO CONSTRUCTION PHOTOS, GEOTECH INFORMATION, SAND SPECIFICATIONS, ENGINEERED SPECIFICATIONS, AND PLANT LISTS.
https://danecountystormwatermanual.com/doku.php?id=as_built_certification



BIORETENTION BASIN #4a & 4b (SOUTHWEST)

BIORETENTION BASIN

N.T.S.

PRELIMINARY. NOT FOR CONSTRUCTION.

OPN ARCHITECTS
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1402 Wyoming Way
Madison, WI 53704

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P. 608-848-5060

Structural Engineer
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P. 608-223-9600

Mechanical Engineer
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2310 Crossroads Dr., Suite 3000
Madison, WI 53718
P. 608-223-9600

Electrical Engineer
IMEG
2310 Crossroads Dr., Suite 3000
Madison, WI 53718
P. 608-223-9600

Key Plan

Revision	Description	Date

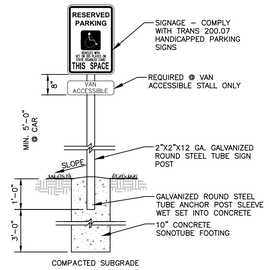
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C702

File: \\JSDNC\projects2\2024\24146622\DWG\Civil Sheets\24146622 - Con Docs - Notes & Details.dwg Layout: C702 DETAILS - SWM User: cade.ferrette Plotted: Oct 07, 2025 - 4:49pm Xref's:



ADA SIGN

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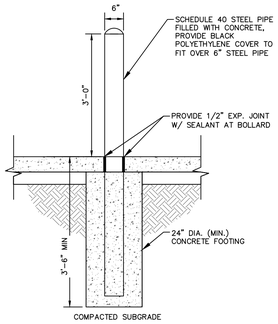
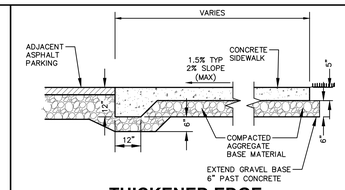


CONCRETE BOLLARD W/ SLEEVE

N.T.S.

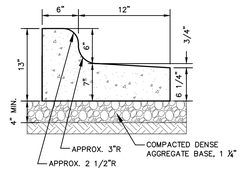
REV. 12-17-2018



THICKENED EDGE SIDEWALK - FLUSH

N.T.S.

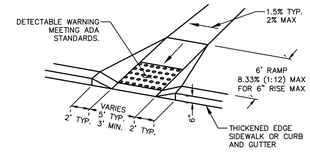
REV. 07-14-2020



18" REJECT CURB & GUTTER

N.T.S.

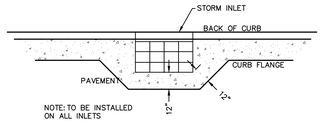
REV. 12-17-2018



ADA ACCESSIBLE RAMP - INLINE

N.T.S.

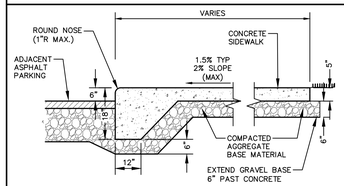
REV. 08-05-2025



CONCRETE INLET COLLAR

N.T.S.

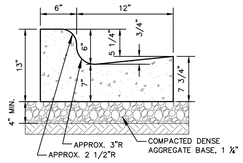
REV. 11-20-2018



THICKENED EDGE SIDEWALK

N.T.S.

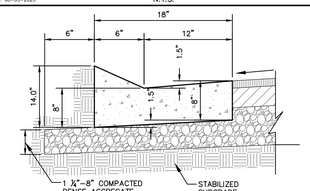
REV. 07-14-2020



18" STANDARD CURB & GUTTER

N.T.S.

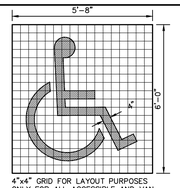
REV. 12-17-2018



18" MOUNTABLE CURB & GUTTER

N.T.S.

REV. 12-17-2018



4"x4" GRID FOR LAYOUT PURPOSES ONLY FOR ALL ACCESSIBLE AND VAN ACCESSIBLE SPACES

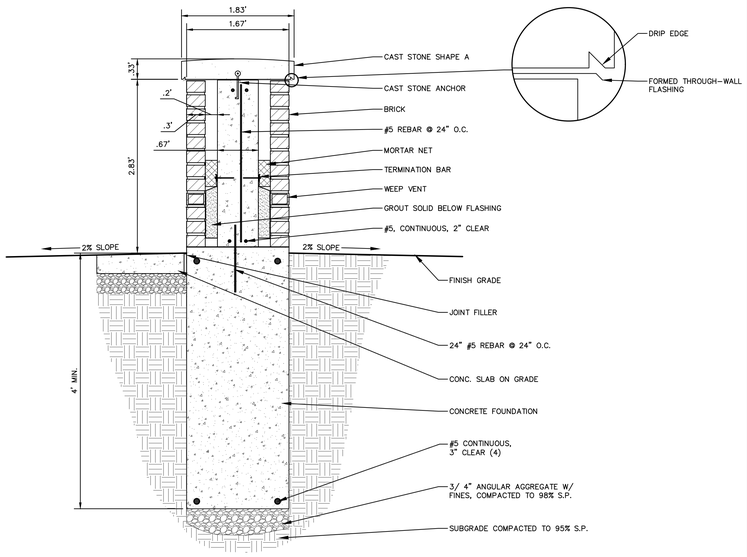
NOTE:

SYMBOL DETAILS ARE SHOWN FOR INTENT ONLY. CONTRACTOR SHALL VERIFY EXACT REQUIREMENTS PRIOR TO CONSTRUCTION.

ADA PARKING STALL MARKING

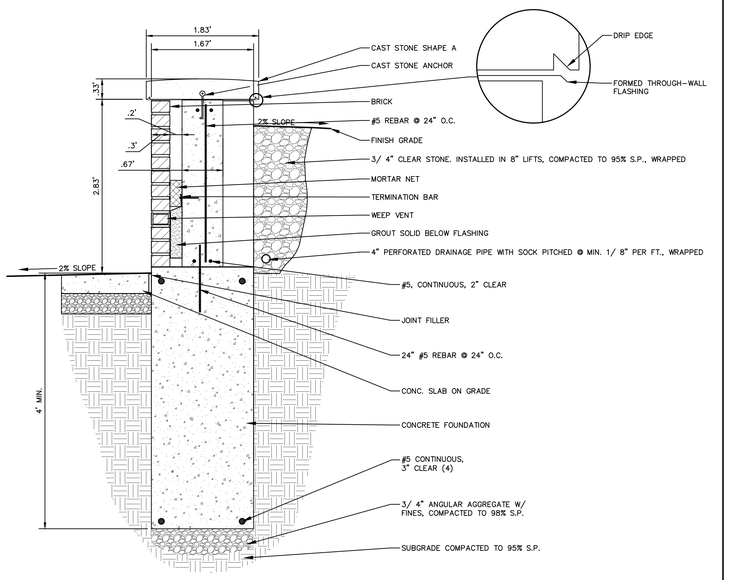
REV. 11-20-2018

N.T.S.



FREESTANDING SEAT WALL

N.T.S.

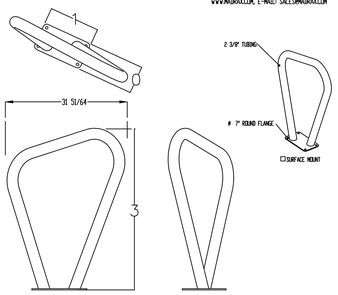


RETAINING WALL

N.T.S.

MADRAX

MADRAX DIVISION
GRABER MANUFACTURING, INC.
5188 UNITED DRIVE
WAUNAKEE, WI 53597
P(800) 448-7931, F(608) 849-1900, F(608) 849-1981
WWW.MADRAXLOCK.COM, E-MAIL: SALES@MADRAXLOCK.COM



PART: LBR-2
DESCRIPTION LEFTY BIKE RACK, 2 BIKE CAPACITY, SURFACE MOUNTED, POWDER COATED BRONZE.
DATE: 5-27-2020
END: BLV

NOTES:
1. INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. CONSULTANT TO APPROVE COLOR OF FINISH. SEE MANUFACTURER'S SPECIFICATIONS.
3. SEE SITE PLAN FOR LOCATION.

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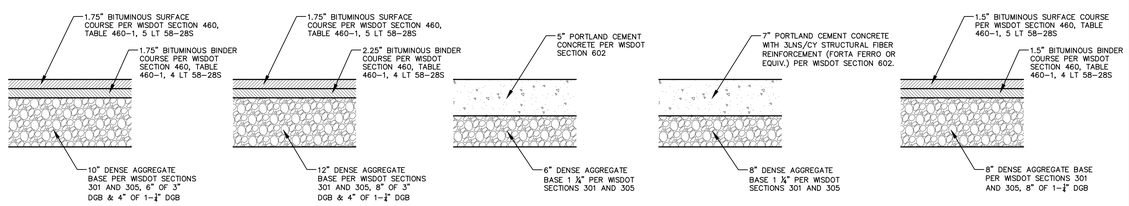
BIKE RACK DETAIL

N.T.S.



STANDARD ASPHALT PAVEMENT SECTION | HEAVY DUTY ASPHALT PAVEMENT SECTION | CONCRETE SIDEWALK SECTION | HEAVY DUTY CONCRETE SIDEWALK SECTION | PAVED RECREATION SPORT COURTS PAVEMENT SECTION

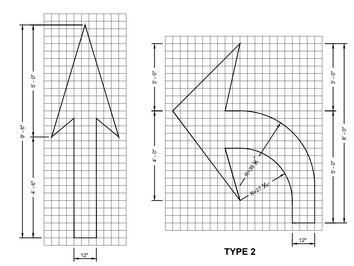
GENERAL NOTES:

1. REFER TO PAVEMENT RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT, PREPARED BY INTERTEK PSI TITLED "PROPOSED BLACK HAWK MIDDLE SCHOOL AND GOMPERS ELEMENTARY SCHOOL" PROJECT NO. 00523535R DATED SEPTEMBER 9, 2025. IF THERE ARE ANY DISCREPANCIES BETWEEN THIS DETAIL AND THE PAVEMENT RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION REPORT, THE GEOTECHNICAL REPORT SHALL GOVERN.
2. WSDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, INCLUDING SUPPLEMENTAL SPECIFICATIONS, COMPACTION REQUIREMENTS:
   - BITUMINOUS CONCRETE: REFER TO SECTION 460-3
   - BASE COURSE: REFER TO SECTION 301.3.4.2, STANDARD COMPACTION.
3. CONCRETE EQUIPMENT PADS AND TRASH ENCLOSURES SHALL BE A 8" CONCRETE SLAB WITH WIRE REINFORCEMENT MESH (W2.9XW2.9) OVER 8" OF 1-1/4" DGB PER WSDOT SECTION 305.

PAVEMENT SECTIONS

N.T.S.

REV. 7-01-2019



GENERAL NOTES:

1. FOR ONE WAY LANES, CENTER SINGLE ARROW IN LANE.

TYPICAL PAVEMENT MARKINGS

N.T.S.

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Key Plan

Revision	Description	Date

OPN Project No.
24654002

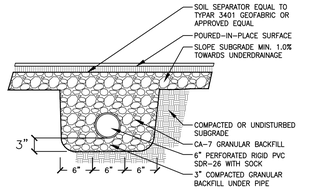
Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C703

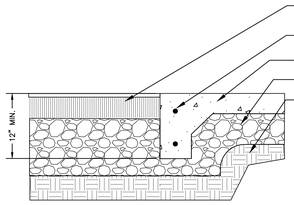
PRELIMINARY. NOT FOR CONSTRUCTION.

File: \\JSDINCsyncprojects\2024\24146622\DWG\Civil Sheets\24146622 - Con Docs - Notes & Details.dwg Layout: C703 DETAILS - SITE User: cade.ferrette Plotted: Oct 07, 2025 - 4:50pm Xrefs:



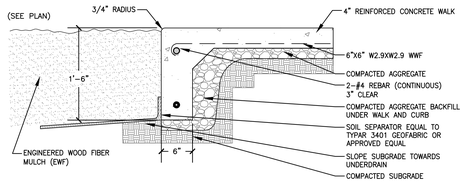
UNDERDRAIN

N.T.S.



THICKENED CURB EDGE AT PIP SURFACE

N.T.S.

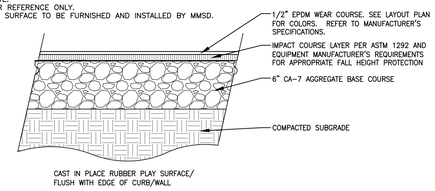


REV. 03-02-2021

THICKENED CURB EDGE AT PLAY AREA

N.T.S.

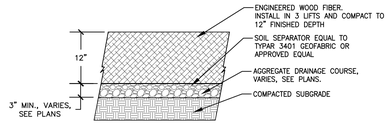
NOTE:
FOR REFERENCE ONLY.
PIP SURFACE TO BE FURNISHED AND INSTALLED BY MMSD.



POURED IN PLACE (PIP) RUBBER SURFACE

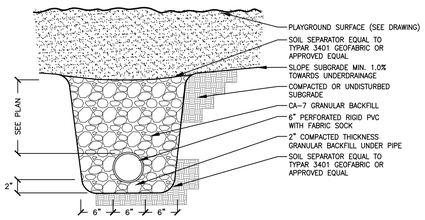
N.T.S.

NOTE:
FOR REFERENCE ONLY.
PIP SURFACE TO BE FURNISHED AND INSTALLED BY MMSD.



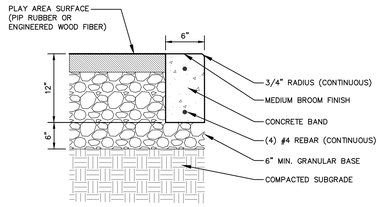
ENGINEERED WOOD FIBER

N.T.S.



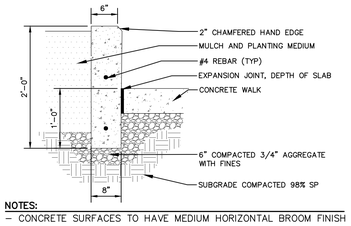
ENGINEERED WOOD FIBER UNDERDRAIN

N.T.S.



6"x12" RIBBON CURB AT PLAY AREA

N.T.S.

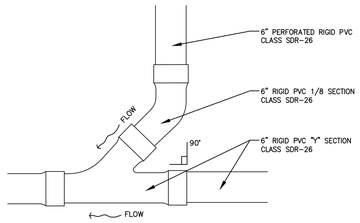


NOTES:
– CONCRETE SURFACES TO HAVE MEDIUM HORIZONTAL BROOM FINISH

REV. 09-24-2021

PLANTER CURB (8"x24")

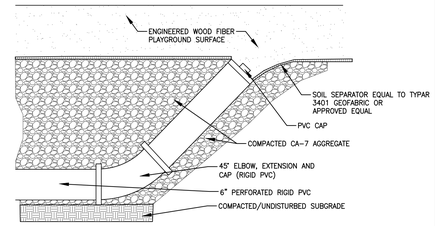
N.T.S.



REV. 7-07-2021

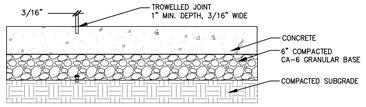
UNDERDRAINAGE PIPE TRANSITION

N.T.S.

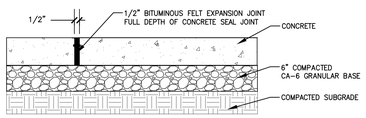


CLEANOUT IN PLAY AREA

N.T.S.



CONTROL JOINT



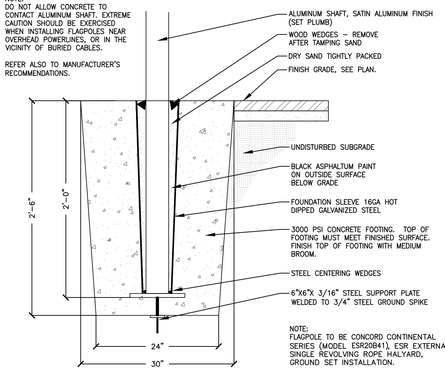
EXPANSION JOINT

EXPANSION JOINT / CONTROL JOINT

N.T.S.

NOTE:
DO NOT ALLOW CONCRETE TO CONTACT ALUMINUM SHAFT. EXTREME CAUTION SHOULD BE EXERCISED WHEN INSTALLING FLAGPOLES NEAR OVERHEAD POWERLINES, OR IN THE VICINITY OF BURIED CABLES.

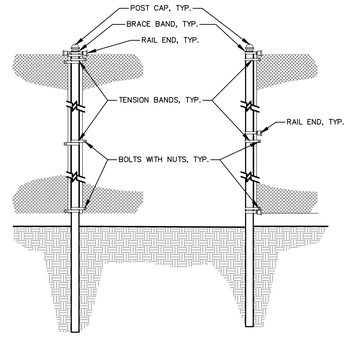
REFER ALSO TO MANUFACTURER'S RECOMMENDATIONS.



NOTE:
FLAGPOLE TO BE CONCORD CONTINENTAL SERIES (MODEL ESR20B41), ESR EXTERNAL SINGLE REVOLVING ROPE HALYARD, GROUND SET INSTALLATION.

20' FLAGPOLE

N.T.S.

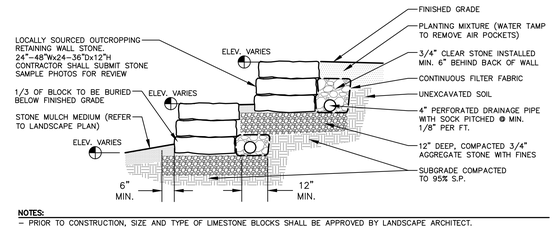


CORNER POST **TERMINAL OR GATE POST**

CHAIN LINK FENCE TERMINAL POST / END POST

N.T.S.

REV. 11/12/2021



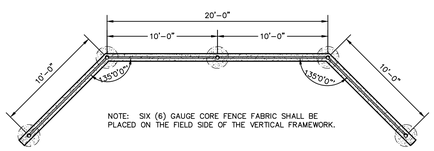
NOTES:
– PRIOR TO CONSTRUCTION, SIZE AND TYPE OF LIMESTONE BLOCKS SHALL BE APPROVED BY LANDSCAPE ARCHITECT.

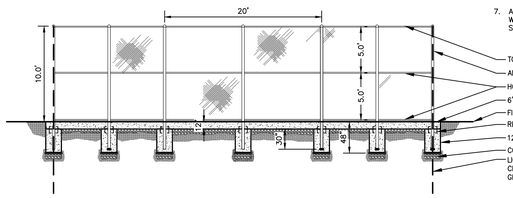
– WALLS OVER 4-FEET IN HEIGHT SHALL BE DESIGNED BY REGISTERED GEOTECHNICAL OR STRUCTURAL ENGINEER AS PROVIDED ON SHOP DRAWINGS AND SUBMITTED PRIOR TO CONSTRUCTION.

REV. 06-16-2025

LIMESTONE RETAINING WALL

N.T.S.





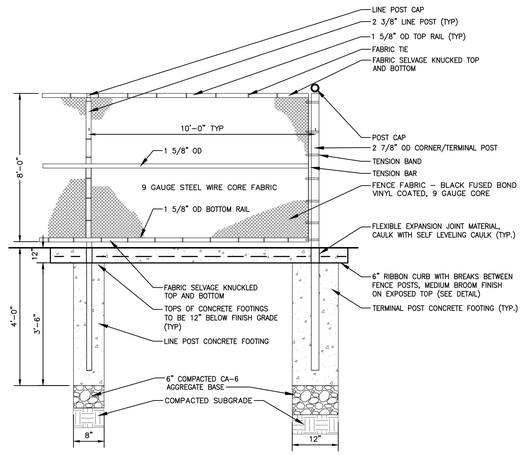
GENERAL NOTES:

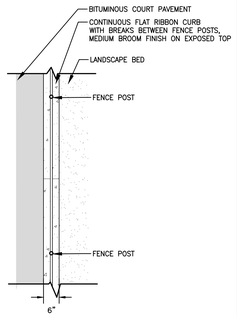
1. TENSION BANDS SHALL BE 1 1/8" X 1" AND PLACED 1'-0" O.C. AT ALL END & CORNER POSTS
2. TENSION BARS SHALL BE 1/4" X 3/4" X HT. OF END & CORNER POSTS
3. FABRIC TIES SHALL BE GALVANIZED 9 GAUGE STEEL & PLACED 1'-0" O.C. AT ALL RAILS & LINE POSTS
4. ALL OF THE ABOVE HARDWARE, INCLUDING NUTS AND BOLTS ETC. REQUIRED, SHALL BE HOT DIPPED GALVANIZED (GALV.) STEEL (STL.)
5. PEEN ALL BOLTS TO PREVENT THEFT
6. FENCE FABRIC IS BLACK FUSED BOND VINYL COATED, 9 GAUGE CORE, SEE DETAILS
7. ALL PIPE & POSTS CONNECTIONS SHALL BE WELDED TOGETHER WHERE THEY MEET WITH FILLET WELDS COMPLETELY AROUND PIPE, MEETING THE AMERICAN WELDING SOCIETY STANDARDS, APPLY 2 COATS OF ALUMINUM PAINT TO ALL MARS

REV. 09-17-2025

BACKSTOP FENCE

N.T.S.





PLAN VIEW

CHAIN LINK FENCE WITH CONCRETE RIBBON

N.T.S.

REV. 11/12/2021

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Key Plan

Revision	Description	Date

OPN Project No.
24654002

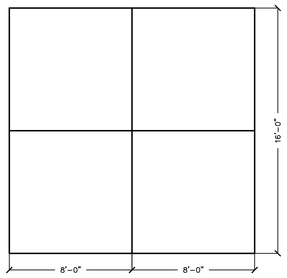
Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C704

File: \\JSDINCprojects2\2024\24146624\DWG\Civil Sheets\24146624 - Con Docs - Notes & Details.dwg Layout: C704 DETAILS - SITE User: cade.ferrette Plotted: Oct 07, 2025 - 4:50pm Xref's:

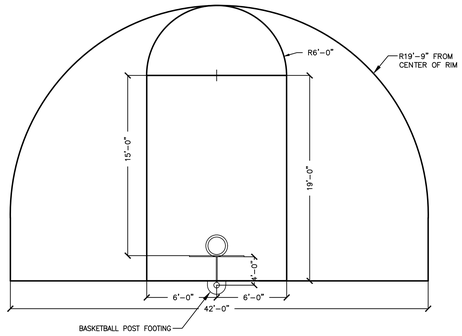
NOTE:
1. ALL LINES SHALL BE PAINTED 2" WIDE WITH WHITE ACRYLIC SURFACING BY CALIFORNIA SPORTS SURFACES (OR APPROVED EQUAL)



FOUR SQUARE COURT LAYOUT

N.T.S.

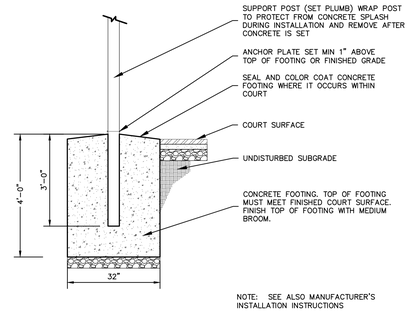
NOTE:
1. ALL LINES SHALL BE PAINTED 2" WIDE WITH WHITE ACRYLIC SURFACING BY CALIFORNIA SPORTS SURFACES (OR APPROVED EQUAL)



BASKETBALL COURT LAYOUT

N.T.S.

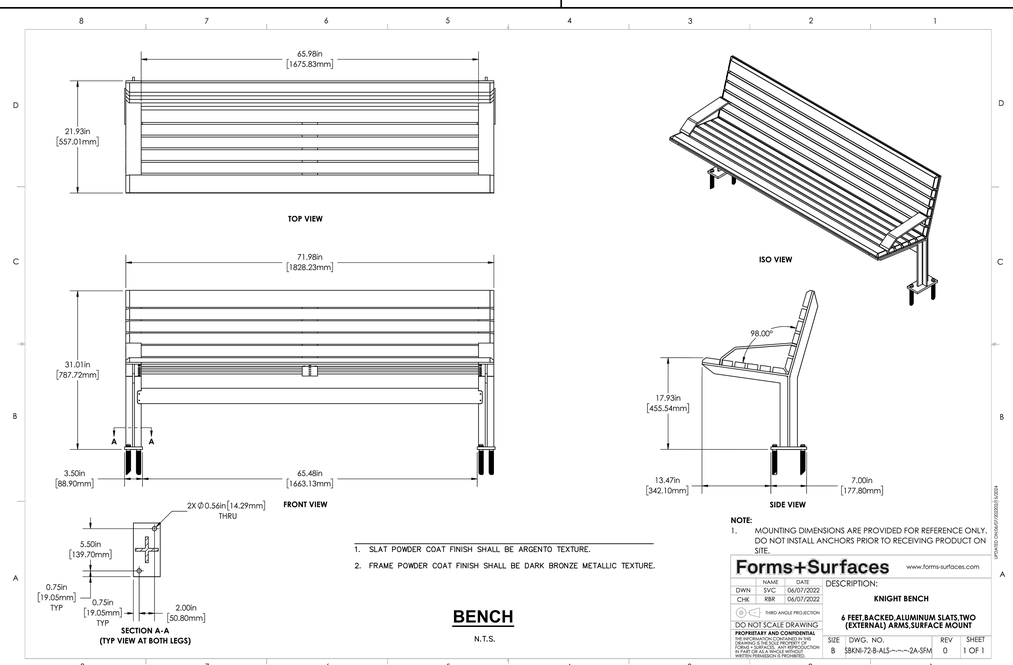
NOTE:
1. BASKETBALL POST, BACKBOARD AND RIM TO BE COORDINATED BY CONTRACTOR WITH MMSD



NOTE: SEE ALSO MANUFACTURER'S INSTALLATION INSTRUCTIONS

BASKETBALL POST FOOTING

N.T.S.



1. SLAT POWDER COAT FINISH SHALL BE ARGENTO TEXTURE.
2. FRAME POWDER COAT FINISH SHALL BE DARK BRONZE METALLIC TEXTURE.

NOTE:
1. MOUNTING DIMENSIONS ARE PROVIDED FOR REFERENCE ONLY. DO NOT INSTALL ANCHORS PRIOR TO RECEIVING PRODUCT ON SITE.

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	NAME	DATE
DWN	SVC	06/07/2022
CHK	RBR	06/07/2022

THIRD ANGLE PROJECTION

DO NOT SCALE DRAWING

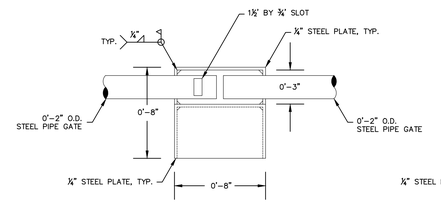
DESCRIPTION:
KNIGHT BENCH
6 FEET,BACKED,ALUMINUM SLATS,TWO (EXTERNAL) ARMS,SURFACE MOUNT

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THE DRAWING IS THE SOLE PROPERTY OF FORMS+SURFACES. REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED.

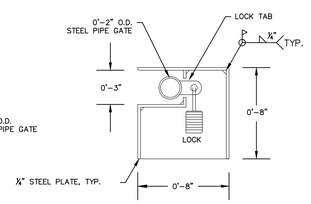
SIZE	DWG. NO.	REV	SHEET
B	SBKNI-72-8-ALS-~~-~~2A-SFM	0	1 OF 1

BENCH

N.T.S.



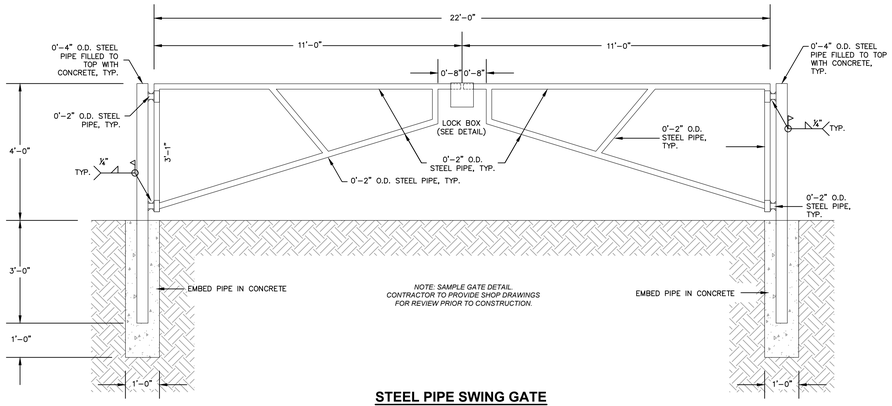
LOCK BOX ELEVATION VIEW (TOWARD PROJECT)



LOCK BOX SECTION VIEW

NOTES:

1. CONCRETE CAN BE FIELD MIXED SACRETE AND POURED ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
2. THE LOCK BOX SHALL BE CONSTRUCTED OF ¼" STEEL PLATE WELDED AT ALL JOINTS. THE BOTTOM OF THE LOCK BOX IS OPEN TO ALLOW LOCKING AND UNLOCKING OF THE GATE.
3. THE LOCK TAB SHALL BE CONSTRUCTED OF ¼" STEEL PLATE WITH ROUNDED GROUND SMOOTH EDGES AND WELDED TO THE HORIZONTAL MEMBER OF THE PIPE GATE AS SHOWN. A SLOT SHALL BE CUT IN THE LOCK BOX TO ALLOW INSERTION OF THE TAB AND LOCKING OF THE GATE.
4. DETAIL FOR REFERENCE – CONTRACTOR TO REVIEW AND COORDINATE WITH FIRE DEPARTMENT ON PROPER DESIGN



NOTE: SAMPLE GATE DETAIL. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.

STEEL PIPE SWING GATE

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Key Plan

Revision	Description	Date

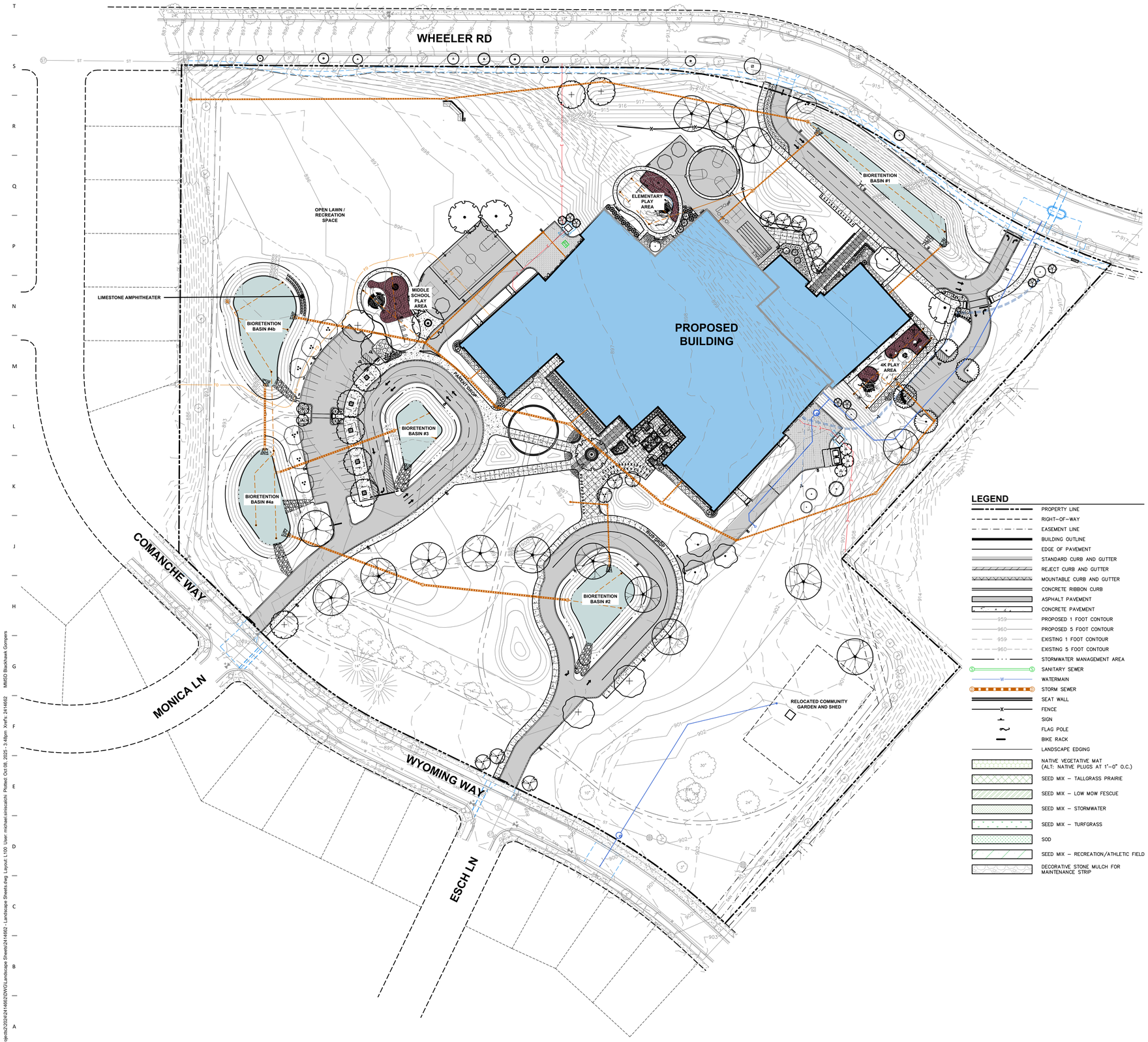
OPN Project No.
246S4002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
CONSTRUCTION DETAILS

Sheet Number
C705

File: \\JSD\NCprojects\2024\246S4002\CAD\Civil Sheets\246S4002 - Con Docs - Notes & Details.dwg Layout: C705 DETAILS - SITE User: cade.ferrette Plotted: Oct 07, 2025 - 4:50pm Xref's:



LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY
- EASEMENT LINE
- BUILDING OUTLINE
- EDGE OF PAVEMENT
- STANDARD CURB AND GUTTER
- REJECT CURB AND GUTTER
- MOUNTABLE CURB AND GUTTER
- CONCRETE RIBBON CURB
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED 1 FOOT CONTOUR
- PROPOSED 5 FOOT CONTOUR
- EXISTING 1 FOOT CONTOUR
- EXISTING 5 FOOT CONTOUR
- STORMWATER MANAGEMENT AREA
- SANITARY SEWER
- WATERMAIN
- STORM SEWER
- SEAT WALL
- FENCE
- SIGN
- FLAG POLE
- BIKE RACK
- LANDSCAPE EDGING
- NATIVE VEGETATIVE MAT (ALT: NATIVE PLUGS AT 1'-0" O.C.)
- SEED MIX – TALLGRASS PRAIRIE
- SEED MIX – LOW MOW FESCUE
- SEED MIX – STORMWATER
- SEED MIX – TURFGRASS
- SOD
- SEED MIX – RECREATION/ATHLETIC FIELD
- DECORATIVE STONE MULCH FOR MAINTENANCE STRIP

PLANT SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
EVERGREEN TREE					
	PIGL	Picea glauca / White Spruce	B & B	6' Ht. (min)	5
	PIST	Pinus strobus / White Pine	B & B	6' Ht. (min)	1
ORNAMENTAL TREES					
	AMGL	Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Serviceberry	B & B	6' Ht. (min)	10
	CECA	Cercis canadensis "Columbus" / Columbus Strain Eastern Redbud	B & B	6' Ht. (min)	12
	HEMIT	Heptacodium miconioides "SMNHMRF" / Temple of Bloom® Seven Son Flower	B & B	8' Ht. (min)	14
OVERSTORY DECIDUOUS TREES					
	ACMI	Acer miyabei 'Morton' / State Street™ Miyabe Maple	B & B	2.5"Cal	8
	BENI	Betula nigra 'BNMTF' TM / Dura Heat River Birch	B & B	8' Ht. (min)	13
	CEOC	Celtis occidentalis / Common Hackberry	B & B	2.5" Cal	4
	GLTR	Gleditsia triacanthos inermis "Shademaster" TM / Shademaster Locust	B & B	2.5"Cal	4
	PEAC	Platanus x acerifolia 'Morton Circle' TM / Exclamation London Plane Tree	B & B	2.5" Cal	5
	QUSC	Quercus x schuettei / Swamp Bur Oak	B & B	2.5" Cal	15
	ULAM	Ulmus americana 'Princeton' / Princeton American Elm	B & B	2.5" Cal	4
UPRIGHT EVERGREEN SHRUB					
	JIVIC	Juniperus virginiana "Canaerti" / Canaerti Eastern Redcedar	B & B	6' Ht. (min)	7
	JUNS	Juniperus x 'J.N Select Blue' / Star Power® Juniper	B & B	6' Ht. (min)	6
	THUB	Thuja occidentalis 'Bail John' / Technito® Arborvitae	B & B	5' Ht. (min)	18
DECIDUOUS SHRUBS					
	ARME	Aronia melanocarpa 'Morton' TM / Iroquis Beauty Black Chokeberry	#3	12" Ht. (min)	76
	ARMEL	Aronia melanocarpa "UCONNAM165' TM / Low Scape Mound Chokeberry	#3	8" Ht. (min)	55
	COALI	Cornus alba 'Bailhalo' / Ivory Halo® Tatarian Dogwood	#5	18" Ht. (min)	7
	HYDAB	Hydrangea arborescens 'Annabelle' / Annabelle Hydrangea	#5	Min. 36"	11
	HYPAL	Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Hydrangea	#3	18" Ht. (min)	18
	PHOPA	Physocarpus opulifolius 'Amber Jubilee' / Amber Jubilee Ninebark	#5	24" Ht. (min)	12
	RHAR	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	#3	24" Dia. (min)	60
	VIJU	Viburnum x juddii / Judd Viburnum	B & B	36" Ht. (min)	19
EVERGREEN SHRUBS					
	JUCHK	Juniperus chinensis 'Kallays Compacta' / Kally Pfitzer Compact Juniper	#5	18" Dia. (min)	6
	JUCH	Juniperus chinensis 'Sea Green' / Sea Green Juniper	#5	24" Ht. (min)	23
	JUSA	Juniperus sabina 'Mini-Arcadia' / Mini Arcadia Juniper	#5	24" Dia. (min)	10
	TAMET	Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew	#5	24" Ht. (min)	16
PERENNIALS & GRASSES					
	AMSB	Amsonia x 'Blue Ice' / Blue Ice Bluestar	#1	Min 8"-18"	63
	CAAC	Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass	#1	Min. 8"-18"	58
	COVE	Coreopsis verticillata 'Zagreb' / Zagreb Tickseed	#1	Min 8"-18"	52
	GERR	Geranium x 'Rozanne' / Rozanne Cranesbill	#1	Min. 8"-18"	80
	HEHR	Hemerocallis x 'Happy Returns' / Happy Returns Daylily	#1	Min. 8"-18"	74
	PAVI	Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass	#1	Min. 8"-18"	37
	PAVIN	Panicum virgatum 'Northwind' / Northwind Switch Grass	#1	Min. 12"-24"	59
	RUFUB	Rudbeckia fulgida "Blovi' / Viette's Little Suzy Coneflower	#1	Min. 8"-18"	87
	SCSC	Schizachyrium scoparium 'Prairie Blues' / Prairie Blues Little Bluestem	#1	Min. 8"-18"	26
	SPHE	Sporobolus heterolepis / Prairie Dropseed	#1	Min. 8"-18"	35

MUNICIPAL STREET TREE SCHEDULE

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
ORNAMENTAL TREES					
	ATGA	Acer tataricum 'GarAnn' / Hot Wings® Tatarian Maple	B & B	2" Cal	1
	CMGG	Cornus mas 'Golden Glory' / Golden Glory Cornelian Cherry	B & B	2" Cal	3
	MAAM	Maackia amurensis / Amur Maackia	B & B	2" Cal	1
	MARR	Malus x 'Royal Raindrops' / Royal Raindrops Crabapple	B & B	1.5" Cal	1
	MAAD	Malus x adstringens 'Uefgreen' / Emerald Spire® Flowering Crabapple	B & B	1.5" Cal	2
	OSVI	Ostrya virginiana / American Hophornbeam	B & B	1.5" Cal	1
	SYPM	Syringa pekinensis 'Morton' / China Snow® Peking Lilac	B & B	2" Cal	1

CONTRACTOR NOTES

1. ALL FOUNDATION LANDSCAPE BEDS SHALL HAVE A 24-INCH DECORATIVE STONE MAINTENANCE STRIP WITH WEED FABRIC AND ALUMINUM EDGING.

REFER TO C100 CITY FORESTRY NOTES

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north
SCALE IN FEET
50' 0 50'

Key Plan

Revision	Description	Date

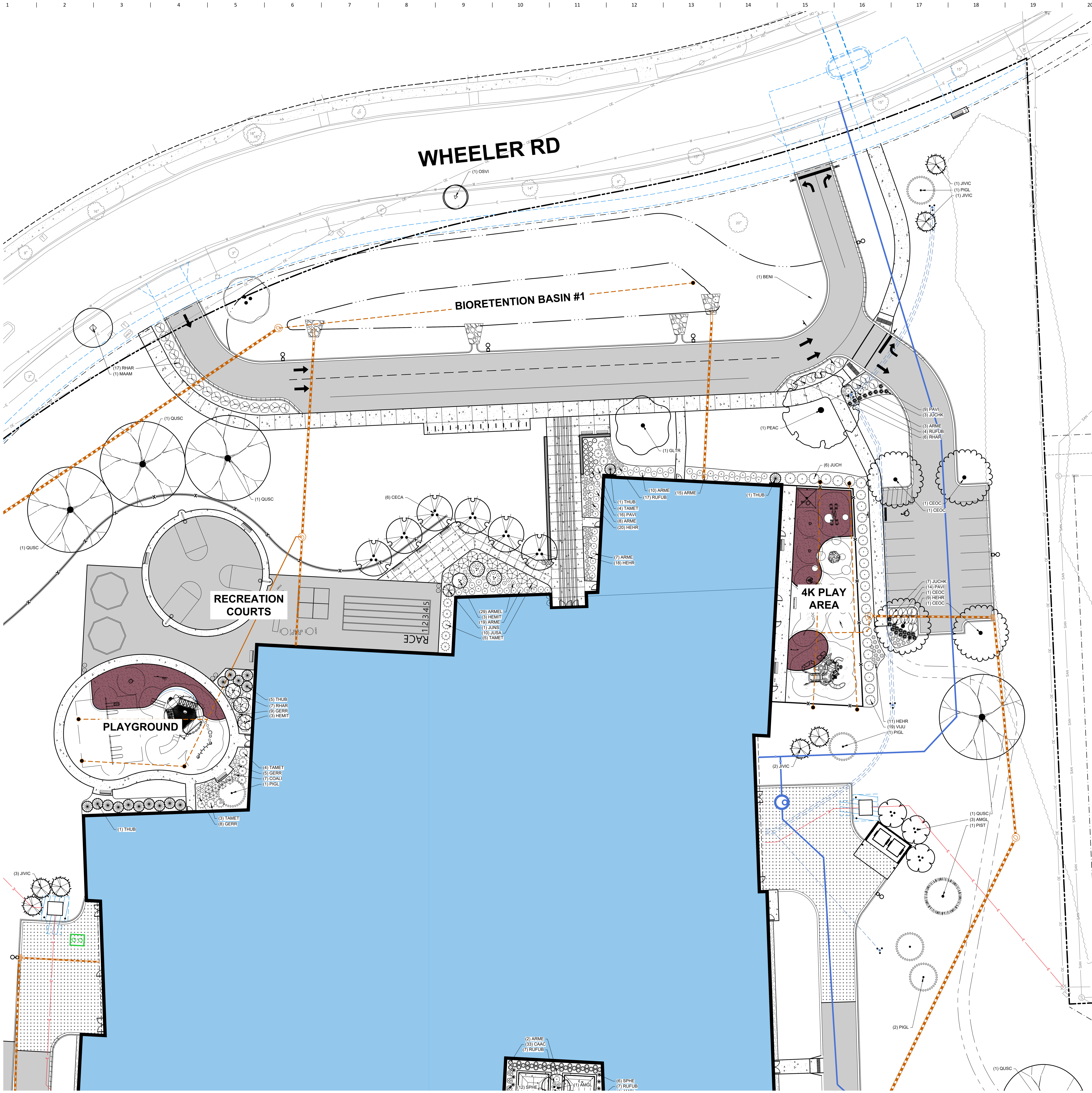
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
OVERALL LANDSCAPE PLANTING PLAN

Sheet Number
L100

File: \\JSDINC\projects2\2024\24654002\DWG\Landscape Sheets\24146652 - Landscape Sheets.dwg Layout: L100 User: michael.sinisculchi Plotted: Oct 08, 2025 - 3:48pm Xrefs: 24146652 MMSD Blackhawk Gompers



PLANT LIST

SYMBOL	CODE	BOTANICAL / COMMON NAME
EVERGREEN TREE		
	PIGL	*Picea glauca / White Spruce*
	PIST	*Pinus strobus / White Pine*
ORNAMENTAL TREES		
	AMGL	*Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Serviceberry*
	CECA	*Cercis canadensis 'Columbus' / Columbus Strain Eastern Redbud*
	HEMIT	*Heptacodium miconioides 'SMNHMRF' / Temple of Bloom® Seven Son Flower*
OVERSTORY DECIDUOUS TREES		
	ACMI	*Acer miyabei 'Morton' / State Street™ Miyabe Maple*
	BENI	*Betula nigra 'BNMTF' TM / Dura Heat River Birch*
	CEOC	*Celtis occidentalis / Common Hackberry*
	GLTR	*Gleditsia triacanthos inermis 'Shademaster' TM / Shademaster Locust*
	PEAC	*Platanus x acerifolia 'Morton Circle' TM / Exclamation London Plane Tree*
	QUSC	*Quercus x schuettei / Swamp Bur Oak*
	ULAM	*Ulmus americana 'Princeton' / Princeton American Elm*
UPRIGHT EVERGREEN SHRUB		
	JIVIC	*Juniperus virginiana 'Canaertii' / Canaerti Eastern Redcedar*
	JUNS	*Juniperus x 'J.N Select Blue' / Star Power® Juniper*
	THUB	*Thuja occidentalis 'Bail John' / Technito® Arborvitae*
DECIDUOUS SHRUBS		
	ARME	*Aronia melanocarpa 'Morton' TM / Iroquis Beauty Black Chokeberry*
	ARMEL	*Aronia melanocarpa 'UCONNAM165' TM / Low Scape Mound Chokeberry*
	COALI	*Cornus alba 'Bailhalo' / Ivory Halo® Tatarian Dogwood*
	HYDAB	*Hydrangea arborescens 'Annabelle' / Annabelle Hydrangea*
	HYPAL	*Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Hydrangea*
	PHOPA	*Physocarpus opulifolius 'Amber Jubilee' / Amber Jubilee Ninebark*
	RHAR	*Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac* *
	VIJU	*Viburnum x juddii / Judd Viburnum*
EVERGREEN SHRUBS		
	JUCHK	*Juniperus chinensis 'Kallays Compacta' / Kally Pfitzer Compact Juniper*
	JUCH	*Juniperus chinensis 'Sea Green' / Sea Green Juniper*
	JUSA	*Juniperus sabina 'Mini-Arcadia' / Mini Arcadia Juniper*
	TAMET	*Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew*
PERENNIALS & GRASSES		
	AMSB	*Amsonia x 'Blue Ice' / Blue Ice Bluestar*
	CAAC	*Calamagrostis x acutiflora 'Karl Foerster' / Karl Foerster Feather Reed Grass*
	COVE	*Coreopsis verticillata 'Zagreb' / Zagreb Tickseed*
	GERR	*Geranium x 'Rozanne' / Rozanne Cranesbill*
	HEHR	*Hemerocallis x 'Happy Returns' / Happy Returns Daylily*
	PAVI	*Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass*
	PAVIN	*Panicum virgatum 'Northwind' / Northwind Switch Grass*
	RUFUB	*Rudbeckia fulgida 'Blovi' / Viette's Little Suzy Coneflower*
	SCSC	*Schizachyrium scoparium 'Prairie Blues' / Prairie Blues Little Bluestem* *
	SPHE	*Sporobolus heterolepis / Prairie Dropseed*

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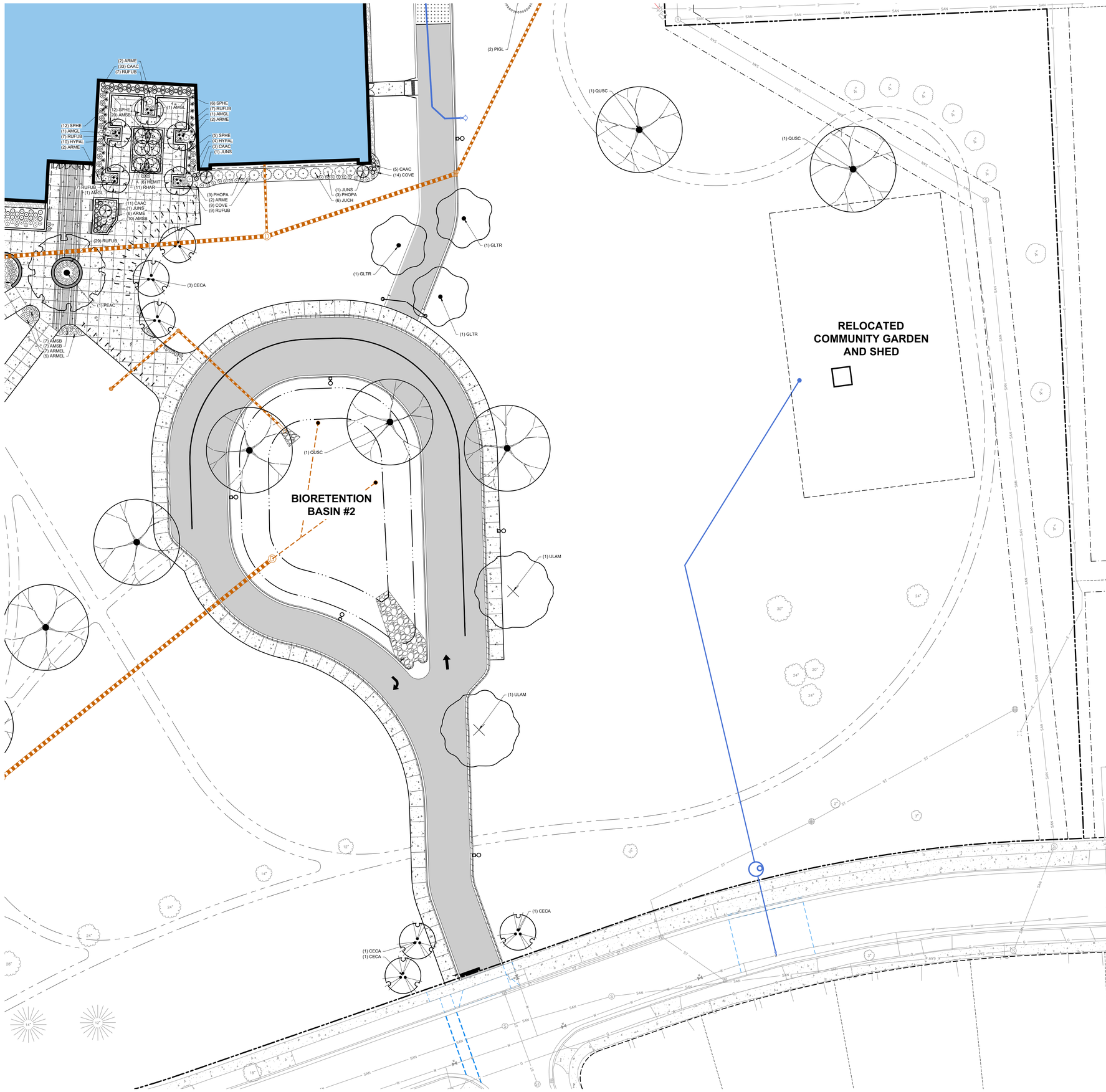
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
DETAILED LANDSCAPE PLAN - NORTHEAST

Sheet Number
L101



PLANT LIST

SYMBOL	CODE	BOTANICAL / COMMON NAME
EVERGREEN TREE		
	PIGL	Picea glauca / White Spruce
	PIST	Pinus strobus / White Pine
ORNAMENTAL TREES		
	AMGL	Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Serviceberry
	CECA	Cercis canadensis 'Columbus' / Columbus Strain Eastern Redbud
	HEMIT	Heptacodium miconioides 'SMNHMRF' / Temple of Bloom® Seven Son Flower
OVERSTORY DECIDUOUS TREES		
	ACMI	Acer miyabei 'Morton' / State Street™ Miyabe Maple
	BENI	Betula nigra 'BNMTF' TM / Dura Heat River Birch
	CEOC	Celtis occidentalis / Common Hackberry
	GLTR	Gleditsia triacanthos inermis 'Shademaster' TM / Shademaster Locust
	PEAC	Platanus x acerifolia 'Morton Circle' TM / Exclamation London Plane Tree
	QUSC	Quercus x schuettei / Swamp Bur Oak
	ULAM	Ulmus americana 'Princeton' / Princeton American Elm
UPRIGHT EVERGREEN SHRUB		
	JIVIC	Juniperus virginiana 'Canaertii' / Canaerti Eastern Redcedar
	JUNS	Juniperus x 'J.N Select Blue' / Star Power® Juniper
	THUB	Thuja occidentalis 'Bail John' / Technito® Arborvitae
DECIDUOUS SHRUBS		
	ARME	Aronia melanocarpa 'Morton' TM / Iroquis Beauty Black Chokeberry
	ARMEL	Aronia melanocarpa 'UCONNAM165' TM / Low Scape Mound Chokeberry
	COALI	Cornus alba 'Bailhalo' / Ivory Halo® Tatarian Dogwood
	HYDAB	Hydrangea arborescens 'Annabelle' / Annabelle Hydrangea
	HYPAL	Hydrangea paniculata 'Little Quick Fire' / Little Quick Fire Hydrangea
	PHOPA	Physocarpus opulifolius 'Amber Jubilee' / Amber Jubilee Ninebark
	RHAR	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac *
	VIJU	Viburnum x juddii / Judd Viburnum
EVERGREEN SHRUBS		
	JUCHK	Juniperus chinensis 'Kallays Compacta' / Kally Pfitzer Compact Juniper
	JUCH	Juniperus chinensis 'Sea Green' / Sea Green Juniper
	JUSA	Juniperus sabina 'Mini-Arcadia' / Mini Arcadia Juniper
	TAMET	Taxus x media 'Tauntonii' / Taunton's Anglo-Japanese Yew
PERENNIALS & GRASSES		
	AMSB	Amsonia x 'Blue Ice' / Blue Ice Bluestar
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	COVE	Coreopsis verticillata 'Zagreb' / Zagreb Tickseed
	GERR	Geranium x 'Rozanne' / Rozanne Cranesbill
	HEHR	Hemerocallis x 'Happy Returns' / Happy Returns Daylily
	PAVI	Panicum virgatum 'Shenandoah' / Shenandoah Switch Grass
	PAVIN	Panicum virgatum 'Northwind' / Northwind Switch Grass
	RUFUB	Rudbeckia fulgida 'Blovi' / Viette's Little Suzy Coneflower
	SCSC	Schizachyrium scoparium 'Prairie Blues' / Prairie Blues Little Bluestem *
	SPHE	Sporobolus heterolepis / Prairie Dropseed

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north
SCALE IN FEET
20' 0 20'
Key Plan

Revision	Description	Date

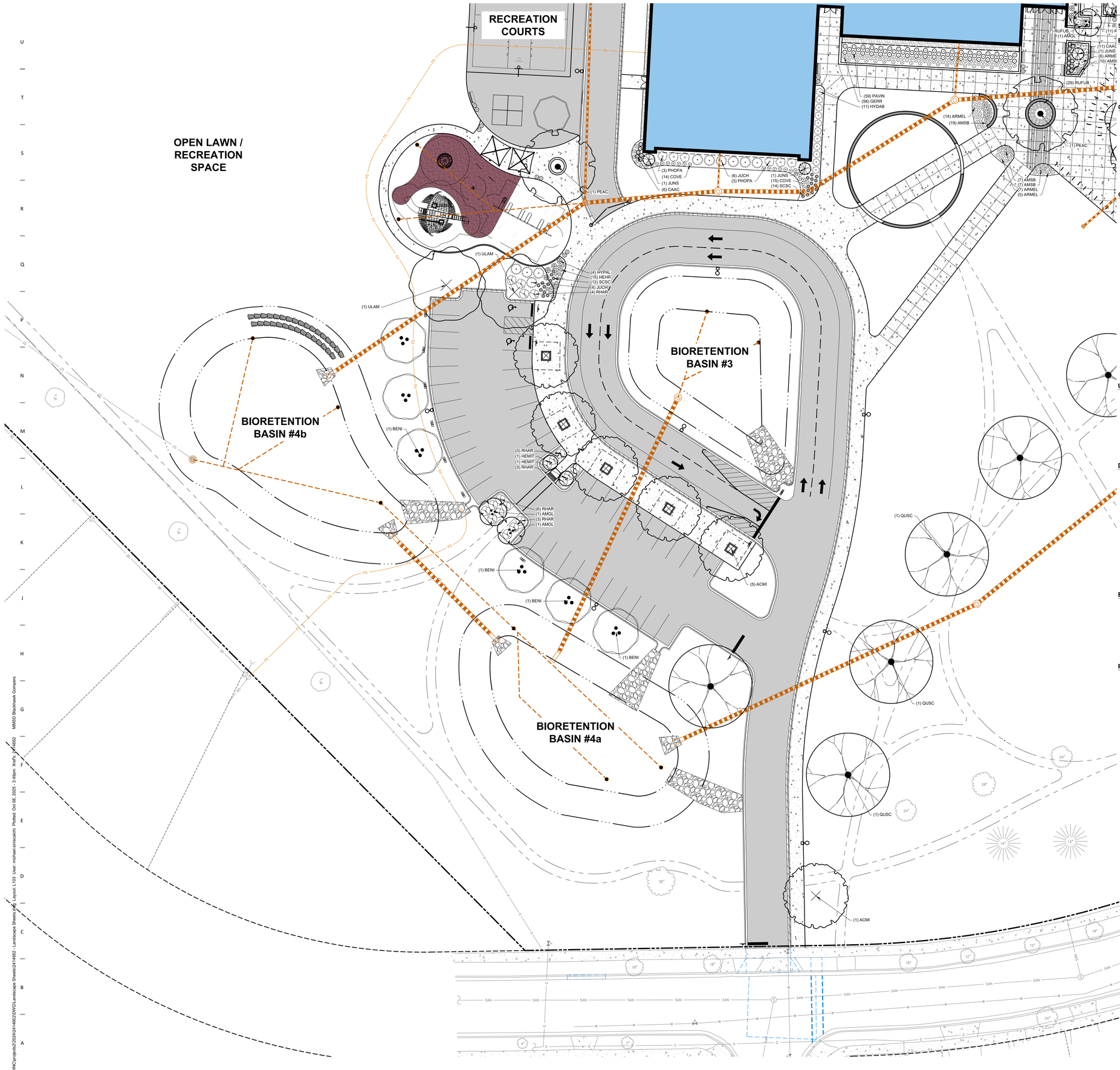
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DETAILED LANDSCAPE PLAN - NORTHEAST

Sheet Number
L102

File: \\JSDINC\projects2020\24146952\DWG\Landscape Sheets\24146952 - Landscape Sheets.dwg Layout: L102 User: michael.simicek\N Plotted: Oct 08, 2025 - 3:49pm Xrefs: 24146952 - MMSD Blackhawk Gompers



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	SPHE	Sporobolus heterolepis / Prairie Dropseed

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north
SCALE IN FEET
20' 0 20'
Key Plan

Revision	Description	Date

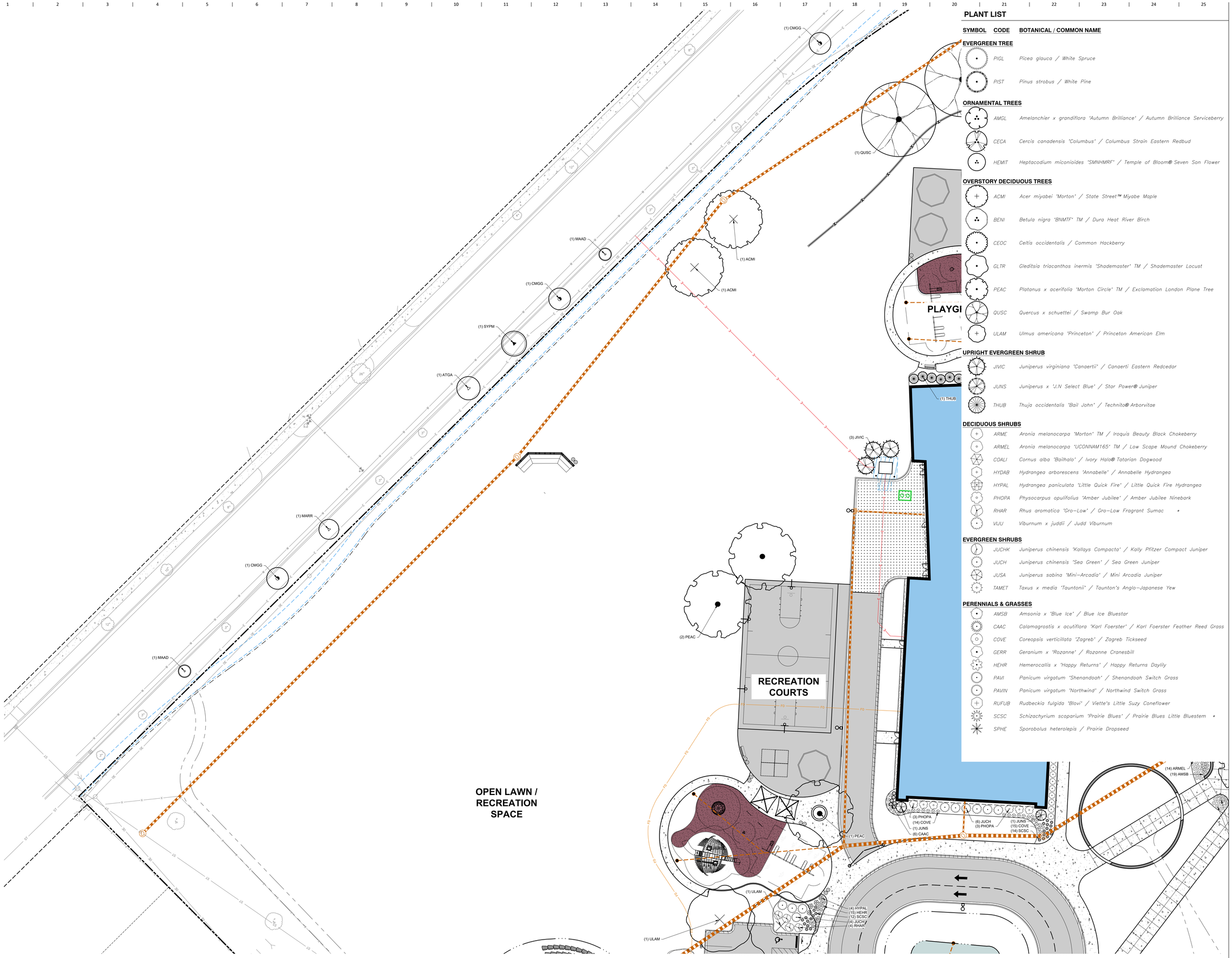
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DETAILED LANDSCAPE PLAN - SOUTHWEST

Sheet Number
L103

File: \\SDNC\projects\2024\24146\62\DWG\Landscape Sheets\24146\2 - Landscape Sheets.dwg Layout: L103 User: michael.sinsoulchi Plotted: Oct 08, 2025 - 3:49pm Xrefs: 24146\2 MMSD Blackhawk Gompers



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north

SCALE IN FEET
20' 0 20'

Key Plan

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
DETAILED LANDSCAPE PLAN - NORTHWEST

Sheet Number
L104

File: \\JSDINCs\projects\2024\24146622\DWG\Landscape Sheets\24146622 - Landscape Sheets.dwg Layout: L104 User: michael.simiscalchi Plotted: Oct 08, 2025 - 3:49pm Xrefs: 24146662 MMSD Blackhawk Gompers

LEGEND

- PROPERTY LINE
- RIGHT–OF–WAY
- EASEMENT LINE
- BUILDING OUTLINE
- EDGE OF PAVEMENT
- STANDARD CURB AND GUTTER
- REJECT CURB AND GUTTER
- MOUNTABLE CURB AND GUTTER
- CONCRETE RIBBON CURB
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 959 PROPOSED 1 FOOT CONTOUR
- 960 PROPOSED 5 FOOT CONTOUR
- 959 EXISTING 1 FOOT CONTOUR
- 960 EXISTING 5 FOOT CONTOUR
- STORMWATER MANAGEMENT AREA
- SANITARY SEWER
- W WATERMAIN
- STORM SEWER
- SEAT WALL
- FENCE
- SIGN
- FLAG POLE
- BIKE RACK
- LANDSCAPE EDGING
- NATIVE VEGETATIVE MAT (ALT: NATIVE PLUGS AT 1'–0" O.C.)
- SEED MIX – TALLGRASS PRAIRIE
- SEED MIX – LOW MOW FESCUE
- SEED MIX – STORMWATER
- SEED MIX – TURFGRASS
- SOD
- SEED MIX – RECREATION/ATHLETIC FIELD
- DECORATIVE STONE MULCH FOR MAINTENANCE STRIP

CONTRACTOR NOTES

1. ALL FOUNDATION LANDSCAPE BEDS SHALL HAVE A 24–INCH DECORATIVE STONE MAINTENANCE STRIP WITH WEED FABRIC AND ALUMINUM EDGING.

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north
SCALE IN FEET
50' 0 50'

Key Plan

Revision	Description	Date

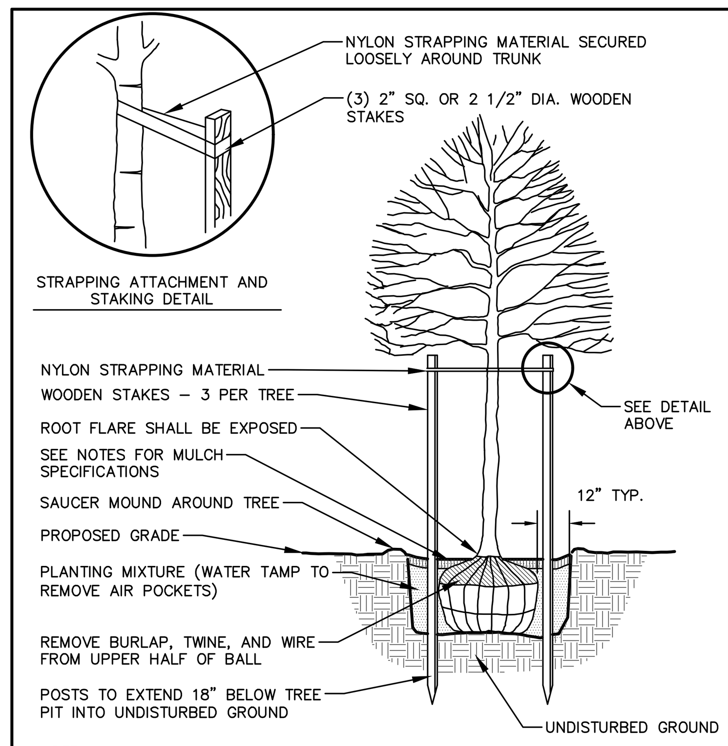
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/08/25**

Sheet Name
OVERALL LANDSCAPE SEEDING PLAN

Sheet Number
L110

File: \\JSDJN\Cprojects\2024\24146662\DWG\Landscape Sheets\24146662 - Landscape Sheets.dwg Layout: L110 User: michael.simscatch Plotted: Oct 08, 2025 - 3:49pm Xrefs: 24146662 MMSD Blackhawk Gompers

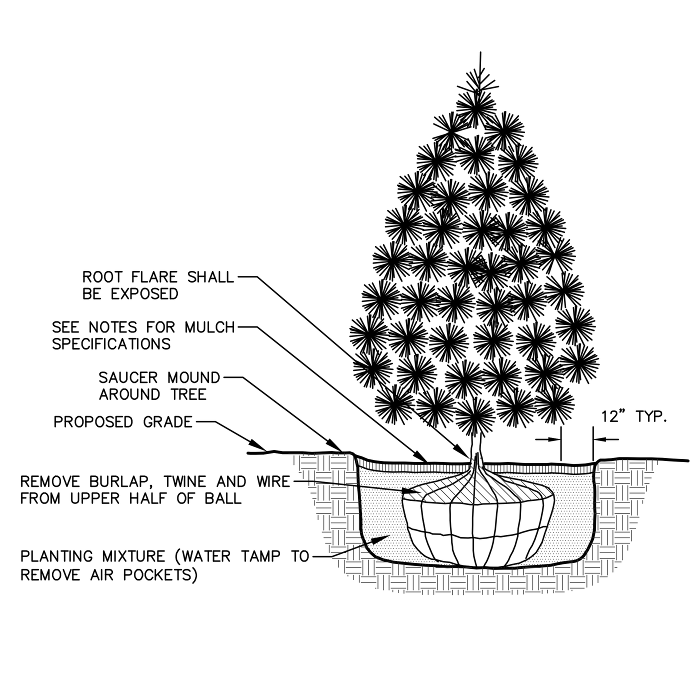


NOTE:
1. DIG HOLE NO DEEPER THAN BASE OF ROOT BALL TO FLARE. ROOT BALL TO BE SET ON UNDISTURBED SOIL UNLESS COMPACTED AGGREGATE STONE REMAINS FROM SITE EXCAVATOR. REMOVE REMAINING AGGREGATE STONE UNTIL SOIL LAYER IS REACHED.
2. REMOVE NYLON STRAPPING WITHIN 9-18 MONTHS FOLLOWING INSTALLATION

DECIDUOUS TREE PLANTING DETAIL

N.T.S.

REV. 01-04-2019



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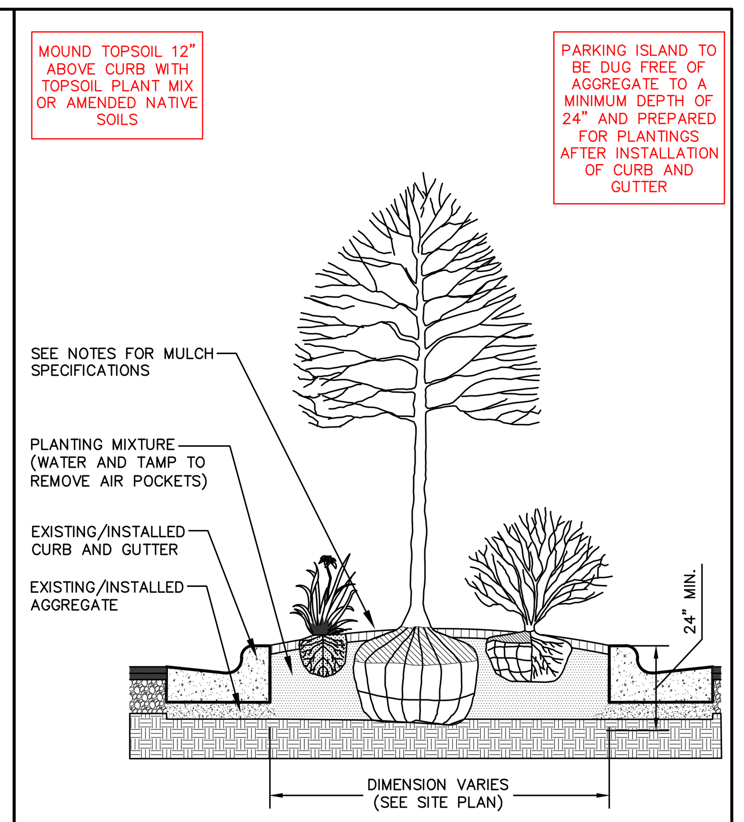
EVERGREEN TREE PLANTING DETAIL

N.T.S.

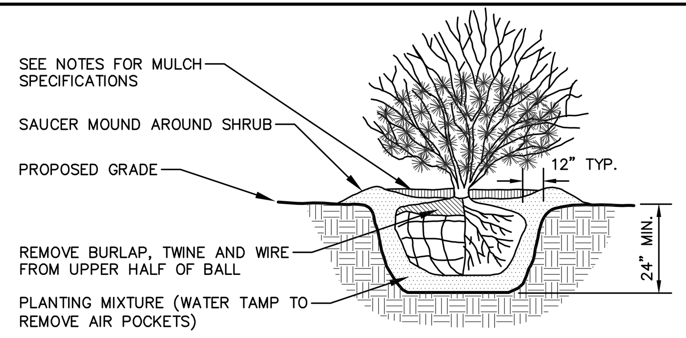
REV. 01-03-2019



PARKING ISLAND LANDSCAPE DETAIL

N.T.S.

REV. 01-03-2019

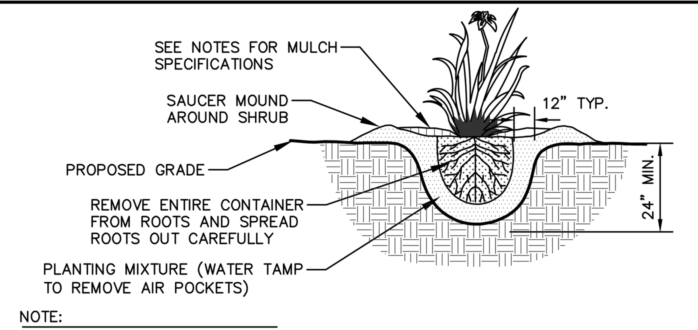


NOTE:
1. ROOT FLARE TO BE EXPOSED.

SHRUB PLANTING DETAIL

N.T.S.

REV. 01-03-2019

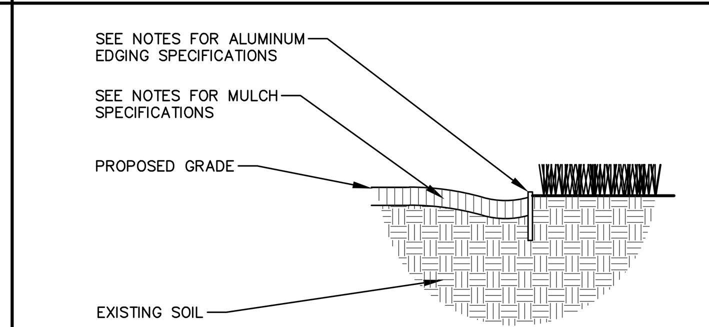


NOTE:
1. ROOT FLARE TO BE EXPOSED

PERENNIAL/ORNAMENTAL GRASS PLANTING DETAIL

N.T.S.

REV. 01-03-2019



ALUMINUM LANDSCAPE EDGING DETAIL

N.T.S.

REV. 01-03-2019

BIORETENTION BASIN NATIVE PLUG SCHEDULES

Bioretention Basin #1 - Plug Schedule 4,414 sq. ft.

Botanical Name	Common Name	Quantity	Spacing
Rudbeckia hirta	Black-Eyed Susan	551	1'-0" On Center
Zizia aurea	Golden Alexanders	551	1'-0" On Center
Aster laevis	Smooth Aster	551	1'-0" On Center
Ratibida pinnata	Yellow Coneflower	551	1'-0" On Center
Pycnanthemum virginianum	Common Mountain Mint	551	1'-0" On Center
Carex vulpinoidea	Fox Sedge	554	1'-0" On Center
Asclepias syriaca	Common Milkweek	551	1'-0" On Center
Carex bicknellii	Prairie Sedge	554	1'-0" On Center
	TOTAL	**4414**	

Bioretention Basin #2 - Plug Schedule 4,780 sq. ft.

Botanical Name	Common Name	Quantity	Spacing
Rudbeckia hirta	Black-Eyed Susan	598	1'-0" On Center
Zizia aurea	Golden Alexanders	598	1'-0" On Center
Aster laevis	Smooth Aster	598	1'-0" On Center
Ratibida pinnata	Yellow Coneflower	597	1'-0" On Center
Pycnanthemum virginianum	Common Mountain Mint	597	1'-0" On Center
Carex vulpinoidea	Fox Sedge	598	1'-0" On Center
Asclepias syriaca	Common Milkweek	597	1'-0" On Center
Carex bicknellii	Prairie Sedge	598	1'-0" On Center
	TOTAL	**4780**	

Bioretention Basin #3 - Plug Schedule 2,870 sq. ft.

Botanical Name	Common Name	Quantity	Spacing
Rudbeckia hirta	Black-Eyed Susan	359	1'-0" On Center
Zizia aurea	Golden Alexanders	359	1'-0" On Center
Aster laevis	Smooth Aster	358	1'-0" On Center
Ratibida pinnata	Yellow Coneflower	358	1'-0" On Center
Pycnanthemum virginianum	Common Mountain Mint	358	1'-0" On Center
Carex vulpinoidea	Fox Sedge	360	1'-0" On Center
Asclepias syriaca	Common Milkweek	358	1'-0" On Center
Carex bicknellii	Prairie Sedge	360	1'-0" On Center
	TOTAL	**2870**	

Bioretention Basin #4a - Plug Schedule 5,153 sq. ft.

Botanical Name	Common Name	Quantity	Spacing
Rudbeckia hirta	Black-Eyed Susan	644	1'-0" On Center
Zizia aurea	Golden Alexanders	644	1'-0" On Center
Aster laevis	Smooth Aster	644	1'-0" On Center
Ratibida pinnata	Yellow Coneflower	644	1'-0" On Center
Pycnanthemum virginianum	Common Mountain Mint	644	1'-0" On Center
Carex vulpinoidea	Fox Sedge	644	1'-0" On Center
Asclepias syriaca	Common Milkweek	644	1'-0" On Center
Carex bicknellii	Prairie Sedge	645	1'-0" On Center
	TOTAL	**5153**	

Bioretention Basin #4b - Plug Schedule 7,056 sq. ft.

Botanical Name	Common Name	Quantity	Spacing
Rudbeckia hirta	Black-Eyed Susan	882	1'-0" On Center
Zizia aurea	Golden Alexanders	882	1'-0" On Center
Aster laevis	Smooth Aster	882	1'-0" On Center
Ratibida pinnata	Yellow Coneflower	882	1'-0" On Center
Pycnanthemum virginianum	Common Mountain Mint	882	1'-0" On Center
Carex vulpinoidea	Fox Sedge	882	1'-0" On Center
Asclepias syriaca	Common Milkweek	882	1'-0" On Center
Carex bicknellii	Prairie Sedge	882	1'-0" On Center
	TOTAL	**7056**	

MUNICIPAL LANDSCAPE REQUIREMENTS

28.142(4) DEVELOPED AREA (168,555 Square Feet)

Landscape Requirement:	*5 Landscape Points per 300 SF of Developed Area*
Calculation:	*168,555 / 300 x 5 Points = 2,529*
Total Points Required:	***2,810 Landscape Points***
Total Points Provided:	***(see Tabulation of Landscape Credits and Points table)***

28.142(5) DEVELOPMENT FRONTAGE - WHEELER RD (1,227 Linear Feet)

Landscape Requirement:	*1 Overstory Deciduous Tree 30 LF of Lot Frontage*
Calculation:	*1,227 / 30 x 1 Overstory Deciduous Tree = 40.9*
Landscape Requirement:	*5 Shrubs per 30 LF of Lot Frontage*
Calculation:	*1,227 / 30 x 5 Shrubs = 204.5*
Total Landscaping Required:	***41 Overstory Deciduous Trees and 205 Shrubs***
Total Landscaping Provided:	***(see Plant Type list below)***

Plant Type	*Quantity*
Existing Deciduous Trees	1
Overstory Deciduous Trees	12
Evergreen Trees	0
Ornamental Trees	2
Upright Evergreen Shrubs	20
Evergreen Shrubs	10
Deciduous Shrubs	32

28.142(5) DEVELOPMENT FRONTAGE - WYOMING WAY (832 Linear Feet)

Landscape Requirement:	*1 Overstory Deciduous Tree per 30 LF of Lot Frontage*
Calculation:	*832 / 30 x 1 Overstory Deciduous Tree = 27.7*
Landscape Requirement:	*5 Shrubs per 30 LF of Lot Frontage*
Calculation:	*832 / 30 x 5 Shrubs = 138.7*
Total Landscaping Required:	***28 Overstory Deciduous Trees and 139 Shrubs***
Total Landscaping Provided:	***(see Plant Type list below)***

Plant Type	*Quantity*
Existing Deciduous Trees	18
Overstory Deciduous Trees	23
Evergreen Trees	0
Ornamental Trees	21
Upright Evergreen Shrubs	5
Evergreen Shrubs	0
Deciduous Shrubs	113

28.142 INTERIOR SURFACE SOUTH PARKING LOT (17,303 Square Feet)

Landscape Requirement:	*8% of Surface Parking Lot Paved Area to be Interior Landscaped Area*
Calculation:	*17,303 x 0.08 = 1384.2 Square Feet*
Landscape Requirement:	*1 Overstory Deciduous Tree per 160 SF of Required Interior Landscaped Area*
Calculation:	*1,385 / 160 x 1 Overstory Deciduous Tree = 8.65*
Total Landscaping Required:	***1,385 Square Feet Landscaped Area and 9 Overstory Deciduous Trees***
Total Landscaping Provided:	***1,472 Square Feet and 11 Overstory Deciduous Trees***

LANDSCAPE CALCULATIONS AND DISTRIBUTIONS

Required landscaped areas shall be calculated based upon the total developed area of the property. Developed area is defined as that area within a single contiguous boundary which is made up of structures, parking, driveways and docking/loading facilities, but excluding the area of any building footprint at grade, land designated for open space uses such as athletic fields, and undeveloped land area on the same zoning lot. There are three methods for calculating landscape points depending on the size of the lot and Zoning District.

(A) For all lots except those described in (B) and (C) below, five (5) landscape points shall be provided for each three hundred (300) square feet of developed area.

Total square footage of developed area: 168,555 SF

Total landscape points required: 2,810

(B) ~~For lots larger than five (5) acres, points shall be provided at five (5) points per three hundred (300) square feet for the first five (5) developed acres, and one (1) point per one hundred (100) square feet for all additional acres.~~

~~Total square footage of developed area:~~

~~Five (5) acres:~~

~~First five (5) developed acres:~~

~~Remainder of developed area:~~

~~Total landscape points required:~~

(C) ~~For the Industrial – Limited (IL) and Industrial – General (IG) districts, one (1) point shall be provided per one hundred (100) square feet of developed area.~~

~~Total square footage of developed area:~~

~~Total landscape points required:~~

TABULATION OF LANDSCAPE CREDITS AND POINTS

PLANT TYPE/ELEMENT	MINIMUM INSTALLATION SIZE	POINTS	CREDITS / EXISTING LANDSCAPING: QUANTITY	CREDITS / EXISTING LANDSCAPING: POINTS ACHIEVED	NEW / PROPOSED LANDSCAPING: QUANTITY	NEW / PROPOSED LANDSCAPING: POINTS ACHIEVED
OVERSTORY DECIDUOUS TREE	2.5" CAL MIN.	35	0	0	53	1855
TALL EVERGREEN TREE	5-6' TALL MIN.	35	0	0	6	210
ORNAMENTAL TREE	1.5" CAL MIN.	15	0	0	36	540
UPRIGHT EVERGREEN SHRUB	3-4' TALL, MIN.	10	0	0	31	310
SHRUB, DECIDUOUS	#3 CONT., MIN. 12"-24"	3	0	0	259	777
SHRUB, EVERGREEN	#3 CONT., MIN. 12"-24"	4	0	0	54	216
ORNAMENTAL GRASS & PERENNIAL	#1 CONT., MIN. 8"-18"	2	0	0	571	1142
ORNAMENTAL / DECORATIVE FENCING OR WALL	4 POINTS / 10 LF	.4	0	0	0	0
EXISTING SIGNIFICANT SPECIMAN TREE	14 POINTS / CAL. (MAXIMUM 200 POINTS PER TREE)	14	0	0	0	0
LANDSCAPE FURNITURE	5 POINTS PER SEAT (WITHIN PUBLICALLY ACCESSIBLE DEVELOPED AREA. CANNOT COMPRISE MORE THAN 5% OF TOTAL REQUIRED POINTS)	5	0	0	0	0
		SUBTOTAL		**0**		**5,050**
		TOTAL NUMBER OF POINTS PROVIDED	**5,050**			

CONTRACTOR AND OWNER RESPONSIBILITY NOTES

1. GUARANTEE: THE CONTRACTOR SHALL GUARANTEE ALL PLANTS THROUGH ONE (1) YEAR AFTER ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PLANTS SHALL BE ALIVE AND IN HEALTHY AND FLOURISHING CONDITION AT THE END OF THE GUARANTEE PERIOD. THE CONTRACTOR SHALL REPLACE (AT NO COST TO OWNER) ANY PLANTS THAT ARE DEAD OR NOT IN A VIGOROUS THRIVING CONDITION. REPLACEMENT PLANTS SHALL BE OF THE SAME KIND AND SIZE AS ORIGINALLY SPECIFIED UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE. RESTORE BEDS AS NECESSARY FOLLOWING PLANT REPLACEMENT, INCLUDING BUT NOT LIMITED TO BEDDING, EDGING, MULCH, ETC. REPLACE PLANTS DAMAGED AT TIME OF PLANTING. REPAIR AREAS DISTURBED IN ANY WAY DURING PLANT REPLACEMENT AT NO COST TO OWNER. CONTRACTOR SHALL PROVIDE A ONE (1)-YEAR STRAIGHTENING GUARANTEE FOR ALL TREES.
2. CONTRACTOR IS RESPONSIBLE FOR STAKING THE PLANT MATERIALS FOR REVIEW BY OWNER'S REPRESENTATIVE PRIOR TO DIGGING AND PLACEMENT AND SHALL COORDINATE ALL FINE GRADING AND RESTORATION WITH THE GRADING CONTRACTOR.
3. MAINTENANCE: (CONTRACTOR) FOR ALL PLANTINGS, SEEDED AND/OR SODDED LAWN AREAS: THE CONTRACTOR SHALL MAINTAIN ALL PLANTINGS AND LAWN AREAS FOR A MINIMUM TIME PERIOD OF 60 DAYS, UNTIL FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY WATERING PLANTS AND LAWN/TURFGRASS DURING THIS 60 DAY ESTABLISHMENT PERIOD. CONTRACTOR IS RESPONSIBLE FOR THE ESTABLISHMENT OF HEALTHY VIGOROUS PLANT MATERIALS AND LAWN/TURFGRASS GROWTH. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY PRUNING OF PLANT MATERIALS, AND SHAPING AND/OR REPLACEMENT OR SUPPLEMENT OF DEFICIENT SHREDDED HARDWOOD BARK MULCH DURING THIS PERIOD. LONG TERM PLANT MATERIALS AND LAWN/TURFGRASS MAINTENANCE AND ANY PROGRAM FOR SUCH IS THE RESPONSIBILITY OF THE OWNER. ALL PLANTINGS AND LAWN/TURFGRASS AREAS SHALL BE MAINTAINED IN A MANICURED CONDITION UNTIL THE TIME WHEN THE OWNER'S ACCEPTANCE IS GIVEN.
4. MAINTENANCE: (OWNER) THE OWNER IS RESPONSIBLE FOR THE CONTINUED MAINTENANCE, REPAIR AND REPLACEMENT OF ALL LANDSCAPING MATERIALS AND WEED BARRIER FABRIC AS NECESSARY FOLLOWING THE ONE (1) YEAR CONTRACTOR GUARANTEE PERIOD.

GENERAL NOTES

1. REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGEND.
2. JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES.
3. DRAWING FOR REVIEW – NOT FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE TITLE BLOCK.
4. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL FINE GRADING AND TOPSOILING WITH GENERAL CONTRACTOR
5. CONTRACTOR SHALL REVIEW SITE CONDITIONS FOR UTILITY CONFLICTS, DRAINAGE ISSUES, SUBSURFACE ROCK, AND PLANT PLACEMENT CONFLICTS PRIOR TO PLANT INSTALLATION. REPORT ANY CONDITIONS THAT MAY HAVE ADVERSE IMPACT ON PLANTING OPERATIONS TO LANDSCAPE ARCHITECT
6. DO NOT COMMENCE PLANTING OPERATIONS UNTIL ALL ADJACENT SITE IMPROVEMENTS, IRRIGATION INSTALLATION (IF APPLICABLE), AND FINISH GRADING ARE COMPLETE
7. GENERAL: ALL WORK IN THE R-O-W AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL REQUIREMENTS. JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES. LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO UTILITIES. CONTRACTOR MUST CALL 1-800-242-8511 FOR UTILITY LOCATIONS AT LEAST THREE DAYS PRIOR TO DIGGING. HAND DIG AND INSTALL ALL PLANTS THAT ARE NEAR EXISTING UTILITIES. PROTECT PREVIOUSLY INSTALLED WORK OF OTHER TRADES. CONTRACTOR IS RESPONSIBLE FOR STAKING THE PLANT MATERIALS FOR REVIEW BY OWNER PRIOR TO DIGGING AND PLACEMENT AND SHALL COORDINATE ALL FINE GRADING AND RESTORATION WITH THE GRADING CONTRACTOR.
8. DELIVERY AND HANDLING: DO NOT DELIVER MORE PLANT MATERIALS THAN CAN BE PLANTED IN ONE DAY, UNLESS ADEQUATE, APPROPRIATE AND SECURE STORAGE IS PROVIDED AND APPROVED BY OWNER'S REPRESENTATIVE. AT ALL TIMES, PROTECT ALL PLANT MATERIALS FROM WIND AND DIRECT SUN. DELIVER PLANTS WITH LEGIBLE IDENTIFICATION LABELS. PROTECT PLANTS DURING DELIVERY AND DO NOT PRUNE PRIOR TO DELIVERY. ALL TREES AND SHRUBS SHALL BE PLANTED ON THE DAY OF DELIVERY; IF THIS IS NOT POSSIBLE, PROTECT THE PLANT MATERIALS NOT PLANTED BY STORING THEM IN A SHADED, SECURE AREA, PROTECTING THE ROOT MASS WITH WET SOIL, MULCH, HAY OR OTHER SUITABLE MEDIUM. CONTRACTOR TO KEEP ALL PLANT MATERIALS ADEQUATELY WATERED TO PREVENT ROOT DESICCATION. DO NOT REMOVE CONTAINER GROWN STOCK FROM CONTAINERS BEFORE TIME OF PLANTING. DO NOT PICK UP CONTAINER OR BALLED PLANTS BY STEM OR ROOTS. ALL PLANTS SHALL BE LIFTED AND HANDLED FROM THE BOTTOM OF THE CONTAINER OR BALL. PERFORM ACTUAL PLANTING ONLY WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE IN ACCORDANCE WITH LOCALLY ACCEPTED BEST HORTICULTURAL PRACTICES.
9. MATERIALS – PLANTS: ALL PLANTS SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY SPECIFIED AND NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST 2 YEARS. PLANTS SHALL BE FRESHLY DUG (DURING THE MOST RECENT FAVORABLE HARVEST SEASON). PLANTS SHALL BE SO TRAINED IN DEVELOPMENT AND APPEARANCE AS TO BE UNQUESTIONABLY SUPERIOR IN FORM, COMPACTNESS, AND SYMMETRY. PLANTS SHALL BE SOUND, HEALTHY, VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF, AND FREE OF DISEASE AND INSECTS (ADULT EGGS, PUPAE OR LARVAE). THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS AND SHALL BE FREE FROM PHYSICAL DAMAGE OR OTHER CONDITIONS THAT WOULD PREVENT THRIVING GROWTH OR PREMATURE MORTALITY. PLANTS SHALL BE OF THE HIGHEST QUALITY, POSSESS TYPICAL GROWTH HABITS AND FORM FOR THEIR SPECIES AND BE FREE OF INJURY. PARKWAY TREES AND PARKING LOT TREES SHALL HAVE A MINIMUM BRANCHING HEIGHT OF SIX (6) FEET ABOVE THE GROUND TO ALLOW ADEQUATE VISUAL AND PHYSICAL CLEARANCE.
10. PRUNING: THE CONTRACTOR SHALL PRUNE ALL TREES AND REPAIR ANY INJURIES THAT OCCURRED DURING THE PLANTING PROCESS. DOUBLE LEADERS, DEAD BRANCHES, AND LIMBS DAMAGED OR BROKEN DURING THE PLANTING PROCESS, SHALL BE PRUNED. THIS SHALL BE THE ONLY PRUNING ALLOWED AT PLANTING. PRUNING SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD FOR TREE CARE OPERATIONS, ANSI A300. PRUNE TREES IN ACCORDANCE WITH NAA GUIDELINES. DO NOT TOP TREES. PRUNE SHRUBS ACCORDING TO STANDARD HORTICULTURAL PRACTICES. ON CUTS OVER 3/4" IN DIAMETER AND BRUISES OR SCARS ON BARK, TRACE THE INJURED CAMBIUM LAYER BACK TO LIVING TISSUE AND REMOVE. SMOOTH AND SHAPE WOUNDS SO AS NOT TO RETAIN WATER. TREAT THE AREA WITH AN APPROVED INCONSPICUOUS LATEX BASED ANTISEPTIC TREE PAINT, IF PRUNING OCCURS "IN SEASON". DO NOT PRUNE ANY OAK TREES DURING THE MONTHS FROM APRIL TO OCTOBER.
11. CLEANUP: THE WORK AREA SHALL BE KEPT SAFE AND NEAT AT ALL TIMES. DISPOSED OF EXCESS SOIL. REMOVE ALL CUTTINGS AND WASTE MATERIALS. SOIL AND BRANCHES. BIND AND WRAP THESE MATERIALS, ANY REJECTED PLANTS, AND ANY OTHER DEBRIS RESULTING FROM ALL PLANTING TASKS AND PROMPTLY CLEAN UP AND REMOVE FROM THE PROJECT SITE. UNDER NO CIRCUMSTANCES SHALL THE ACCUMULATION OF SOIL, BRANCHES OR OTHER DEBRIS BE ALLOWED UPON A PUBLIC PROPERTY IN SUCH A MANNER AS TO RESULT IN A PUBLIC SAFETY HAZARD OR DAMAGE. LIKEWISE, UNDER NO CIRCUMSTANCES SHALL ANY DEBRIS OR INCIDENTAL MATERIALS BE ALLOWED UPON ADJACENT PRIVATE PROPERTY.
12. ANY SUBSTITUTIONS IN PLANT TYPE, LOCATION, OR SIZE SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
13. CONTRACTOR TO VERIFY PLANT MATERIAL QUANTITIES AND SQUARE FOOTAGES. QUANTITIES SHOWN ON PLAN TAKE PRECEDENCE OVER THOSE ON SCHEDULE.
14. REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGEND.
15. DRAWING FOR REVIEW – NOT FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE TITLE BLOCK.
16. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL FINE GRADING AND TOPSOILING WITH GENERAL CONTRACTOR
17. CONTRACTOR SHALL REVIEW SITE CONDITIONS FOR UTILITY CONFLICTS, DRAINAGE ISSUES, SUBSURFACE ROCK, AND PLANT PLACEMENT CONFLICTS PRIOR TO PLANT INSTALLATION. REPORT ANY CONDITIONS THAT MAY HAVE ADVERSE IMPACT ON PLANTING OPERATIONS TO LANDSCAPE ARCHITECT
18. REFER TO C100 CITY FORESTRY NOTES

LANDSCAPE MATERIAL NOTES

1. MATERIALS – PLANTING MIXTURE: ALL HOLES EXCAVATED FOR TREES, SHRUBS, PERENNIALS AND ORNAMENTAL GRASSES SHALL BE BACKFILLED WITH TWO (2) PARTS TOPSOIL, ONE (1) PART SAND AND ONE (1) PART COMPOST. SOIL MIXTURE SHALL BE WELL BLENDED PRIOR TO INSTALLATION.
2. MATERIALS – TOPSOIL: TOPSOIL TO BE CLEAN, FRIABLE LOAM FROM A LOCAL SOURCE, FREE FROM STONES OR DEBRIS OVER 3/4" IN DIAMETER, AND FREE FROM TOXINS OR OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL HAVE A pH VALUE BETWEEN 6 AND 7. TOPSOIL AND PLANTING SOIL SHALL BE TESTED TO ENSURE CONFORMANCE WITH THESE SPECIFICATIONS AND SHALL BE AMENDED TO MEET THESE SPECIFICATIONS. PROVIDE TEST RESULTS TO OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT. DO NOT PLACE FROZEN OR MUDDY TOPSOIL. APPLY SOIL AMENDMENTS TO ALL LANDSCAPE AREAS PER SOIL TEST.
3. MATERIALS – SHREDDED HARDWOOD BARK MULCH: ALL PLANTING AREAS SHALL RECEIVE CERTIFIED WEED FREE SHREDDED HARDWOOD BARK MULCH INSTALLED TO A MINIMUM AND CONSISTENT DEPTH OF 3-INCHES. SHREDDED HARDWOOD BARK MULCH SIZE & COLOR TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FERTILIZER SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS. SHREDDED HARDWOOD BARK MULCH AREAS SHALL NOT RECEIVE WOVEN WEED BARRIER FABRIC.
4. MATERIALS – DECORATIVE STONE MULCH: ALL AREAS HATCHED PER LANDSCAPE LEGEND SHALL RECEIVE MISSISSIPPI PEA GRAVEL BY MIDWEST DECORATIVE STONE (OR APPROVED EQUAL SUPPLIER) SPREAD TO A MINIMUM AND CONSISTENT DEPTH OF 4-INCHES. DECORATIVE STONE MULCH TYPE, SIZE & COLOR TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FERTILIZER SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS. STONE MULCH AREAS SHALL RECEIVE WOVEN WEED BARRIER FABRIC. NO PLASTIC/IMPERVIOUS BARRIERS WILL BE PERMITTED. EXAMPLE: BLACK VISQUEEN.
5. MATERIALS – TREE & SHRUB RINGS: ALL TREES AND/OR SHRUBS PLANTED IN SEEDED LAWN AREAS TO BE INSTALLED WITH A MINIMUM 4' DIAMETER SHREDDED HARDWOOD BARK MULCH TREE RING SPREAD TO A CONSISTENT DEPTH OF 3-INCHES. ALL TREE RINGS SHOULD BE INSTALLED WITH A 5" DEPTH SHOVEL CUT EDGE, ANGLED 45 DEGREES INTO SOIL AT A 5' DIAMETER ABOUT THE CENTER OF THE TREE PLANTING. A PRE-EMERGENT GRANULAR HERBICIDE WEED-PREVENTER SHOULD BE MIXED WITH MULCH USED TO INSTALL TREE RING AS WELL AS TOPICALLY APPLIED TO COMPLETED INSTALLATION OF TREE RING.
6. MATERIALS – ALUMINUM EDGING: EDGING SHALL BE 1/8" X 4", ALUMINUM EDGING, MILL FINISH. OWNER'S REPRESENTATIVE SHALL APPROVE PRODUCT SPECIFICATION PROVIDED BY LANDSCAPE CONTRACTOR.
7. MATERIALS – TREE PROTECTION: ALL TREES TO BE INSTALLED WITH LDPE TREE GUARDS AS MANUFACTURED BY A.M. LEONARD HORTICULTURAL TOOL & SUPPLY CO., OR APPROVED EQUAL.
8. MATERIALS – (ALTERNATE 1): TREE WATERING BAGS: ALL TREES TO BE INSTALLED WITH ONE (1) WATER BAG. PRODUCT TO BE "TREE GATOR ORIGINAL SLOW RELEASE WATERING BAG," PRODUCT NO. 98183-R OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

SEEDING, SODDING, & POND VEGETATION NOTES

1. MATERIALS – SEED MIX – "LOW-MOW" FESCUE: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND "NO MOW" FESCUE SEED OR EQUIVALENT AS APPROVED BY THE OWNER'S REPRESENTATIVE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO FESCUE SEED, ANNUAL RYE SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 1-1/2 LBS PER 1000 SQUARE FEET. FERTILIZE AND MULCH PER MANUFACTURER'S RECOMMENDATIONS.
2. MATERIALS – SEED MIX – TURFGRASS: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND EARTH CARPET'S "MADISON PARKS" GRASS SEED, OR EQUIVALENT AS APPROVED BY THE OWNER'S REPRESENTATIVE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO TURFGRASS SEED, ANNUAL RYE SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 1 1/2 LBS PER 1000 SQUARE FEET. FERTILIZE AND MULCH PER MANUFACTURER'S RECOMMENDATIONS. MULCH SHALL BE CERTIFIED NOXIOUS WEED SEED-FREE.
3. MATERIALS –SEED MIX: – RECREATION/ATHLETIC FIELD: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND REINDERS "80/20 ATHLETIC/FAIRWAY MIX" GRASS SEED, OR EQUIVALENT AS APPROVED BY THE OWNER'S REPRESENTATIVE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO THE SEED MIX, ANNUAL RYE SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 1 1/2 LBS PER 1000 SQUARE FEET. FERTILIZE AND MULCH PER MANUFACTURER'S RECOMMENDATIONS. MULCH SHALL BE CERTIFIED NOXIOUS WEED SEED-FREE.
4. MATERIALS – SOD: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND A PREMIUM GRADE TURFGRASS SOD. ONLY IMPROVED TYPES OF SOD (ELITE) ARE ACCEPTABLE. TURFGRASS SHALL BE MACHINE CUT AT A UNIFORM THICKNESS OF .60 INCH, PLUS OR MINUS .25 INCH, AT TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH. LARGE ROLL TURFGRASS SOD SHALL BE CUT TO THE SUPPLIER'S STANDARD WIDTH (36-48 INCHES) AND LENGTH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE. STANDARD SIZE SECTIONS OF TURGRASS SOD SHALL BE STRONG ENOUGH SO THAT THEY CAN BE PICKED UP AND HANDLED WITHOUT DAMAGE. TURFGRASS SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT IS EXCESSIVELY DRY OR WET, AS THIS MAY ADVERSELY AFFECT ITS SURVIVAL. POST-PLANT IRRIGATION WILL BE NECESSARY TO ENSURE SOD STAYS ALIVE AND ROOTS INTO SOIL. THE CONTRACTOR IS RESPONSIBLE FOR WATERING SOD UNTIL TIME OF ACCEPTANCE BY THE OWNER. TURFGRASS SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED/TRANSPLANTED WITHIN A PERIOD OF 24 HOURS. TURFGRASS SOD SHALL BE RELATIVELY FREE OF THATCH, UP TO 0.5 INCH ALLOWABLE (UNCOMPRESSED). TURFGRASS SOD SHALL BE REASONABLY FREE (10 WEEDS/100 SQ. FT.) OF DISEASES, NEMATODES AND SOIL-BORNE INSECTS. ALL TURFGRASS SOD SHALL BE FREE OF GRASSY AND BROAD LEAF WEEDS AND WEED SEED. THE SOD SUPPLIER SHALL MAKE RECOMMENDATIONS TO THE CONTRACTOR REGARDING WATERING SCHEDULE. THE WATERING SCHEDULE SHOULD BEGIN IMMEDIATELY AFTER SOD IS INSTALLED.
5. MATERIALS – SEED MIX – STORMWATER: DISTURBED AREAS LABELED ON PLAN AS SUCH, SHALL BE BROADCAST SEEDED WITH "RAINWATER RENEWAL" SEED MIX, AS PROVIDED BY AGRECOL LLC, (WWW.AGRECOL.COM), OR APPROVED EQUIVALENT. INSTALL SEED WITH SUPPLEMENTAL MATERIALS AND AMENDMENTS AS RECOMMENDED BY SEED SUPPLIER AND AT RATES AND OPTIMUM TIMES OF THE YEAR AS RECOMMENDED BY THE SEED SUPPLIER TO ENSURE SUCCESSFUL GERMINATION AND SEED/ROOT ZONE GROWTH DEVELOPMENT. REFER TO PRODUCT SPECIFICATIONS AND MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION.
6. MATERIALS – NATIVE VEGETATIVE MAT (NVM): AREAS SPECIFIED ON PLANS SHALL RECEIVE AGRECOL "RAINWATER RENEWAL" NATIVE VEGETATIVE MAT – DEGRADABLE CORE. CONTRACTOR SHALL CONTACT AGRECOL NATIVE NURSERY 16 WEEKS IN ADVANCE OF INSTALLATION FOR PROPER GROWING LEAD TIME. CONTRACTOR SHALL ASSUME AVAILABLE DELIVERY DATE TO BE BETWEEN MID-JUNE THROUGH THE END OF OCTOBER DUE TO THE NMV GROWING SEASON. REFER TO PRODUCT SPECIFICATIONS AND MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION PROCEDURES.

6.1. ALT BID: NATIVE PLUG PLANTINGS: PLUG PLANTINGS TO BE INSTALLED 1'-0" ON CENTER, MIXING SPECIES INTEGRALLY IN FLATS OF 20 AT A TIME. REFER TO WDNR PLUG PLANTING TECHNICAL STANDARDS FOR ROOTSTOCK AND INSTALLATION SPECIFICATIONS

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Key Plan

Revision	Description	Date

OPN Project No.
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Sheet Issue Date
UDC FINAL RESUBMIT 10/08/25

Sheet Name
LANDSCAPE NOTES & DETAILS

Sheet Number
L200

PRELIMINARY. NOT FOR CONSTRUCTION.

Locator Map

MMSD 2024 Referendum Ph. 1: Black Hawk MS - Gompers ES

Site Context

View South from Wheeler Rd

View North/East from Wyoming Way/Monica Ln intersection

View North from Wyoming Way/Esch Ln intersection

View West from on Wheeler rd

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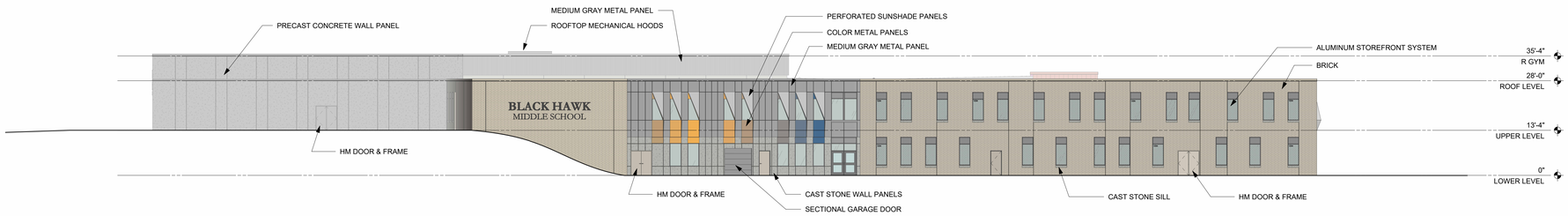
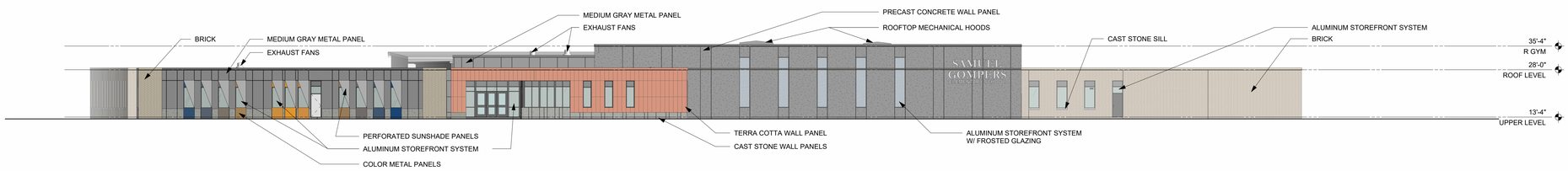
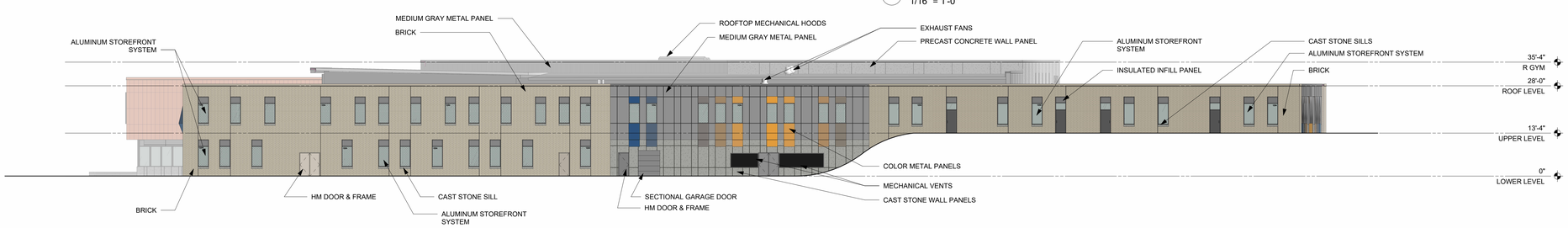


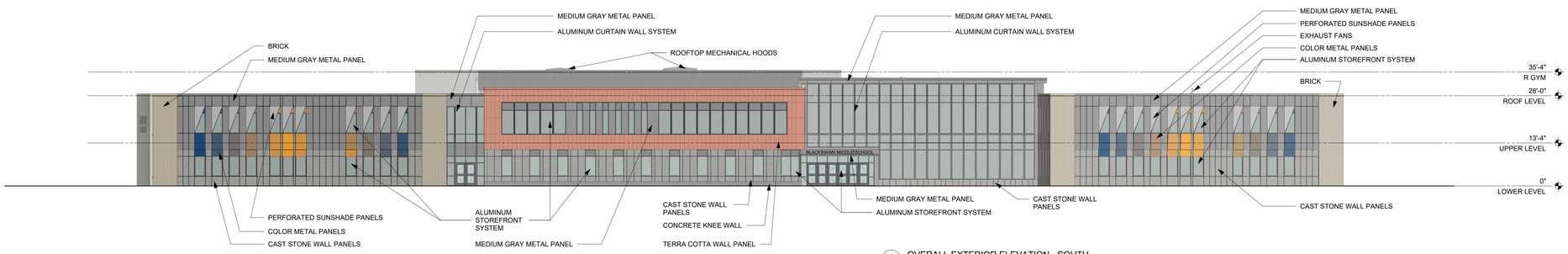
L17 OVERALL EXTERIOR ELEVATION - WEST
1/16" = 1'-0"



H17 OVERALL EXTERIOR ELEVATION - NORTH
1/16" = 1'-0"



E17 OVERALL EXTERIOR ELEVATION - EAST
1/16" = 1'-0"



A17 OVERALL EXTERIOR ELEVATION - SOUTH
1/16" = 1'-0"

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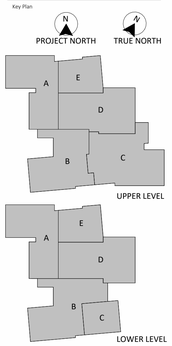
Key Plan



Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/8/2025**

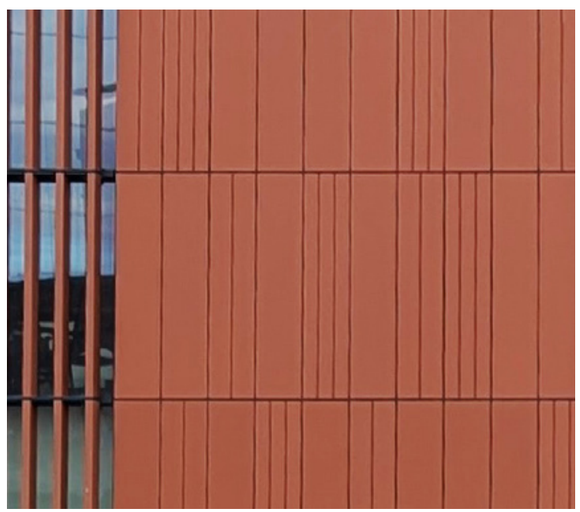
Sheet Name
OVERALL EXTERIOR ELEVATIONS

Sheet Number
A211

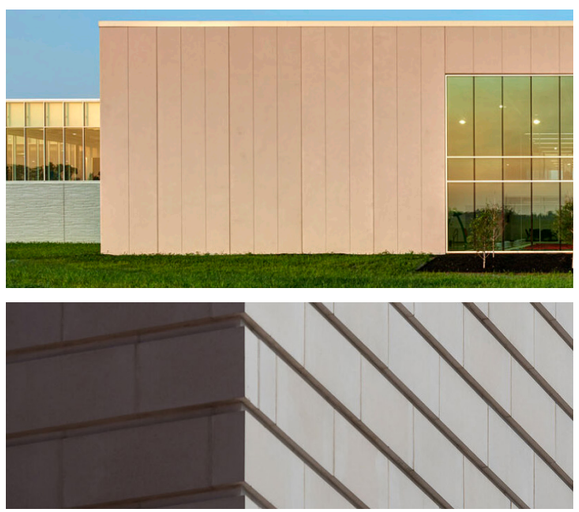
Current Design - Exterior Material

Brick A:
Manufacturer: Glen Gery
Color: Cream White Wirecut

Aluminum Metal Panel



Reider Corraline GFRC Panel
Color: Ferro Light



Precast Concrete Panels

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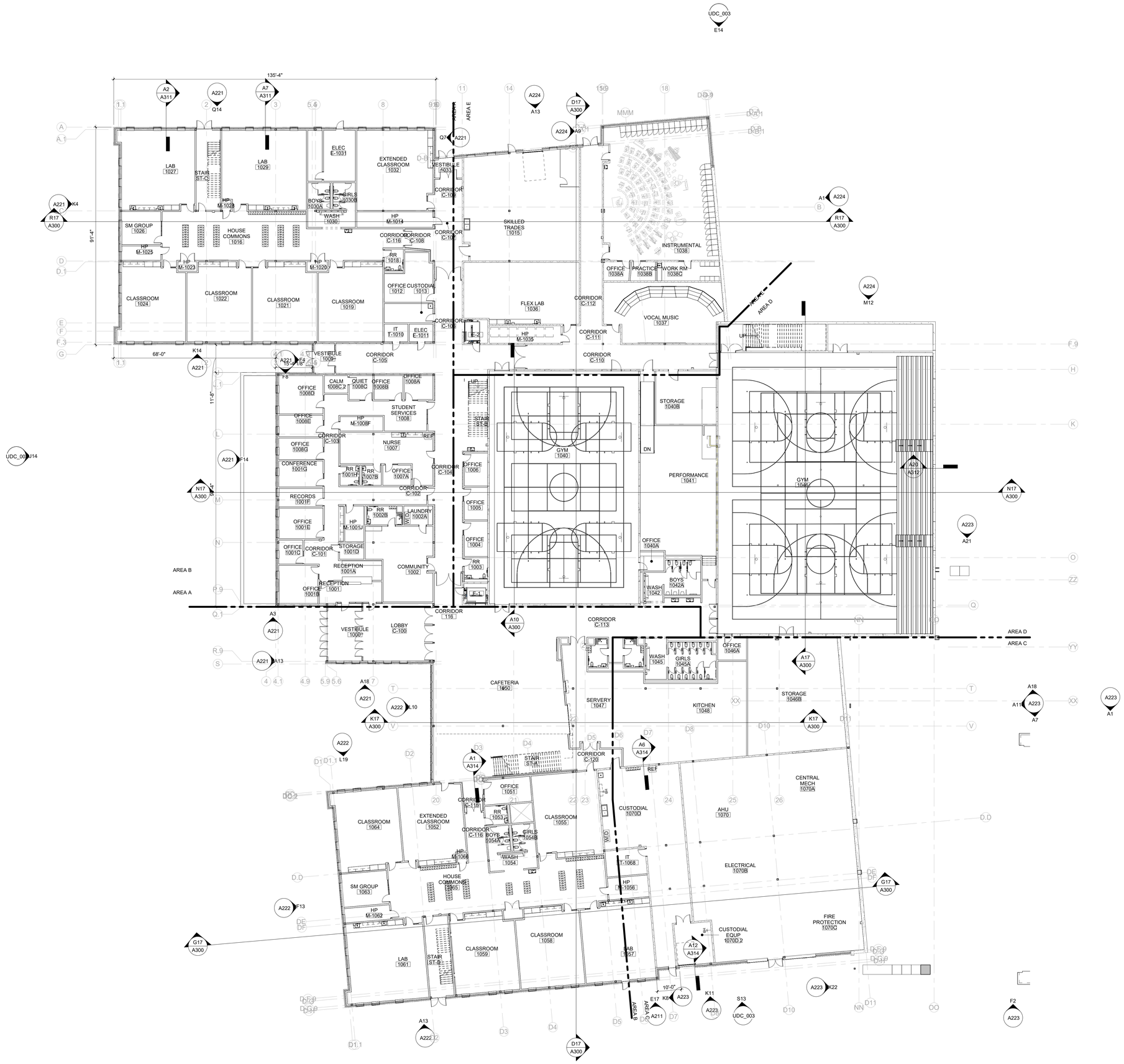

LOWER LEVEL FLOOR PLAN
1/16" = 1'-0"

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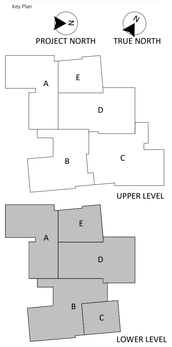

Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/8/2025**

Sheet Name
FLOOR PLAN - LOWER LEVEL

Sheet Number
A101

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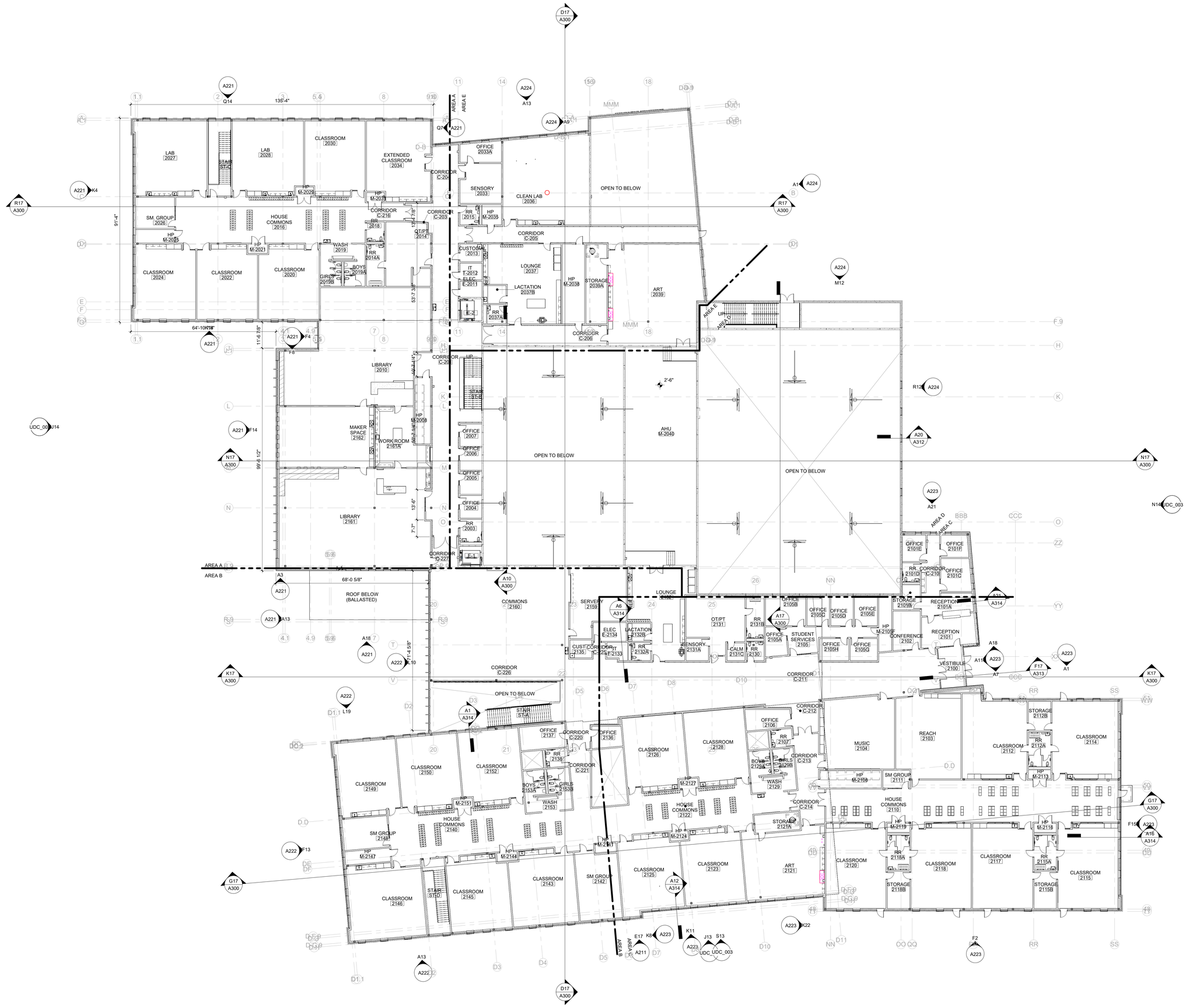

A4 UPPER LEVEL FLOOR PLAN
1/16" = 1'-0"

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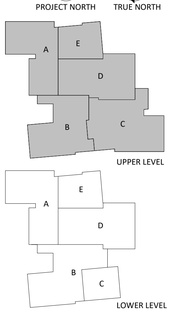


Revision	Description	Date

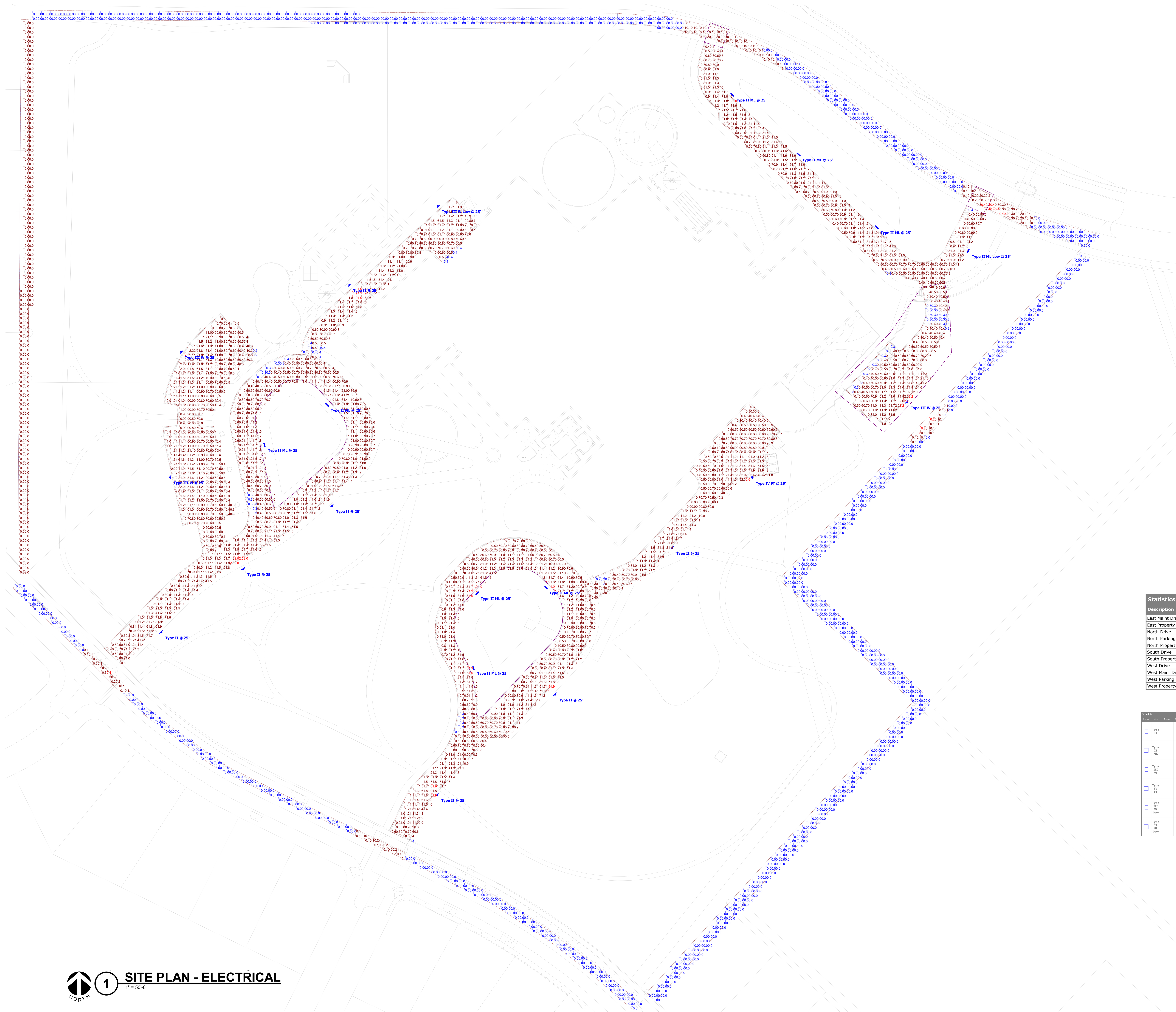
OPN Project No.
24654002

Sheet Issue Date
UDC FINAL RESUBMIT **10/8/2025**

Sheet Name
FLOOR PLAN - UPPER LEVEL

Sheet Number
A102

PRINTED: 7/11/2025 9:52:37 AM



1 SITE PLAN - ELECTRICAL

1" = 50'-0"

NORTH

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
East Maint Drive	+	0.9 fc	2.6 fc	0.2 fc	13.0:1	4.5:1
East Property Line	+	0.0 fc	0.2 fc	0.0 fc	N/A	N/A
North Drive	+	1.0 fc	2.0 fc	0.3 fc	6.7:1	3.3:1
North Parking	+	0.8 fc	2.2 fc	0.3 fc	7.3:1	2.7:1
North Property Line	+	0.0 fc	0.4 fc	0.0 fc	N/A	N/A
South Drive	+	1.0 fc	1.9 fc	0.3 fc	6.3:1	3.3:1
South Property Line	+	0.0 fc	0.4 fc	0.0 fc	N/A	N/A
West Drive	+	1.0 fc	2.0 fc	0.3 fc	6.7:1	3.3:1
West Maint Drive	+	1.0 fc	1.9 fc	0.4 fc	4.8:1	2.5:1
West Parking	+	0.9 fc	2.3 fc	0.2 fc	11.5:1	4.5:1
West Property Line	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Wattage	Plot
	Type II		7	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-II-40LED-525mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	254	64.8	Max: 9474cd
	Type II ML		8	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-II-ML-40LED-525mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	254	64.8	Max: 5816cd
	Type III W		3	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-III-W-40LED-700mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	304	86.8	Max: 11487cd
	Type IV FT		1	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-IV-FT-40LED-700mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	295	86.8	Max: 9681cd
	Type III W Low		1	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-III-W-40LED-525mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	240	64.8	Max: 9075cd
	Type II ML Low		1	U.S. ARCHITECTURAL LIGHTING	RZR-PLED-II-ML-40LED-350mA-40K	CAST BLACK PAINTED FINNED METAL HOUSING.	40	176	42.9	Max: 4047cd

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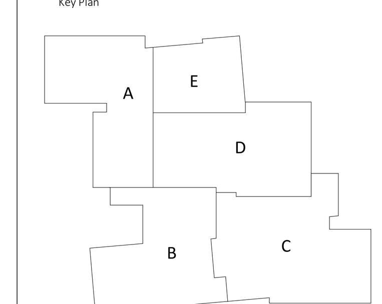

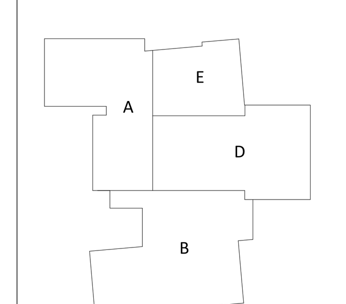

Revision	Description	Date

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0 1 2 3
REF. SCALE IN INCHES
PROJECT #25000140.02

OPN Project No.
24654002

Sheet Issue Date
100% SCHEMATIC DESIGN **07/11/25**

Sheet Name
SITE PLAN - ELECTRICAL

Sheet Number
E050

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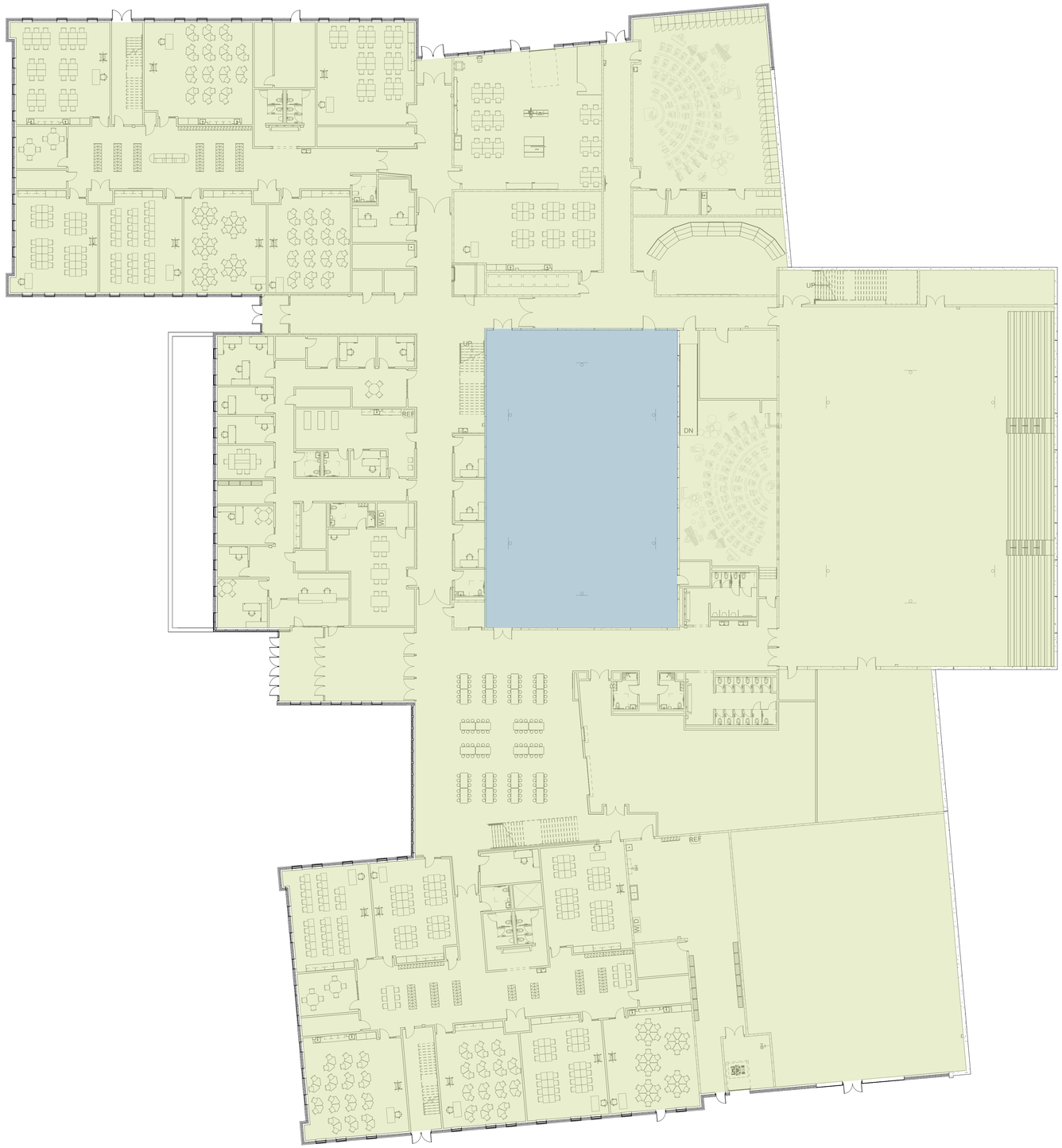

1 FURNITURE PLAN - LOWER LEVEL - Clean
1/16" = 1'-0"

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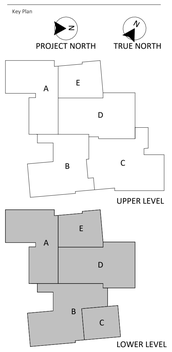


Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date

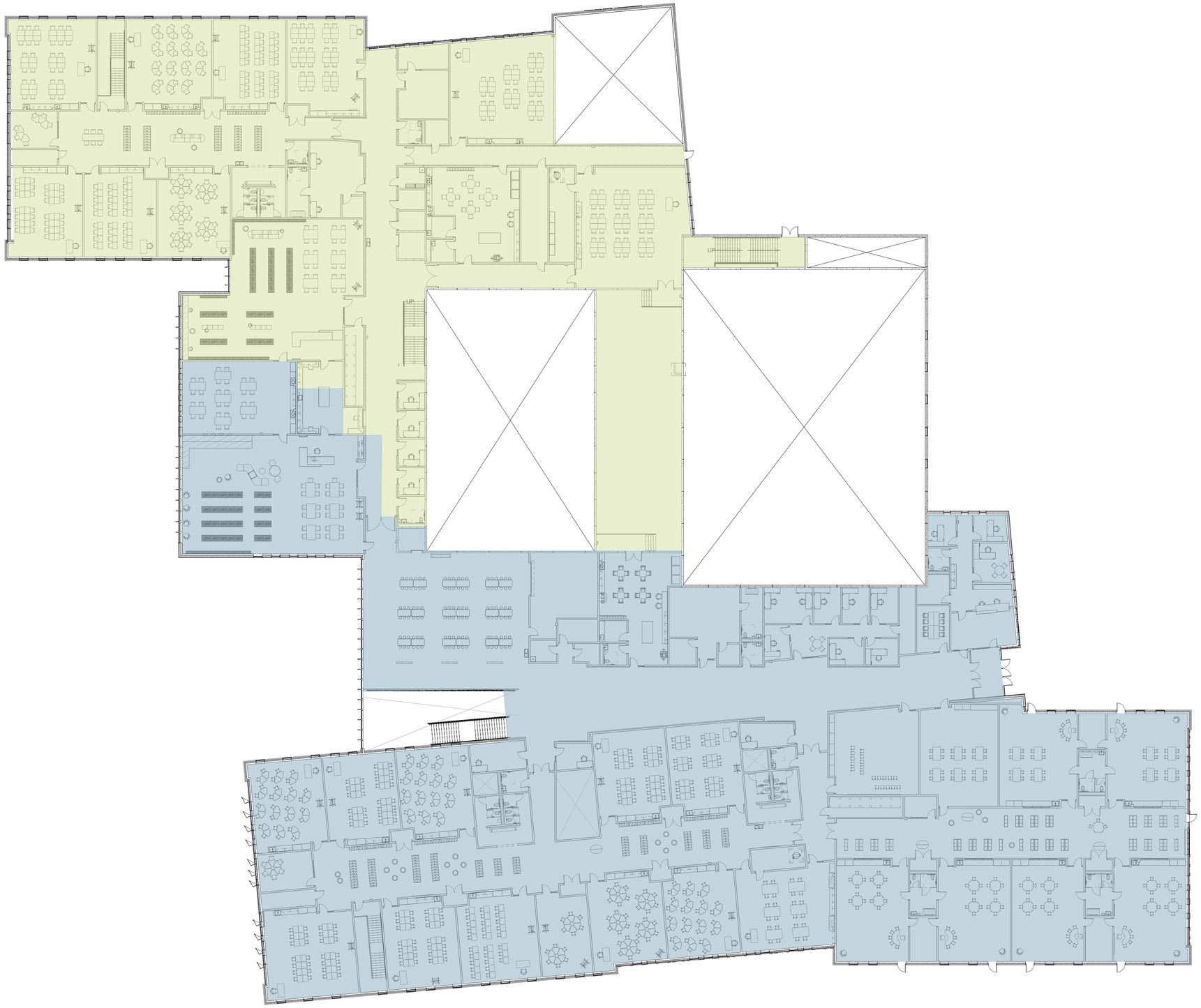
100 %DESIGN DEVELOPMENT	**09/30/2025**

Sheet Name

LOWER LEVEL FURNITURE PLAN (FOR REFERENCE ONLY)

Sheet Number **A901**

PRINTED: 10/3/2025 10:43:04 AM



1 FURNITURE PLAN - UPPER LEVEL - Clean
1/16" = 1'-0"

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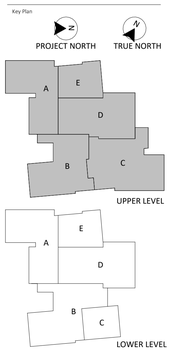


Revision	Description	Date

OPN Project No.
24654002

Sheet Issue Date

100 %DESIGN DEVELOPMENT	**09/30/2025**

Sheet Name

UPPER LEVEL FURNITURE PLAN (FOR REFERENCE ONLY)

Sheet Number **A902**

SAMUEL
GOMPERS
ELEMENTARY SCHOOL
OPN
ARCHITECTS

OPN
ARCHITECTS

BLACK HAWK MIDDLE SCHOOL
OPN
ARCHITECTS

OPN
ARCHITECTS

ODN
ARCHITECTS

1234
1234
OPN
ARCHITECTS

1234
1234
1234
1234

BLACK HAWK
MIDDLE SCHOOL
OPN
ARCHITECTS

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type II ML Low

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

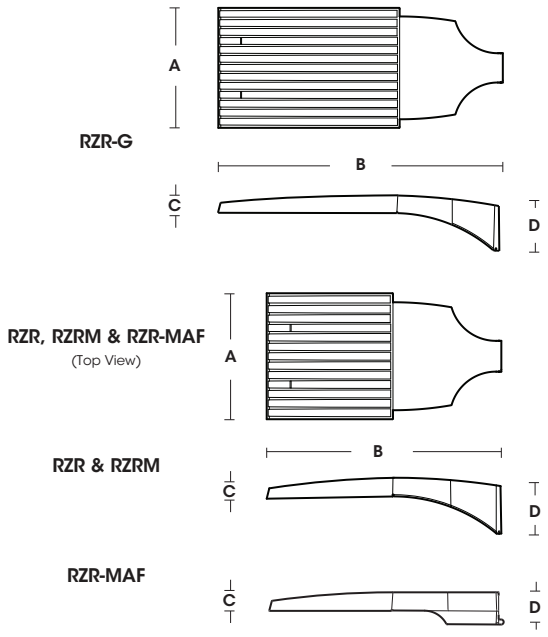
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

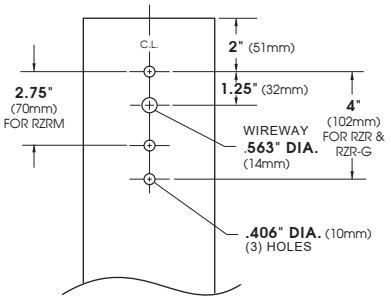
U.L. Listed for Wet Location

BABA COMPLIANT

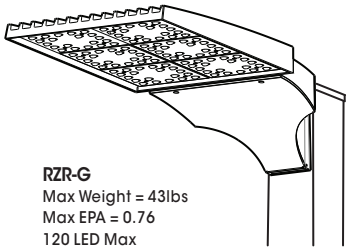
2024281

SPECIFICATIONS

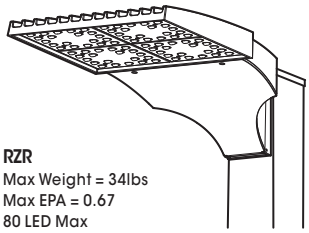
POLE DRILLING TEMPLATE



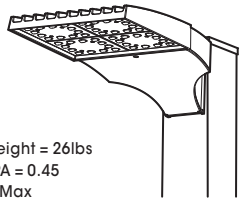
EPA & WEIGHT



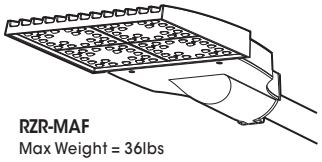
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

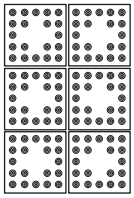


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

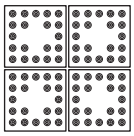


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

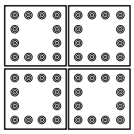
PLED™ MODULES



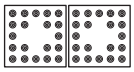
120 LED Module



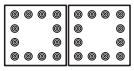
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**	**Voltage**	**Mounting**	**Finish**	**Options**
☐ RZR-G	PLED™ Distribution Type ☐ PLED-II ☐ PLED-II-FR ☐ PLED-II-MIL ☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT ☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	# of LEDs **RZR-G** ☐ 120LED ☐ 80LED	Drive Current ☐ 1400mA[1] ☐ 1225mA[1] ☐ 1050mA ☐ 875mA ☐ 700mA ☐ 525mA ☐ 350mA	Color Temp - CCT ☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber Consult Factory for Other LED Color, CCT, & CRI Options	☐ UNV (120-277) ☐ 347 ☐ 480	Arm Mount ☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90 Wall Mount ☐ WM WM - Wall Mount provided with mounting bracket and cover.	Standard Textured Finish ☐ Black 9005-T ☐ White 9003-T ☐ Grey 7004-T ☐ Dark Bronze 8019-T ☐ Green 6005-T Premium Finishes ☐ Rust ☐ Patina Copper PC For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S) Consult factor for custom colors	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED** ☐ External Glare Shield 4 Sided **EGS4** ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W** ☐ Round Pole Adapter **RPA** ☐ Twist Lock Receptable Only **TPR** ☐ 7-Pin Twist Lock Receptable Only **TPR7** ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW** ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V** ☐ Photo Cell + Voltage (Example: PC120V) **PC+V** ☐ Single Fuse (120V, 277V) **SF** ☐ Double Fuse (208V, 240V) **DF** ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**
☐ RZR ☐ RZR-MAF	☐ PLED-II-MIL ☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT	**RZR / RZR-MAF** ☐ 80LED ☐ 40LED	☐ 350mA			
☐ RZRM	☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	**RZRM** ☐ 48LED ☐ 24LED	NOTES: 1 - 1400mA & 1225mA drive currents not available in RZRM 2 - TRA available in 350mA & 525mA drive currents only. Consult Factory for Other Drive Currents			

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL88704-PR
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-II-ML-40LED-350mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 42.9 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 7065
[_BUGRATING] LCS B3-U0-G3 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7065
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	165
Total Luminaire Watts	42.9
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	4047
Maximum Candela Angle	90H 67.5V
Maximum Candela (<90 Degrees Vertical)	4047
Maximum Candela Angle (<90 Degrees Vertical)	90H 67.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	354 (5.0% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	451.2	N.A.	6.4
FM - Front-Medium (30-60)	1812.1	N.A.	25.6
FH - Front-High (60-80)	1231.7	N.A.	17.4
FVH - Front-Very High (80-90)	37.7	N.A.	0.5
BL - Back-Low (0-30)	451.2	N.A.	6.4
BM - Back-Medium (30-60)	1812.1	N.A.	25.6
BH - Back-High (60-80)	1231.7	N.A.	17.4
BVH - Back-Very High (80-90)	37.7	N.A.	0.5
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	7065.4	N.A.	100.0
BUG Rating	B3-U0-G3		

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	35	45	55	65	75	77
0.0	934	934	934	934	934	934	934	934	934	934
2.5	941	940	940	939	938	936	935	935	936	936
5.0	952	951	952	949	947	943	941	940	940	939
7.5	958	958	959	959	958	955	950	948	944	944
10.0	960	959	963	966	971	971	967	961	955	954
12.5	971	969	971	974	982	990	989	980	971	969
15.0	993	990	991	991	999	1009	1013	1004	989	988
17.5	1017	1013	1019	1023	1026	1034	1038	1029	1010	1009
20.0	1044	1043	1046	1056	1062	1069	1069	1060	1035	1033
22.5	1079	1078	1085	1094	1100	1104	1106	1095	1066	1065
25.0	1122	1118	1128	1143	1146	1145	1154	1138	1102	1102
27.5	1160	1157	1168	1190	1200	1191	1198	1185	1146	1142
30.0	1207	1202	1215	1236	1251	1247	1243	1239	1193	1191
32.5	1246	1245	1262	1288	1307	1303	1291	1294	1249	1243
35.0	1274	1274	1295	1328	1358	1363	1341	1350	1315	1310
37.5	1299	1299	1322	1365	1396	1430	1402	1409	1386	1382
40.0	1323	1320	1344	1389	1431	1495	1466	1481	1475	1472
42.5	1341	1342	1368	1406	1455	1532	1536	1560	1599	1594
45.0	1338	1337	1370	1417	1474	1561	1609	1658	1735	1738
47.5	1319	1319	1351	1410	1473	1577	1684	1778	1894	1916
50.0	1286	1295	1326	1379	1466	1588	1788	1926	2072	2102
52.5	1217	1225	1264	1337	1439	1594	1856	2100	2288	2311
55.0	1125	1129	1175	1262	1389	1576	1901	2264	2535	2564
57.5	1027	1029	1069	1162	1309	1530	1915	2417	2807	2873
60.0	876	878	934	1050	1214	1455	1896	2546	3078	3164
62.5	633	658	732	878	1089	1349	1850	2699	3369	3456
65.0	480	485	508	626	873	1217	1733	2785	3624	3745
67.5	357	357	388	425	587	991	1542	2737	3771	3968
69.0	292	295	319	359	446	778	1374	2590	3737	3958
70.0	268	267	281	316	386	673	1269	2458	3605	3809
72.5	212	209	212	232	281	411	903	1875	2815	2922
75.0	171	169	170	180	209	276	523	1090	1610	1771
77.5	130	132	134	135	151	187	297	642	803	877
80.0	95	100	98	96	102	122	175	343	354	321
82.5	32	32	50	50	53	64	93	201	200	180
85.0	18	19	35	36	34	33	50	115	122	123
87.5	6	8	25	21	22	20	25	42	75	84
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles	
	85	90
0.0	934	934
2.5	936	935
5.0	937	935
7.5	942	941
10.0	952	949
12.5	965	964
15.0	982	980
17.5	1005	1003
20.0	1030	1029
22.5	1063	1060
25.0	1099	1099

CANDELA TABULATION - (Cont.)

27.5	1140	1138
30.0	1186	1186
32.5	1237	1234
35.0	1294	1289
37.5	1366	1369
40.0	1471	1471
42.5	1617	1622
45.0	1795	1801
47.5	1987	2018
50.0	2203	2227
52.5	2439	2461
55.0	2730	2777
57.5	3063	3121
60.0	3391	3470
62.5	3664	3745
65.0	3863	3934
67.5	4022	4047
69.0	3971	3959
70.0	3756	3739
72.5	2673	2579
75.0	1528	1470
77.5	683	685
80.0	247	255
82.5	130	110
85.0	86	63
87.5	47	25
90.0	0	0

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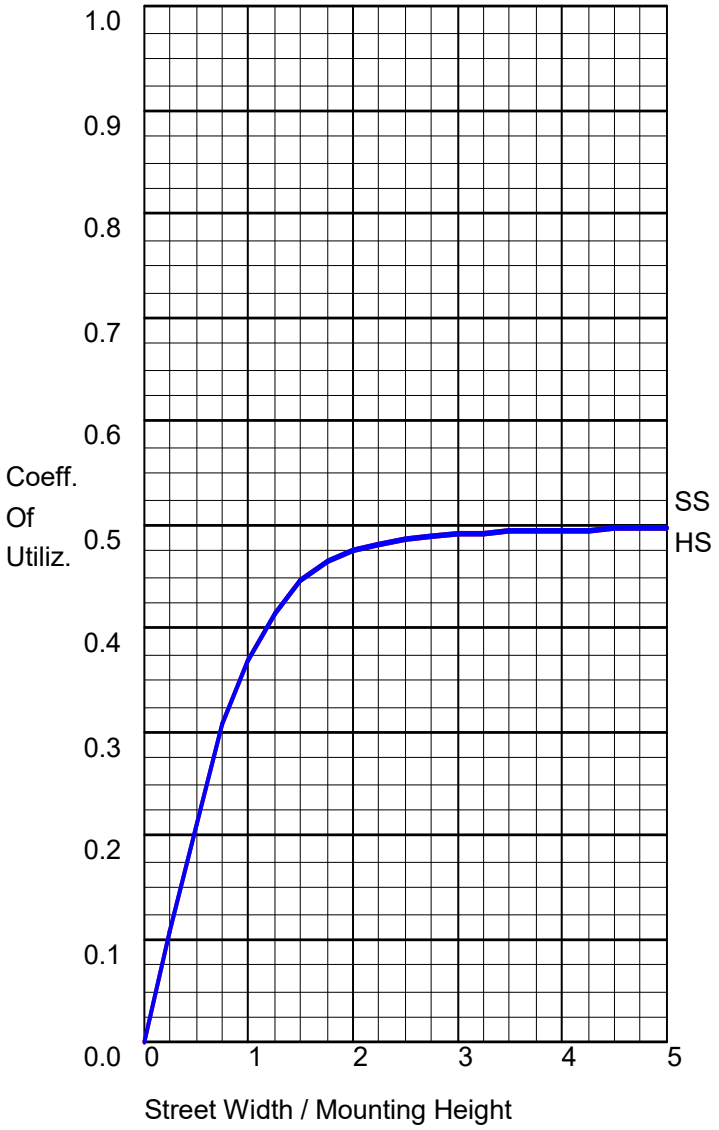
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	3532.7	50.0
Downward House Side	3532.7	50.0
Downward Total	7065.4	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	7065.4	100.0

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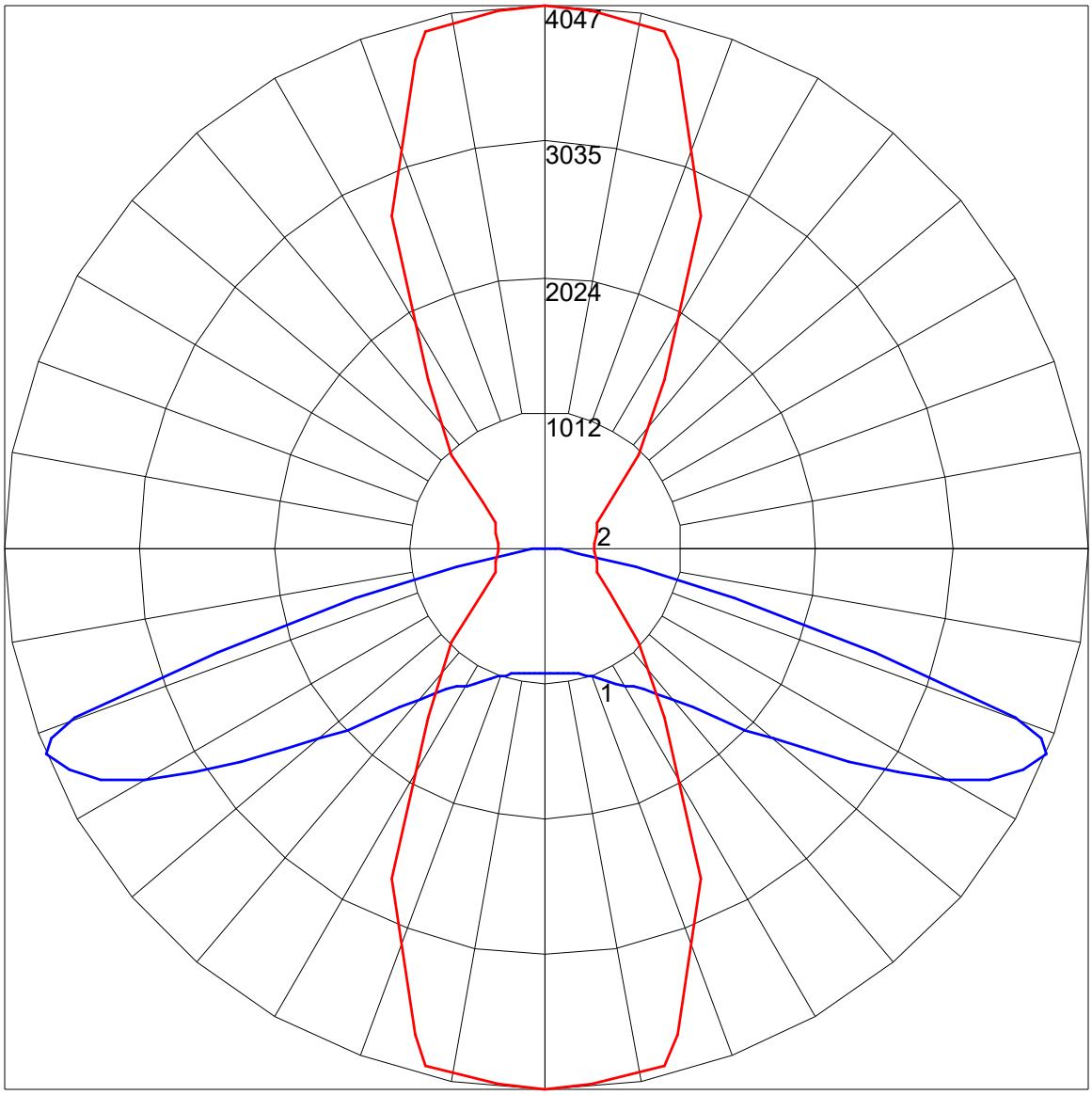
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

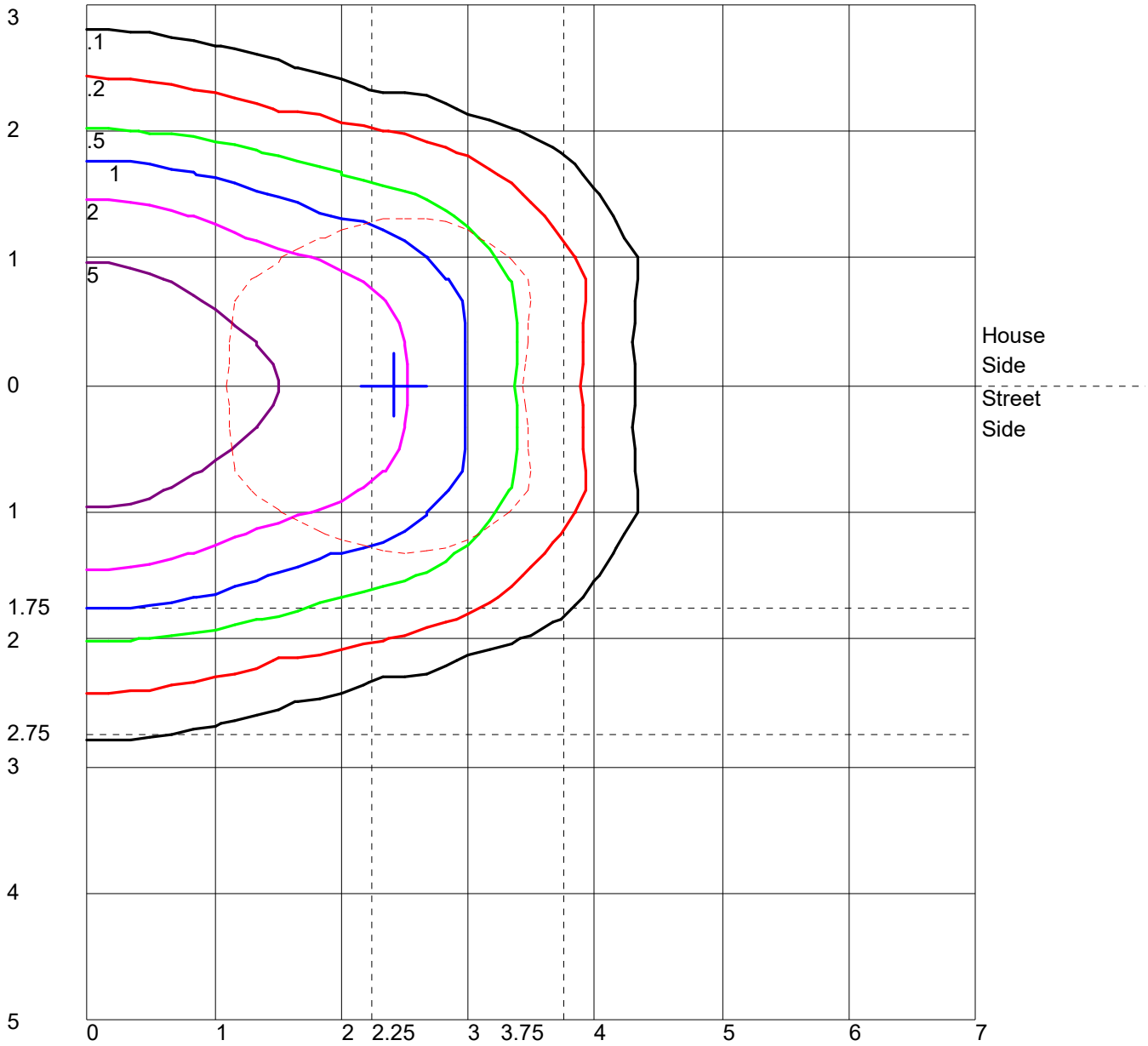
POLAR GRAPH



Maximum Candela = 4047 Located At Horizontal Angle = 90, Vertical Angle = 67.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

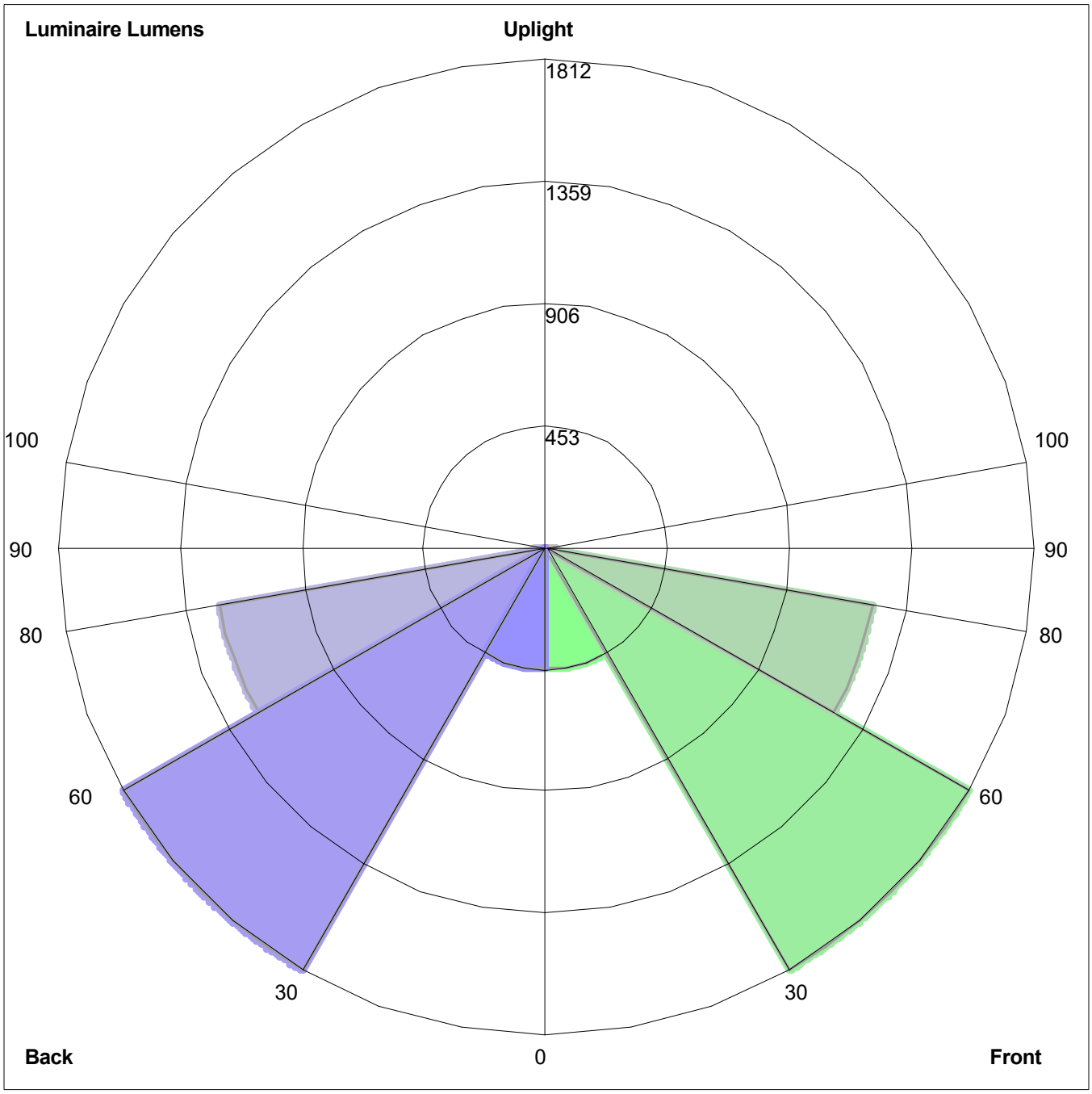
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-350MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=451.2, Medium=1812.1, High=1231.7, Very High=37.7
Back: Low=451.2, Medium=1812.1, High=1231.7, Very High=37.7
Uplight: Low=0.0, High=0.0

BUG Rating : B3-U0-G3

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type II ML

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

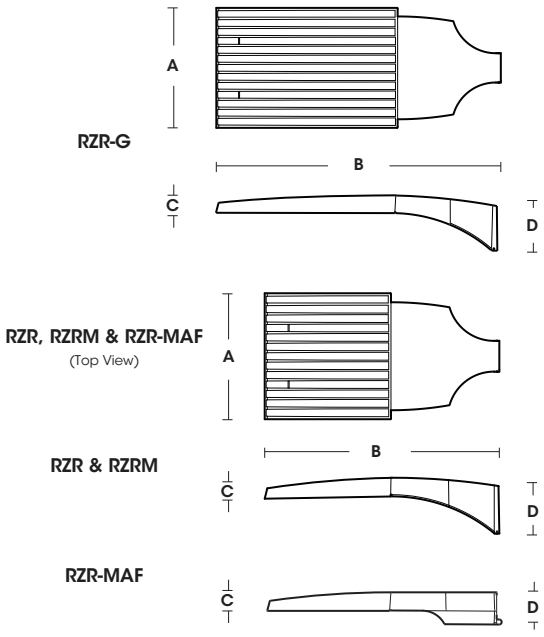
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

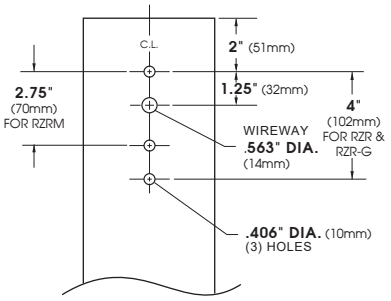
U.L. Listed for Wet Location

BABA COMPLIANT

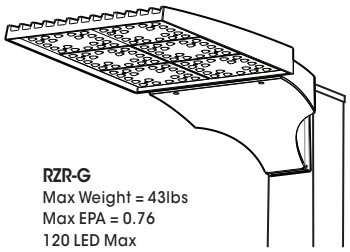
2024281

SPECIFICATIONS

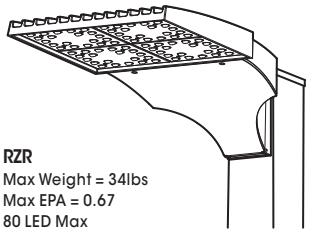
POLE DRILLING TEMPLATE



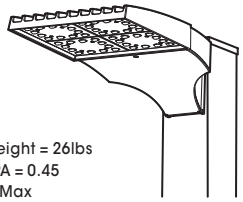
EPA & WEIGHT



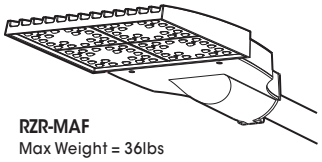
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

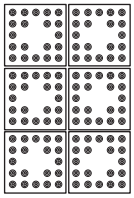


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

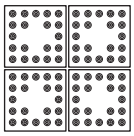


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

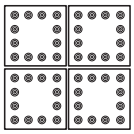
PLED™ MODULES



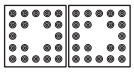
120 LED Module



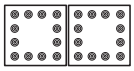
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**	**Voltage**	**Mounting**	**Finish**	**Options**
☐ RZR-G	PLED™ Distribution Type ☐ PLED-II ☐ PLED-II-FR ☐ PLED-II-MIL	# of LEDs **RZR-G** ☐ 120LED ☐ 80LED	Drive Current ☐ 1400mA[1] ☐ 1225mA[1] ☐ 1050mA ☐ 875mA ☐ 700mA ☐ 525mA ☐ 350mA	Color Temp - CCT ☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber Consult Factory for Other LED Color, CCT, & CRI Options	☐ UNV (120-277) ☐ 347 ☐ 480	☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90 **Wall Mount** ☐ WM WM - Wall Mount provided with mounting bracket and cover.	**Standard Textured Finish** ☐ Black **9005-T** ☐ White **9003-T** ☐ Grey **7004-T** ☐ Dark Bronze **8019-T** ☐ Green **6005-T** **Premium Finishes** ☐ Rust ☐ Patina Copper **PC** For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S) Consult factor for custom colors	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED** ☐ External Glare Shield 4 Sided **EGS4** ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W** ☐ Round Pole Adapter **RPA** ☐ Twist Lock Receptable Only **TPR** ☐ 7-Pin Twist Lock Receptable Only **TPR7** ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW** ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V** ☐ Photo Cell + Voltage (Example: PC120V) **PC+V** ☐ Single Fuse (120V, 277V) **SF** ☐ Double Fuse (208V, 240V) **DF** ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**
☐ RZR ☐ RZR-MAF	☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT	**RZR / RZR-MAF** ☐ 80LED ☐ 40LED				
☐ RZRM	☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	**RZRM** ☐ 48LED ☐ 24LED	NOTES: 1 - 1400mA & 1225mA drive currents not available in RZRM 2 - TRA available in 350mA & 525mA drive currents only. Consult Factory for Other Drive Currents			

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL88704-PR
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-II-ML-40LED-525mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 64.8 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 10153
[_BUGRATING] LCS B3-U0-G3 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10153
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	157
Total Luminaire Watts	64.8
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	5816
Maximum Candela Angle	90H 67.5V
Maximum Candela (<90 Degrees Vertical)	5816
Maximum Candela Angle (<90 Degrees Vertical)	90H 67.5V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	509 (5.0% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	648.3	N.A.	6.4
FM - Front-Medium (30-60)	2604.1	N.A.	25.6
FH - Front-High (60-80)	1770.0	N.A.	17.4
FVH - Front-Very High (80-90)	54.2	N.A.	0.5
BL - Back-Low (0-30)	648.3	N.A.	6.4
BM - Back-Medium (30-60)	2604.1	N.A.	25.6
BH - Back-High (60-80)	1770.0	N.A.	17.4
BVH - Back-Very High (80-90)	54.2	N.A.	0.5
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	10153.2	N.A.	100.0
BUG Rating	B3-U0-G3		

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	35	45	55	65	75	77
0.0	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342
2.5	1352	1351	1351	1349	1348	1345	1344	1344	1345	1345
5.0	1368	1367	1368	1364	1361	1355	1352	1351	1351	1349
7.5	1377	1377	1378	1378	1377	1372	1365	1362	1357	1357
10.0	1380	1378	1384	1388	1395	1395	1390	1381	1372	1371
12.5	1395	1392	1395	1400	1411	1423	1421	1408	1395	1392
15.0	1427	1423	1424	1424	1436	1450	1456	1443	1421	1420
17.5	1461	1456	1464	1470	1474	1486	1492	1479	1451	1450
20.0	1500	1499	1503	1517	1526	1536	1536	1523	1487	1484
22.5	1551	1549	1559	1572	1581	1586	1589	1574	1532	1530
25.0	1612	1607	1621	1642	1647	1645	1658	1635	1584	1584
27.5	1667	1663	1678	1710	1724	1711	1722	1703	1647	1641
30.0	1734	1727	1746	1776	1798	1792	1786	1780	1714	1711
32.5	1791	1789	1813	1851	1878	1872	1855	1859	1795	1786
35.0	1831	1831	1861	1908	1951	1959	1927	1940	1890	1882
37.5	1867	1867	1900	1962	2006	2055	2015	2025	1992	1986
40.0	1901	1897	1931	1996	2056	2148	2107	2128	2120	2115
42.5	1927	1928	1966	2020	2091	2201	2207	2242	2298	2291
45.0	1923	1921	1969	2036	2118	2243	2312	2383	2493	2498
47.5	1895	1895	1941	2026	2117	2266	2420	2555	2722	2753
50.0	1848	1861	1905	1982	2107	2282	2569	2768	2977	3021
52.5	1749	1760	1816	1921	2068	2291	2667	3018	3288	3321
55.0	1617	1622	1688	1813	1996	2265	2732	3253	3643	3684
57.5	1476	1479	1536	1670	1881	2199	2752	3473	4034	4129
60.0	1259	1262	1342	1509	1745	2091	2725	3659	4423	4547
62.5	910	946	1052	1262	1565	1939	2658	3878	4841	4966
65.0	690	697	730	900	1255	1749	2490	4002	5208	5382
67.5	513	513	558	611	844	1424	2216	3933	5419	5702
69.0	420	424	458	516	641	1118	1974	3722	5370	5688
70.0	385	384	404	454	555	967	1824	3532	5180	5474
72.5	305	300	305	333	404	591	1298	2694	4045	4199
75.0	246	243	244	259	300	397	752	1566	2314	2545
77.5	187	190	193	194	217	269	427	923	1154	1260
80.0	137	144	141	138	147	175	251	493	509	461
82.5	46	46	72	72	76	92	134	289	287	259
85.0	26	27	50	52	49	47	72	165	175	177
87.5	9	11	36	30	32	29	36	60	108	121
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles	
	85	90
0.0	1342	1342
2.5	1345	1344
5.0	1346	1344
7.5	1354	1352
10.0	1368	1364
12.5	1387	1385
15.0	1411	1408
17.5	1444	1441
20.0	1480	1479
22.5	1528	1523
25.0	1579	1579

CANDELA TABULATION - (Cont.)

27.5	1638	1635
30.0	1704	1704
32.5	1778	1773
35.0	1859	1852
37.5	1963	1967
40.0	2114	2114
42.5	2324	2331
45.0	2579	2588
47.5	2855	2900
50.0	3166	3200
52.5	3505	3536
55.0	3923	3991
57.5	4402	4485
60.0	4873	4986
62.5	5265	5382
65.0	5551	5653
67.5	5780	5816
69.0	5706	5689
70.0	5397	5373
72.5	3841	3706
75.0	2196	2112
77.5	981	984
80.0	355	366
82.5	187	158
85.0	124	91
87.5	68	36
90.0	0	0

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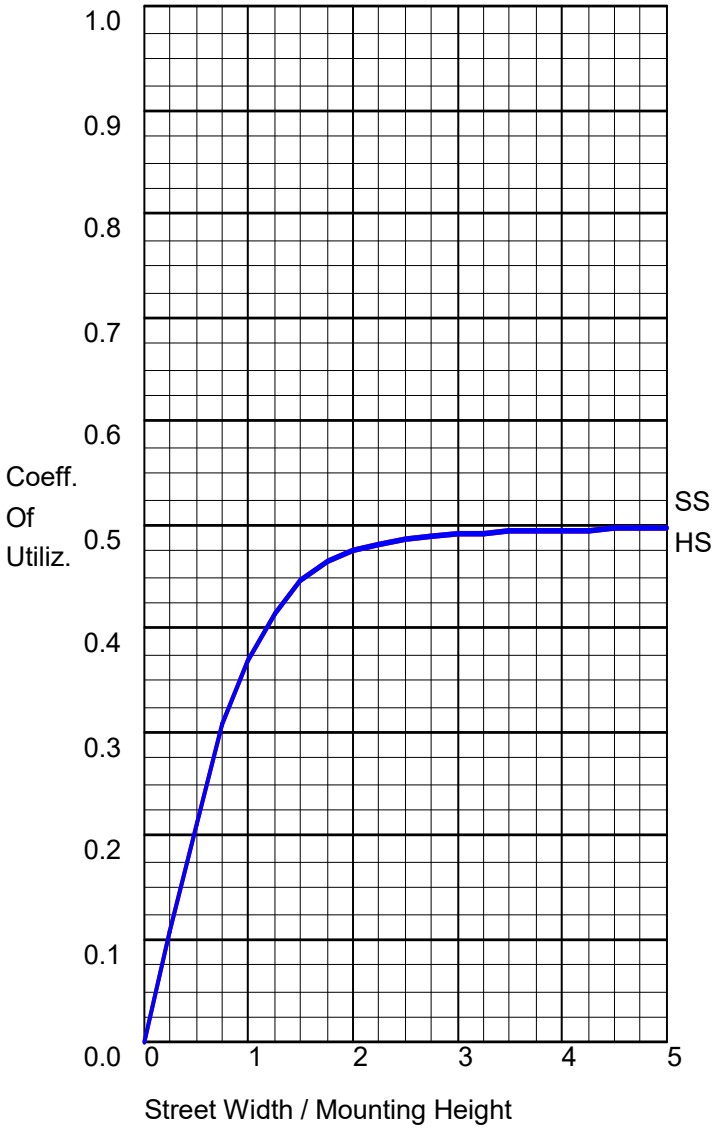
IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

COEFFICIENTS OF UTILIZATION

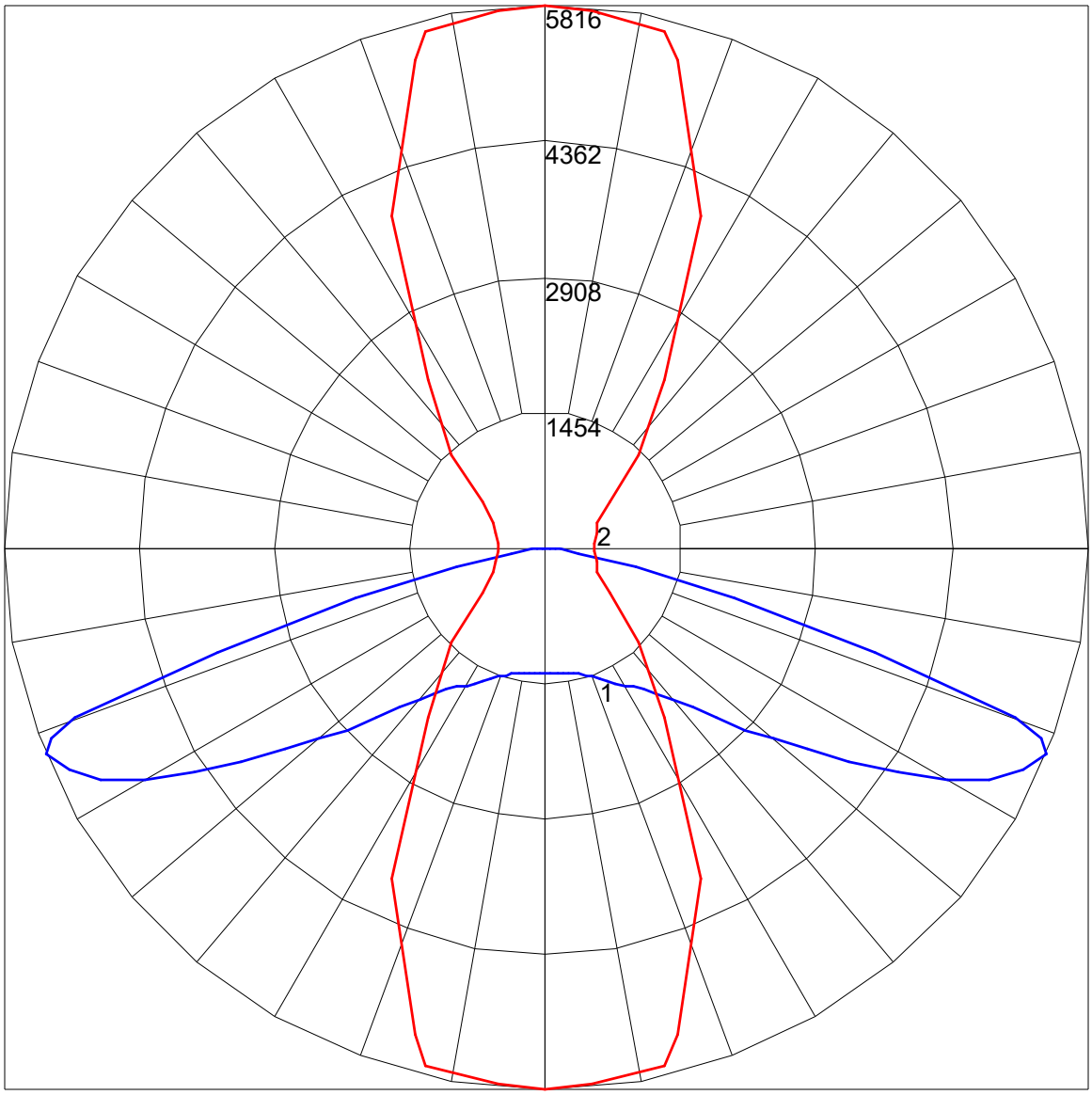


FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	5076.6	50.0
Downward House Side	5076.6	50.0
Downward Total	10153.2	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	10153.2	100.0

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

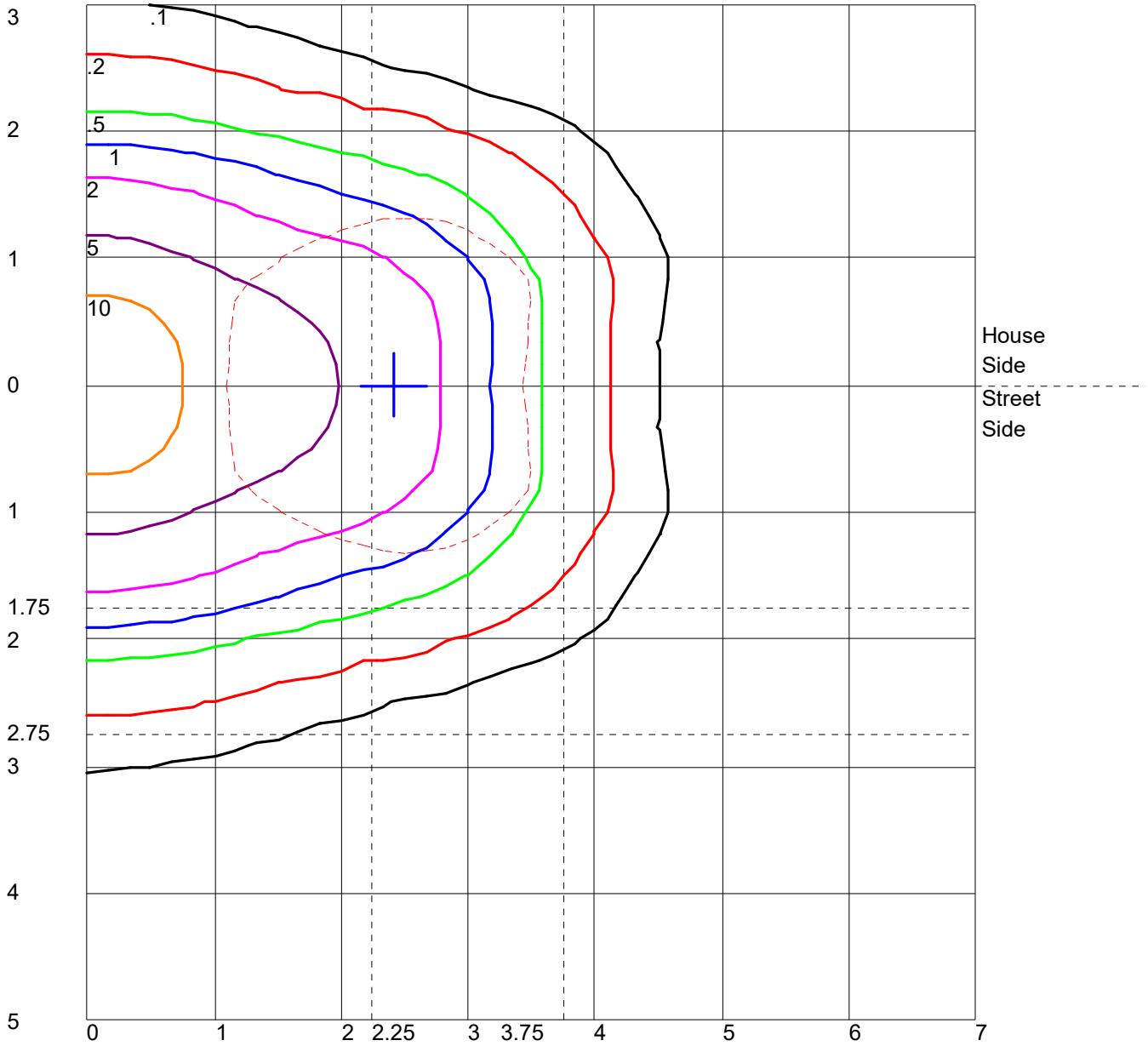
POLAR GRAPH



Maximum Candela = 5816 Located At Horizontal Angle = 90, Vertical Angle = 67.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (67.5) (Through Max. Cd.)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

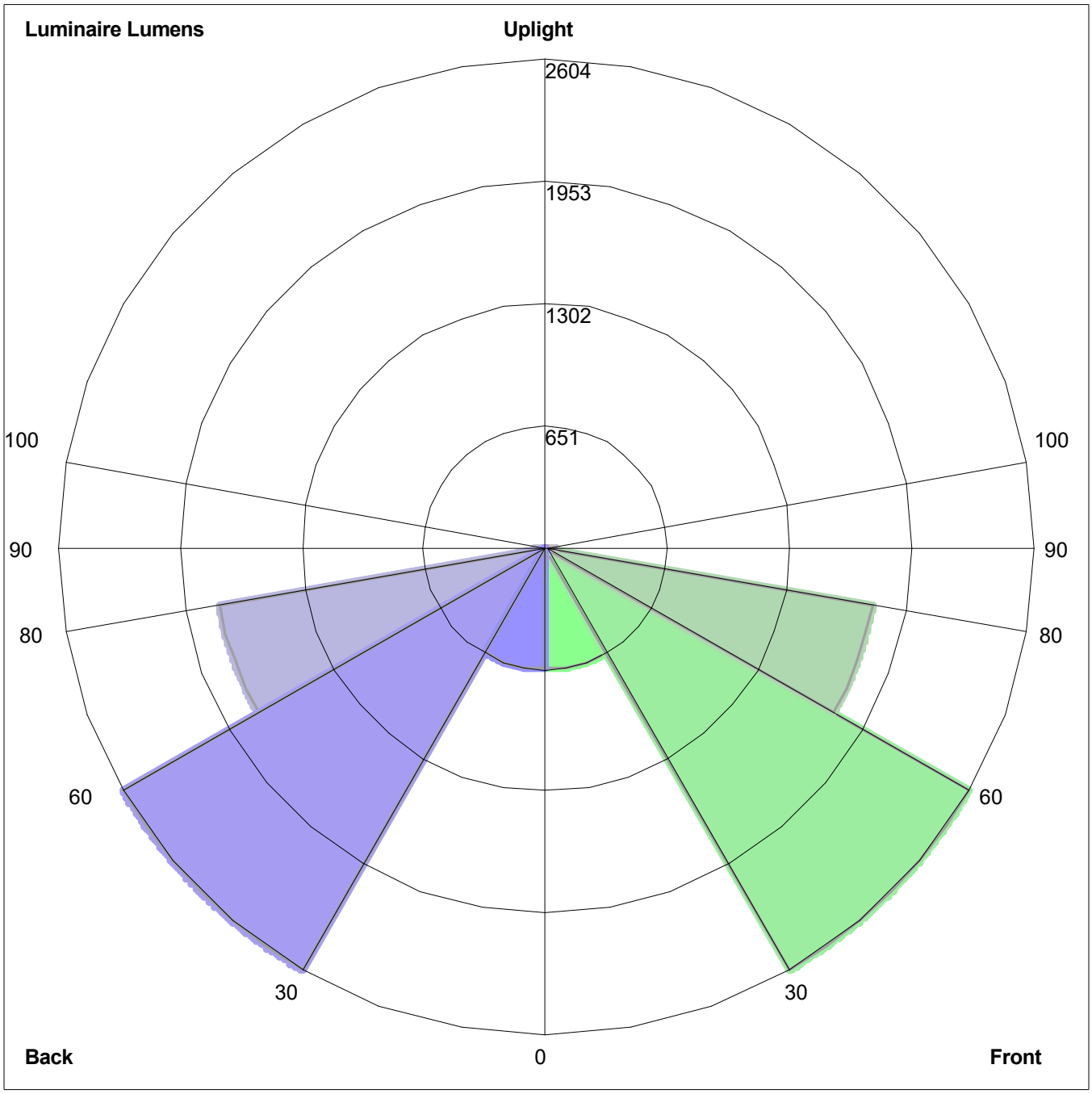
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-ML-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=648.3, Medium=2604.1, High= 1770.0, Very High=54.2
Back: Low=648.3, Medium=2604.1, High= 1770.0, Very High=54.2
Uplight: Low=0.0, High=0.0

BUG Rating : B3-U0-G3

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type II

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

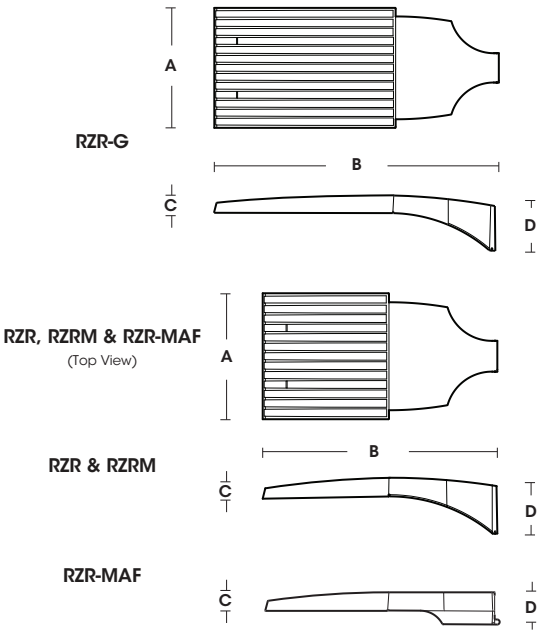
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

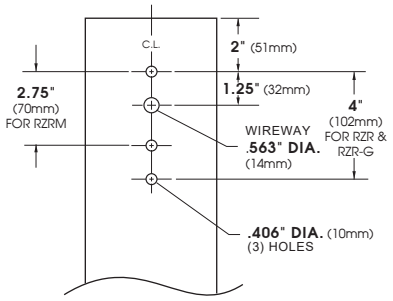
U.L. Listed for Wet Location

BABA COMPLIANT

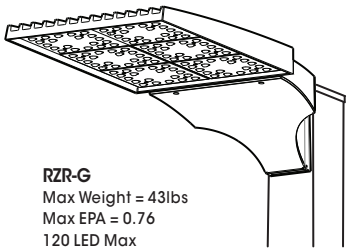
2024281

SPECIFICATIONS

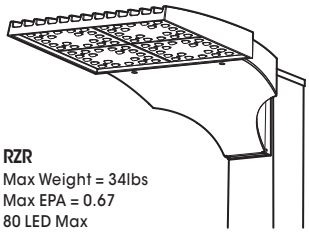
POLE DRILLING TEMPLATE



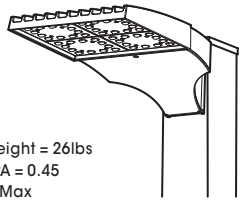
EPA & WEIGHT



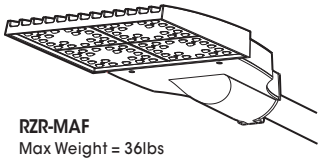
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

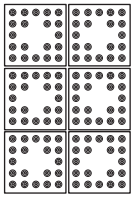


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

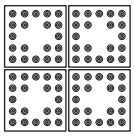


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

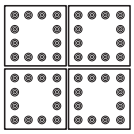
PLED™ MODULES



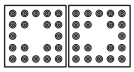
120 LED Module



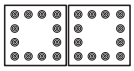
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**	**Voltage**	**Mounting**	**Finish**	**Options**
☐ RZR-G	PLED™ Distribution Type ☐ PLED-II ☐ PLED-II-FR ☐ PLED-II-MIL ☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT ☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	# of LEDs **RZR-G** ☐ 120LED ☐ 80LED	Drive Current ☐ 1400mA[1] ☐ 1225mA[1] ☐ 1050mA ☐ 875mA ☐ 700mA ☐ 525mA ☐ 350mA	Color Temp - CCT ☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber Consult Factory for Other LED Color, CCT, & CRI Options	☐ UNV (120-277) ☐ 347 ☐ 480	Arm Mount ☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90 Wall Mount ☐ WM WM - Wall Mount provided with mounting bracket and cover.	Standard Textured Finish ☐ Black 9005-T ☐ White 9003-T ☐ Grey 7004-T ☐ Dark Bronze 8019-T ☐ Green 6005-T Premium Finishes ☐ Rust ☐ Patina Copper PC For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S) Consult factor for custom colors	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED** ☐ External Glare Shield 4 Sided **EGS4** ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W** ☐ Round Pole Adapter **RPA** ☐ Twist Lock Receptable Only **TPR** ☐ 7-Pin Twist Lock Receptable Only **TPR7** ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW** ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V** ☐ Photo Cell + Voltage (Example: PC120V) **PC+V** ☐ Single Fuse (120V, 277V) **SF** ☐ Double Fuse (208V, 240V) **DF** ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**
☐ RZR ☐ RZR-MAF		**RZR / RZR-MAF** ☐ 80LED ☐ 40LED				
☐ RZRM		**RZRM** ☐ 48LED ☐ 24LED				

NOTES:
1 - 1400mA & 1225mA drive currents not available in RZRM
2 - TRA available in 350mA & 525mA drive currents only.

Consult Factory for Other Drive Currents

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL88704-PR
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-II-40LED-525mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 64.8 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 10152
[_BUGRATING] LCS B2-U0-G2 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type II
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	10152
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	157
Total Luminaire Watts	64.8
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	9474
Maximum Candela Angle	77H 69V
Maximum Candela (<90 Degrees Vertical)	9474
Maximum Candela Angle (<90 Degrees Vertical)	77H 69V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	900 (8.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	662.1	N.A.	6.5
FM - Front-Medium (30-60)	3442.2	N.A.	33.9
FH - Front-High (60-80)	2903.2	N.A.	28.6
FVH - Front-Very High (80-90)	80.3	N.A.	0.8
BL - Back-Low (0-30)	634.5	N.A.	6.2
BM - Back-Medium (30-60)	1765.7	N.A.	17.4
BH - Back-High (60-80)	636.2	N.A.	6.3
BVH - Back-Very High (80-90)	28.0	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	10152.2	N.A.	100.0
BUG Rating	B2-U0-G2		

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	35	45	55	65	75	77
0.0	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342
2.5	1367	1362	1362	1361	1355	1355	1352	1346	1349	1349
5.0	1387	1385	1384	1382	1377	1372	1364	1357	1355	1354
7.5	1384	1385	1387	1390	1388	1387	1375	1364	1358	1358
10.0	1369	1372	1377	1387	1398	1405	1392	1380	1368	1368
12.5	1387	1381	1382	1390	1408	1428	1426	1405	1388	1387
15.0	1434	1428	1423	1417	1427	1453	1463	1441	1414	1411
17.5	1487	1479	1484	1482	1473	1487	1497	1479	1443	1443
20.0	1548	1546	1542	1552	1543	1545	1542	1522	1477	1473
22.5	1631	1627	1631	1634	1618	1599	1599	1575	1519	1517
25.0	1740	1730	1733	1747	1713	1670	1677	1644	1571	1571
27.5	1852	1842	1841	1859	1836	1759	1747	1717	1640	1632
30.0	1997	1984	1979	1982	1957	1881	1824	1808	1716	1711
32.5	2135	2131	2137	2138	2111	2010	1913	1901	1811	1795
35.0	2258	2260	2272	2281	2265	2177	2022	2002	1911	1898
37.5	2397	2391	2404	2434	2408	2380	2183	2117	2030	2018
40.0	2538	2529	2543	2575	2568	2600	2374	2286	2187	2176
42.5	2676	2676	2699	2712	2722	2776	2607	2490	2444	2411
45.0	2765	2765	2811	2851	2877	2957	2875	2775	2750	2714
47.5	2819	2824	2868	2946	3006	3123	3196	3153	3137	3127
50.0	2865	2870	2919	3003	3124	3296	3613	3646	3593	3574
52.5	2817	2834	2906	3045	3213	3472	3949	4229	4160	4075
55.0	2704	2719	2814	3000	3269	3623	4249	4827	4824	4710
57.5	2558	2566	2663	2883	3229	3718	4509	5429	5614	5540
60.0	2243	2252	2400	2703	3107	3692	4699	6041	6487	6396
62.5	1642	1711	1911	2305	2865	3535	4791	6729	7485	7330
65.0	1253	1266	1322	1644	2325	3263	4634	7260	8468	8352
67.5	918	920	1003	1106	1558	2690	4202	7392	9238	9290
69.0	743	749	813	925	1171	2104	3765	7100	9349	9474
70.0	680	675	710	815	1009	1816	3490	6793	9142	9243
72.5	532	522	525	583	721	1086	2485	5203	7360	7337
75.0	424	418	418	450	526	708	1413	2996	4210	4481
77.5	323	326	328	331	368	463	773	1737	2064	2193
80.0	236	247	236	230	239	286	435	900	858	734
82.5	72	66	105	103	108	129	210	507	453	385
85.0	42	43	60	70	66	56	96	266	251	246
87.5	14	17	45	42	45	37	43	78	144	167
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	85	90	95	105	115	125	135	145	155	165
0.0	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342
2.5	1346	1344	1345	1341	1341	1336	1334	1338	1336	1339
5.0	1346	1344	1346	1345	1345	1341	1339	1346	1345	1351
7.5	1352	1352	1354	1355	1361	1357	1357	1364	1367	1369
10.0	1364	1364	1372	1375	1384	1385	1385	1390	1388	1390
12.5	1380	1385	1394	1401	1413	1417	1415	1417	1408	1408
15.0	1405	1408	1418	1428	1444	1450	1447	1444	1433	1424
17.5	1438	1441	1448	1460	1477	1487	1484	1476	1459	1444
20.0	1473	1479	1487	1497	1525	1530	1526	1510	1482	1464
22.5	1517	1523	1539	1543	1572	1579	1574	1543	1510	1489
25.0	1569	1579	1589	1597	1628	1638	1619	1582	1539	1509

CANDELA TABULATION - (Cont.)

27.5	1632	1635	1644	1653	1688	1697	1664	1614	1562	1516
30.0	1707	1704	1701	1713	1755	1750	1703	1638	1571	1512
32.5	1782	1773	1773	1779	1816	1795	1733	1645	1563	1490
35.0	1871	1852	1848	1868	1878	1829	1742	1637	1536	1450
37.5	1984	1967	1943	1954	1933	1847	1732	1604	1489	1395
40.0	2157	2114	2069	2051	1972	1839	1697	1545	1418	1319
42.5	2397	2331	2250	2151	1992	1806	1627	1459	1326	1234
45.0	2696	2588	2463	2235	1989	1747	1529	1358	1223	1127
47.5	3038	2900	2673	2305	1959	1642	1411	1229	1106	1015
50.0	3447	3200	2884	2365	1891	1526	1269	1088	961	892
52.5	3863	3536	3147	2418	1805	1385	1109	923	799	726
55.0	4397	3991	3447	2462	1681	1214	905	721	627	563
57.5	5019	4485	3784	2453	1517	994	681	530	456	408
60.0	5698	4986	4047	2358	1276	750	490	381	315	287
62.5	6307	5382	4222	2197	1029	525	339	264	218	191
65.0	6837	5653	4266	1947	744	346	234	182	154	138
67.5	7398	5816	4162	1599	476	227	157	129	115	111
69.0	7468	5689	3946	1390	342	181	129	111	103	102
70.0	7148	5373	3647	1219	272	155	116	102	95	98
72.5	5303	3706	2380	729	185	112	95	85	82	82
75.0	3021	2112	1372	418	137	92	83	73	69	72
77.5	1305	984	658	244	108	79	73	65	57	57
80.0	405	366	305	160	86	68	65	55	47	45
82.5	200	158	172	122	70	56	53	45	40	39
85.0	118	91	128	101	65	47	37	32	33	39
87.5	56	36	80	72	46	30	19	19	19	30
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	**Horizontal Angles**	
	175	**180**
0.0	1342	1342
2.5	1336	1338
5.0	1348	1349
7.5	1368	1369
10.0	1387	1388
12.5	1401	1404
15.0	1415	1421
17.5	1431	1434
20.0	1450	1453
22.5	1470	1471
25.0	1484	1484
27.5	1483	1484
30.0	1471	1473
32.5	1444	1447
35.0	1401	1404
37.5	1344	1336
40.0	1265	1263
42.5	1180	1177
45.0	1078	1082
47.5	969	971
50.0	851	832
52.5	690	681
55.0	525	529
57.5	389	392
60.0	270	273

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

CANDELA TABULATION - (Cont.)

62.5	180	174
65.0	126	126
67.5	106	106
69.0	98	96
70.0	92	92
72.5	79	78
75.0	68	66
77.5	55	52
80.0	40	36
82.5	24	20
85.0	13	9
87.5	7	1
90.0	0	0

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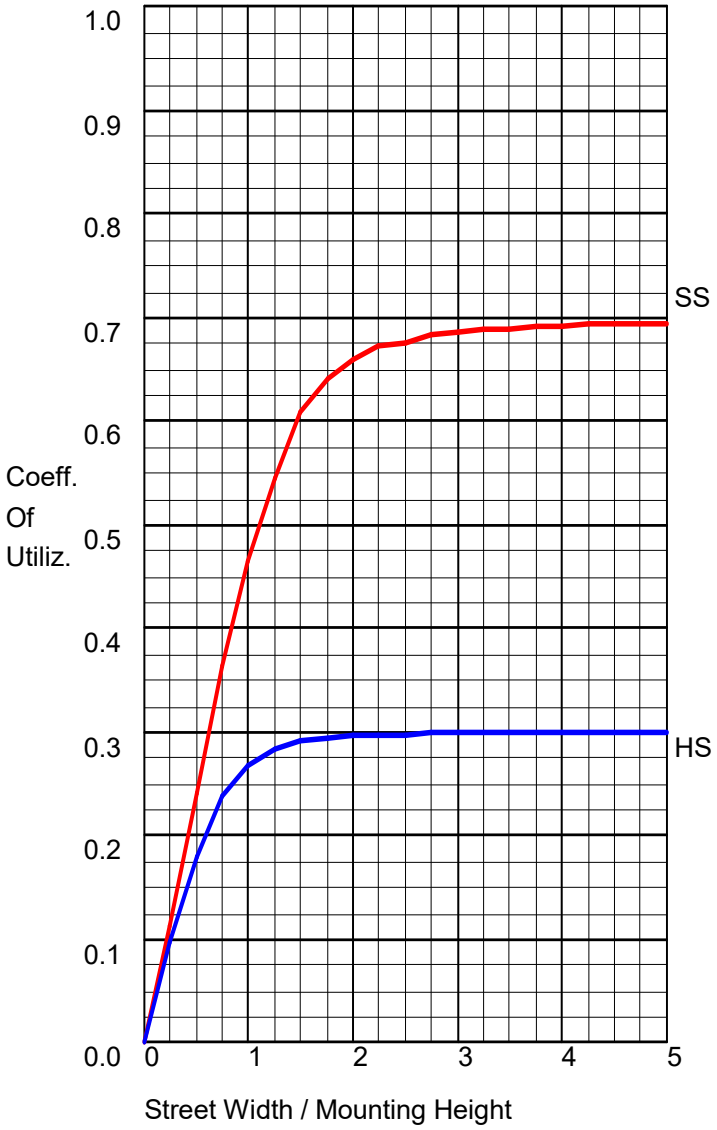
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	7087.9	69.8
Downward House Side	3064.4	30.2
Downward Total	10152.3	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	10152.3	100.0

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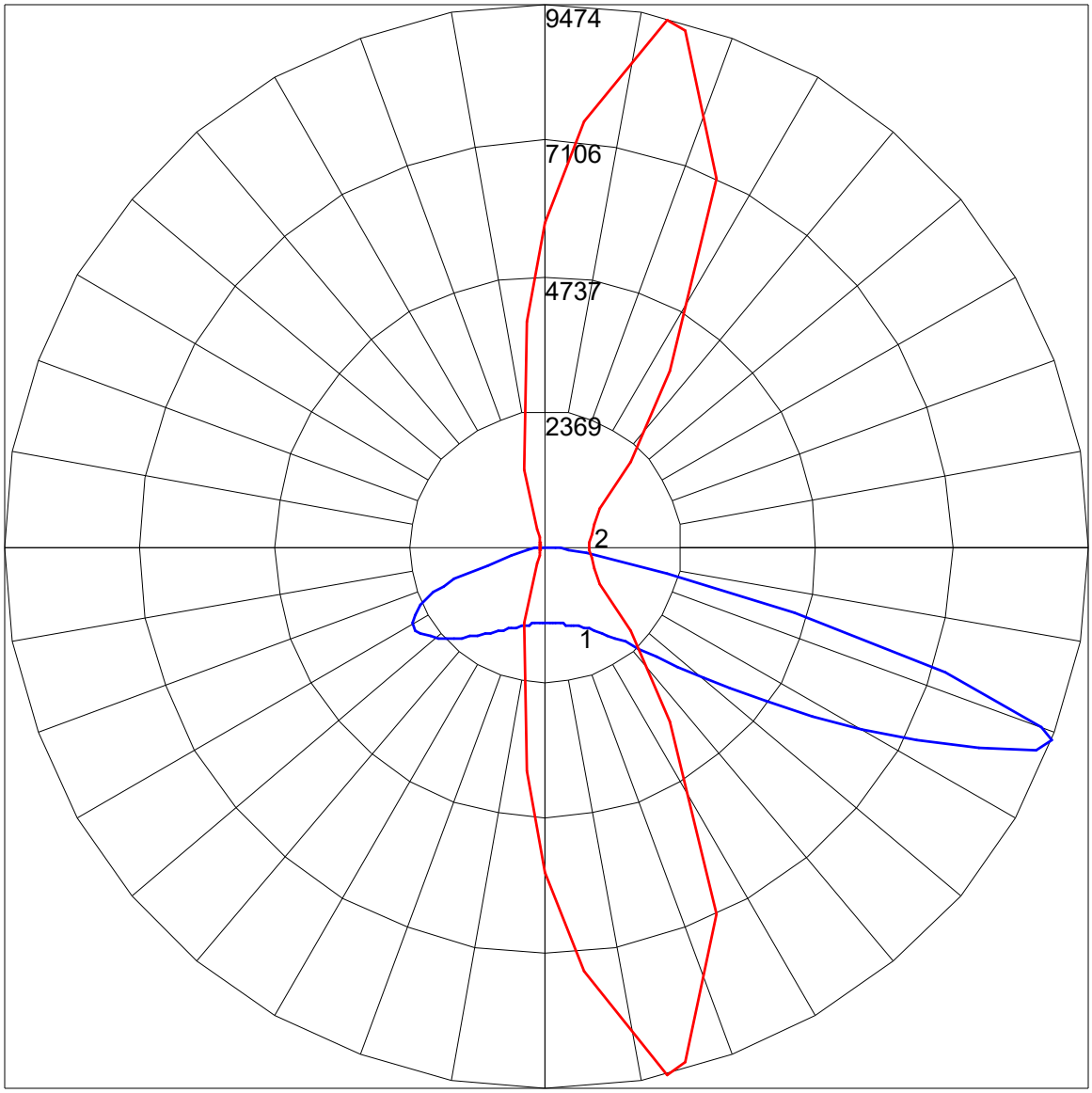
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

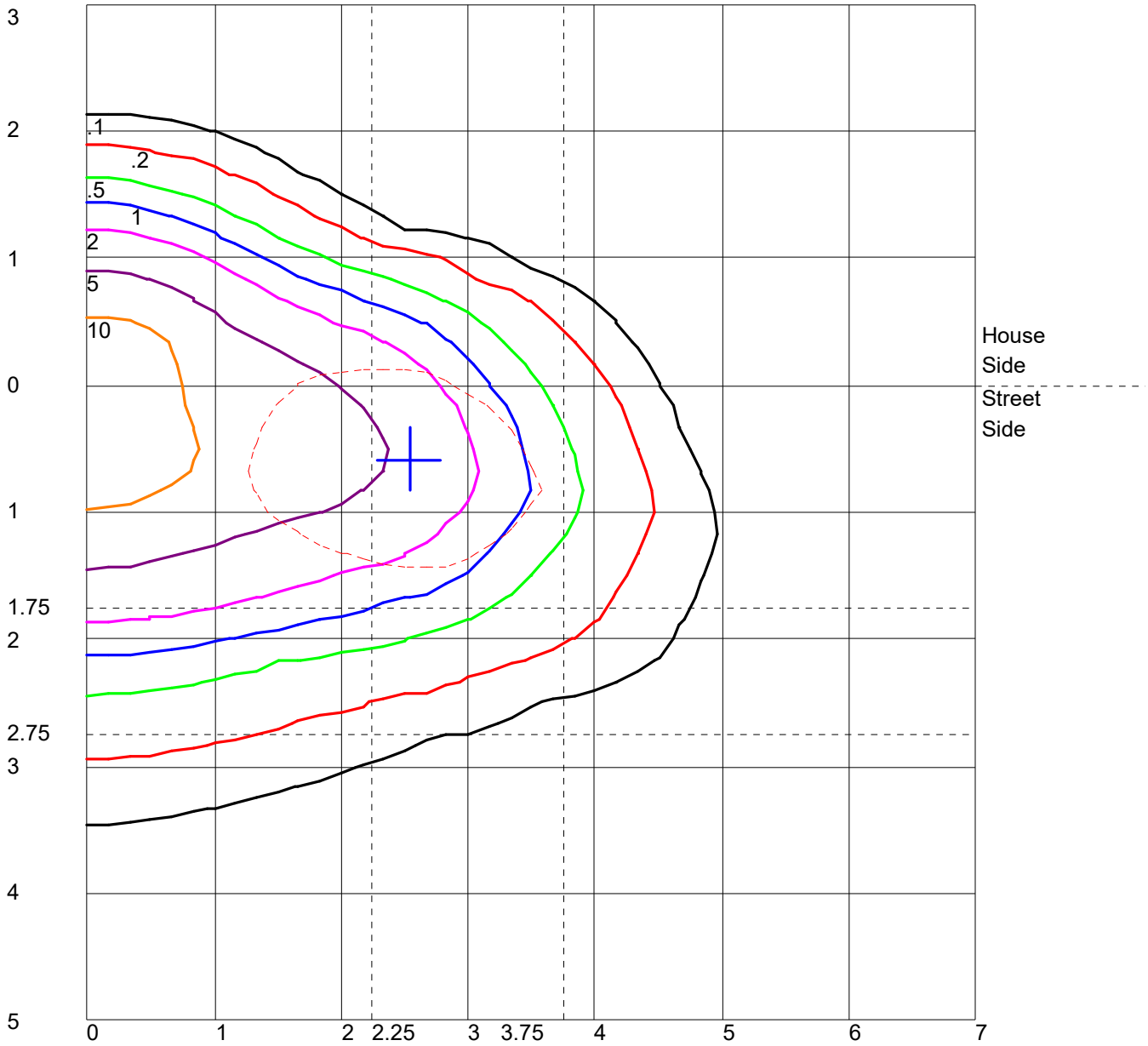
POLAR GRAPH



Maximum Candela = 9474 Located At Horizontal Angle = 77, Vertical Angle = 69
1 - Vertical Plane Through Horizontal Angles (77 - 257) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (69) (Through Max. Cd.)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

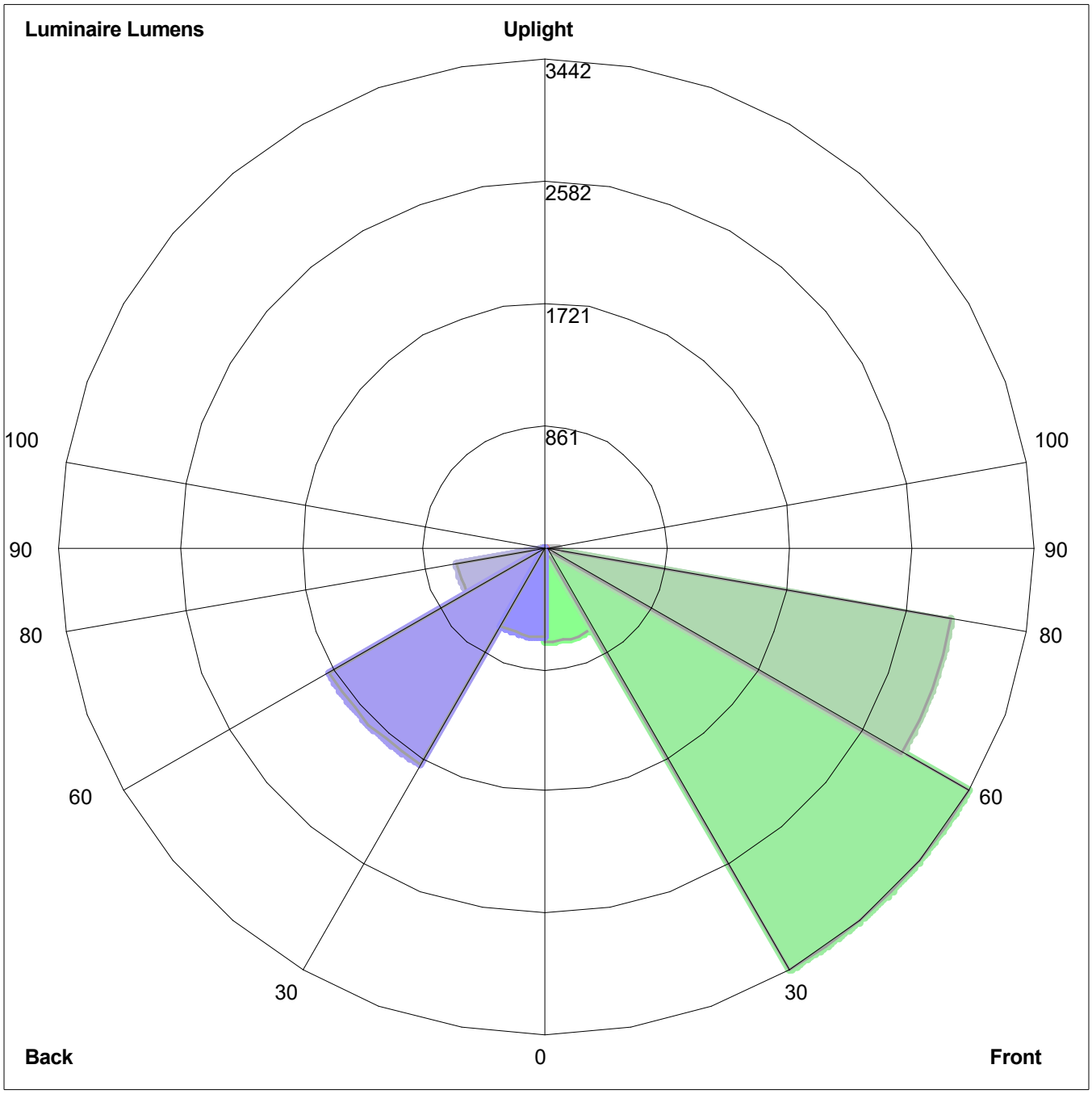
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-II-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=662.1, Medium=3442.2, High=2903.2, Very High=80.3
Back: Low=634.5, Medium=1765.7, High=636.2, Very High=28.0
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G2

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type III W Low

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

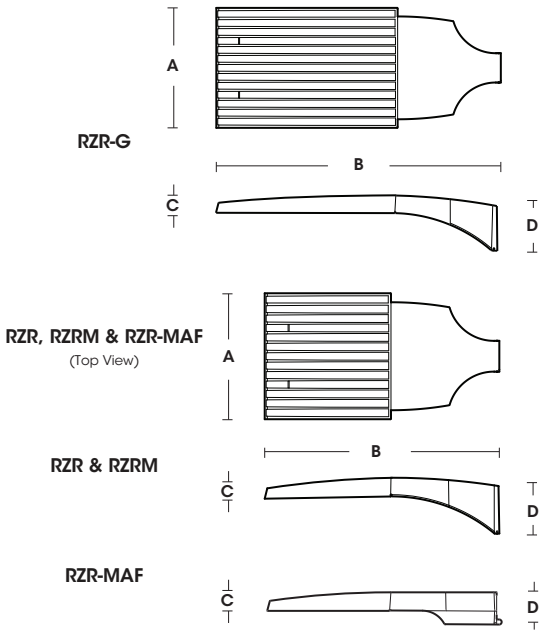
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

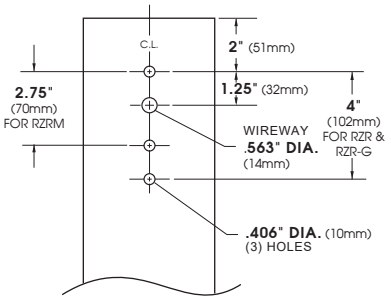
U.L. Listed for Wet Location

BABA COMPLIANT

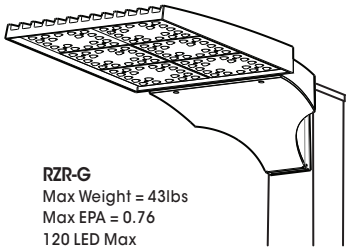
2024281

SPECIFICATIONS

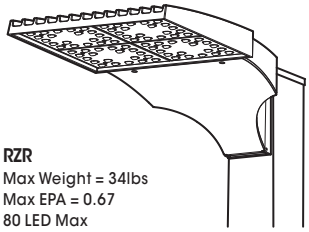
POLE DRILLING TEMPLATE



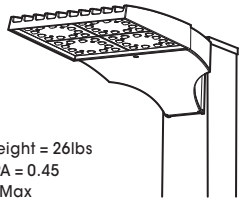
EPA & WEIGHT



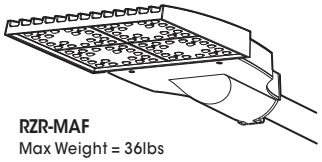
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

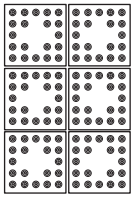


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

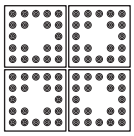


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

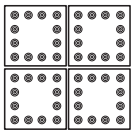
PLED™ MODULES



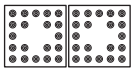
120 LED Module



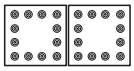
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode			Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**			**Voltage**	**Mounting**	**Finish**	**Options**
	PLED™ Distribution Type	# of LEDs	Drive Current	Color Temp - CCT		Arm Mount	Standard Textured Finish	
☐ RZR-G	☐ PLED-II	RZR-G ☐ 120LED ☐ 80LED	☐ 1400mA[1] ☐ 1225mA[1] ☐ 1050mA ☐ 875mA ☐ 700mA ☐ 525mA ☐ 350mA	☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber Consult Factory for Other LED Color, CCT, & CRI Options	☐ UNV (120-277) ☐ 347 ☐ 480	☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90	☐ Black 9005-T ☐ White 9003-T ☐ Grey 7004-T ☐ Dark Bronze 8019-T ☐ Green 6005-T	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED** ☐ External Glare Shield 4 Sided **EGS4** ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W** ☐ Round Pole Adapter **RPA** ☐ Twist Lock Receptable Only **TPR** ☐ 7-Pin Twist Lock Receptable Only **TPR7** ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW** ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V** ☐ Photo Cell + Voltage (Example: PC120V) **PC+V** ☐ Single Fuse (120V, 277V) **SF** ☐ Double Fuse (208V, 240V) **DF** ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**
☐ RZR ☐ RZR-MAF	☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT	RZR / RZR-MAF ☐ 80LED ☐ 40LED				Premium Finishes ☐ Rust ☐ Patina Copper PC	For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S) Consult factor for custom colors	
☐ RZRM	☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	RZRM ☐ 48LED ☐ 24LED	NOTES: 1 - 1400mA & 1225mA drive currents not available in RZRM 2 - TRA available in 350mA & 525mA drive currents only. Consult Factory for Other Drive Currents			Wall Mount ☐ WM WM - Wall Mount provided with mounting bracket and cover.		

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-525MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL88707-PR
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-III-W-40LED-525mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 64.8 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 9592
[_BUGRATING] LCS B2-U0-G3 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type III
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9592
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	148
Total Luminaire Watts	64.8
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	9075
Maximum Candela Angle	68H 75V
Maximum Candela (<90 Degrees Vertical)	9075
Maximum Candela Angle (<90 Degrees Vertical)	68H 75V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	3735 (38.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	601.8	N.A.	6.3
FM - Front-Medium (30-60)	2726.9	N.A.	28.4
FH - Front-High (60-80)	3904.9	N.A.	40.7
FVH - Front-Very High (80-90)	246.6	N.A.	2.6
BL - Back-Low (0-30)	613.2	N.A.	6.4
BM - Back-Medium (30-60)	1122.3	N.A.	11.7
BH - Back-High (60-80)	349.3	N.A.	3.6
BVH - Back-Very High (80-90)	27.0	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	9592.0	N.A.	100.0
BUG Rating	B2-U0-G3		

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IES ROAD REPORT
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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	35	45	55	65	68	75
0.0	1283	1283	1283	1283	1283	1283	1283	1283	1283	1283
2.5	1293	1293	1292	1293	1292	1290	1290	1290	1290	1292
5.0	1296	1298	1296	1299	1300	1300	1300	1302	1300	1303
7.5	1288	1292	1292	1299	1306	1311	1315	1318	1318	1319
10.0	1273	1277	1283	1295	1309	1322	1332	1341	1341	1341
12.5	1262	1266	1276	1295	1316	1335	1352	1364	1365	1364
15.0	1265	1269	1277	1300	1329	1352	1375	1391	1394	1395
17.5	1273	1280	1293	1318	1351	1378	1405	1427	1431	1434
20.0	1290	1296	1315	1346	1384	1414	1447	1473	1479	1482
22.5	1315	1323	1342	1380	1424	1463	1502	1530	1535	1532
25.0	1351	1358	1380	1423	1471	1515	1569	1598	1597	1578
27.5	1403	1408	1430	1473	1522	1572	1647	1668	1653	1621
30.0	1476	1489	1499	1542	1582	1631	1723	1720	1697	1673
32.5	1565	1575	1588	1628	1663	1701	1776	1753	1737	1727
35.0	1647	1663	1676	1716	1760	1792	1822	1773	1766	1776
37.5	1753	1763	1772	1813	1865	1891	1882	1816	1805	1828
40.0	1871	1884	1893	1933	1980	2003	1966	1888	1875	1907
42.5	2007	2020	2033	2081	2121	2141	2082	1999	1979	2013
45.0	2140	2153	2176	2227	2276	2302	2223	2134	2115	2151
47.5	2272	2289	2316	2372	2439	2476	2388	2306	2291	2319
50.0	2414	2433	2464	2538	2605	2667	2585	2522	2515	2536
52.5	2552	2574	2610	2697	2789	2877	2822	2775	2775	2753
55.0	2686	2722	2763	2857	2976	3108	3114	3075	3081	3008
57.5	2817	2855	2924	3034	3166	3353	3457	3470	3456	3324
60.0	2887	2926	3028	3200	3391	3618	3866	3942	3919	3680
62.5	2926	2962	3104	3334	3617	3932	4284	4499	4460	4139
65.0	2901	2933	3117	3436	3820	4325	4708	5088	5041	4646
67.5	2686	2732	2907	3315	3942	4712	5323	5744	5722	5360
70.0	2312	2354	2429	2750	3618	5011	6112	6814	6843	6665
72.5	1658	1707	1724	1957	2589	4695	6780	8326	8355	7988
75.0	868	933	980	1285	1670	3141	6454	8974	9075	8445
77.5	466	483	502	703	1102	1898	4673	7188	7254	6346
80.0	328	300	326	398	647	1242	2473	3735	3700	2815
82.5	135	129	187	224	303	651	1371	1835	1699	947
85.0	52	49	80	106	149	286	697	842	734	374
87.5	26	26	47	45	50	109	282	335	290	157
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	85	90	95	105	115	125	135	145	155	165
0.0	1283	1283	1283	1283	1283	1283	1283	1283	1283	1283
2.5	1290	1288	1286	1286	1283	1283	1275	1279	1276	1272
5.0	1298	1293	1292	1290	1285	1282	1272	1273	1272	1269
7.5	1311	1306	1302	1295	1288	1283	1273	1279	1279	1277
10.0	1329	1321	1315	1303	1295	1292	1288	1296	1300	1303
12.5	1351	1339	1331	1316	1309	1311	1315	1328	1338	1345
15.0	1378	1365	1354	1338	1335	1346	1358	1381	1395	1403
17.5	1418	1403	1385	1367	1371	1395	1420	1448	1461	1469
20.0	1459	1438	1418	1400	1413	1451	1484	1515	1523	1523
22.5	1494	1471	1456	1444	1463	1503	1538	1562	1563	1558
25.0	1539	1523	1512	1503	1517	1548	1566	1581	1575	1565
27.5	1597	1589	1579	1561	1562	1575	1571	1569	1553	1539

CANDELA TABULATION - (Cont.)

30.0	1664	1660	1647	1609	1586	1575	1542	1517	1492	1476
32.5	1740	1732	1706	1641	1585	1536	1476	1437	1401	1380
35.0	1811	1792	1753	1647	1551	1464	1388	1338	1295	1270
37.5	1874	1848	1786	1621	1482	1365	1282	1227	1186	1164
40.0	1950	1901	1806	1568	1385	1249	1160	1111	1076	1075
42.5	2026	1950	1815	1492	1267	1115	1029	983	951	976
45.0	2115	1997	1809	1404	1125	967	887	838	812	813
47.5	2214	2043	1805	1306	977	822	739	688	662	641
50.0	2319	2102	1819	1194	816	674	605	542	507	487
52.5	2443	2197	1859	1052	658	545	474	410	379	351
55.0	2607	2328	1913	871	522	431	358	299	270	257
57.5	2808	2485	1964	683	415	328	266	224	204	200
60.0	3044	2660	2010	512	325	244	201	170	151	155
62.5	3327	2873	2043	389	250	193	155	141	126	128
65.0	3710	3164	2061	299	198	155	129	121	112	114
67.5	4399	3663	2091	236	161	135	118	115	103	102
70.0	5275	4208	2041	181	134	124	119	109	95	92
72.5	5964	4473	1801	138	112	112	121	105	86	80
75.0	5728	4022	1292	111	98	106	115	98	78	70
77.5	3620	2337	661	92	88	101	108	92	69	59
80.0	1016	759	277	80	73	95	102	82	60	46
82.5	315	241	128	57	62	85	92	72	50	36
85.0	135	96	82	39	50	68	68	53	36	23
87.5	33	32	32	24	30	42	42	32	20	10
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	**Horizontal Angles**	
	175	**180**
0.0	1283	1283
2.5	1273	1267
5.0	1269	1263
7.5	1282	1276
10.0	1308	1303
12.5	1351	1346
15.0	1410	1408
17.5	1474	1471
20.0	1526	1523
22.5	1558	1556
25.0	1563	1562
27.5	1538	1536
30.0	1471	1470
32.5	1375	1371
35.0	1263	1260
37.5	1164	1170
40.0	1108	1112
42.5	979	987
45.0	798	808
47.5	635	639
50.0	474	489
52.5	358	366
55.0	274	285
57.5	213	211
60.0	168	168
62.5	137	137
65.0	115	115

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CANDELA TABULATION - (Cont.)

67.5	102	102
70.0	91	91
72.5	79	78
75.0	69	66
77.5	56	53
80.0	40	39
82.5	24	22
85.0	10	9
87.5	1	0
90.0	0	0

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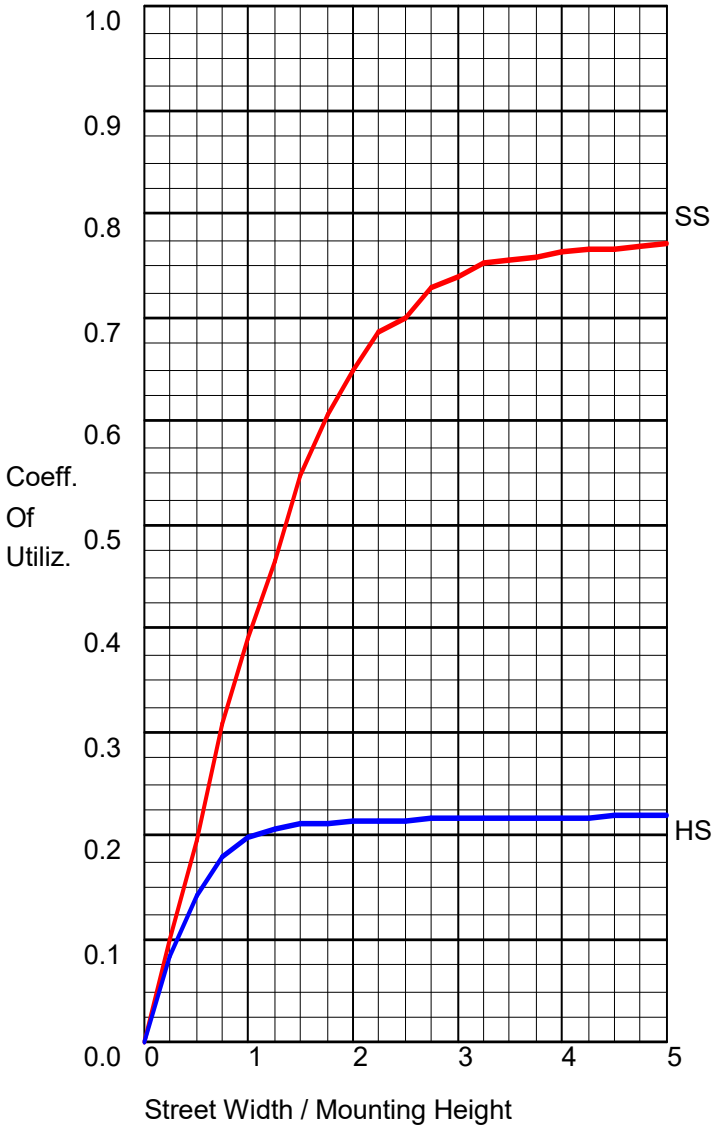
IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-525MA-40K.IES

COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	7480.1	78.0
Downward House Side	2111.8	22.0
Downward Total	9591.9	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	9591.9	100.0

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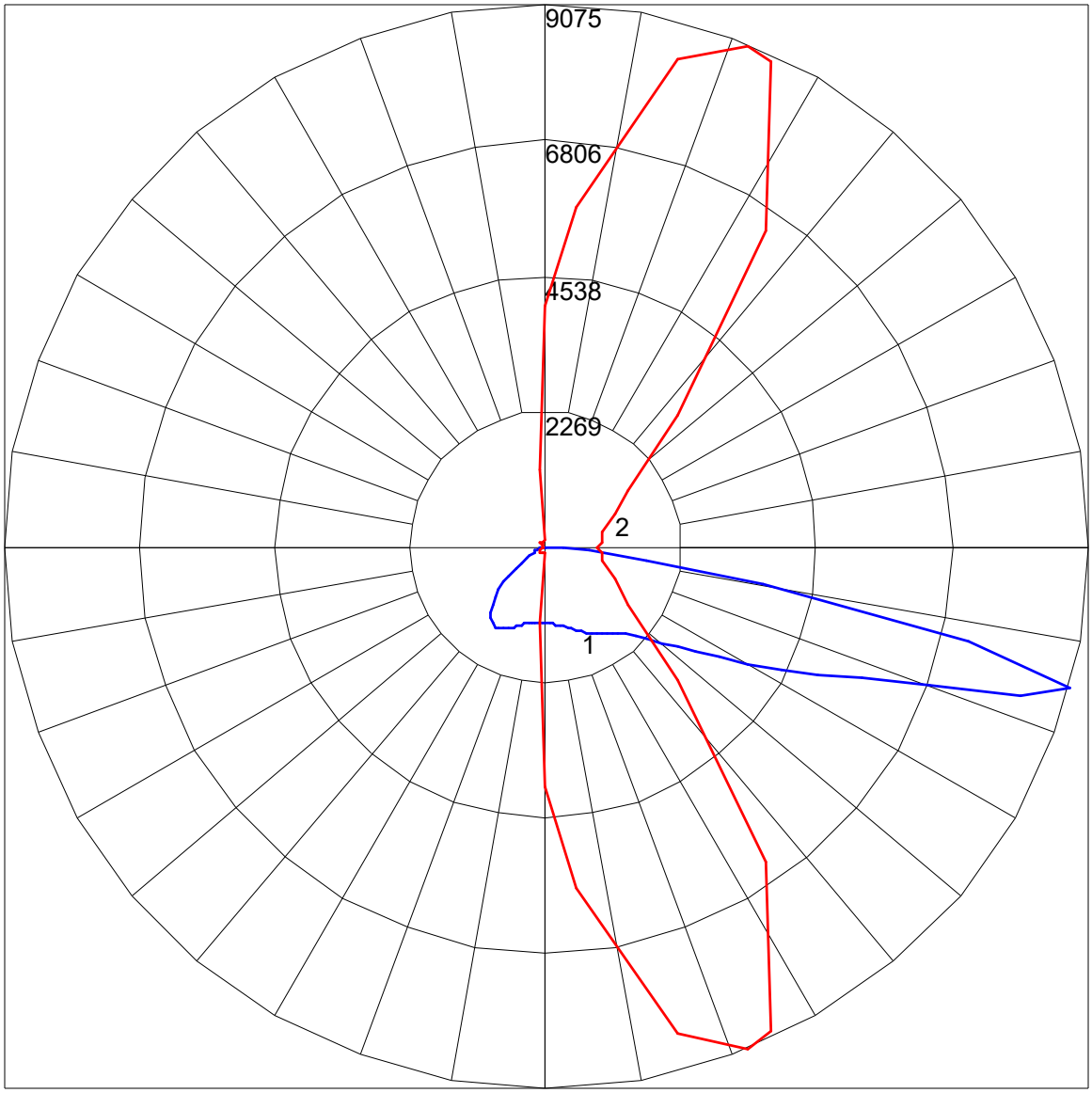
POLAR GRAPH



Maximum Candela = 9075 Located At Horizontal Angle = 68, Vertical Angle = 75
1 - Vertical Plane Through Horizontal Angles (68 - 248) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (75) (Through Max. Cd.)

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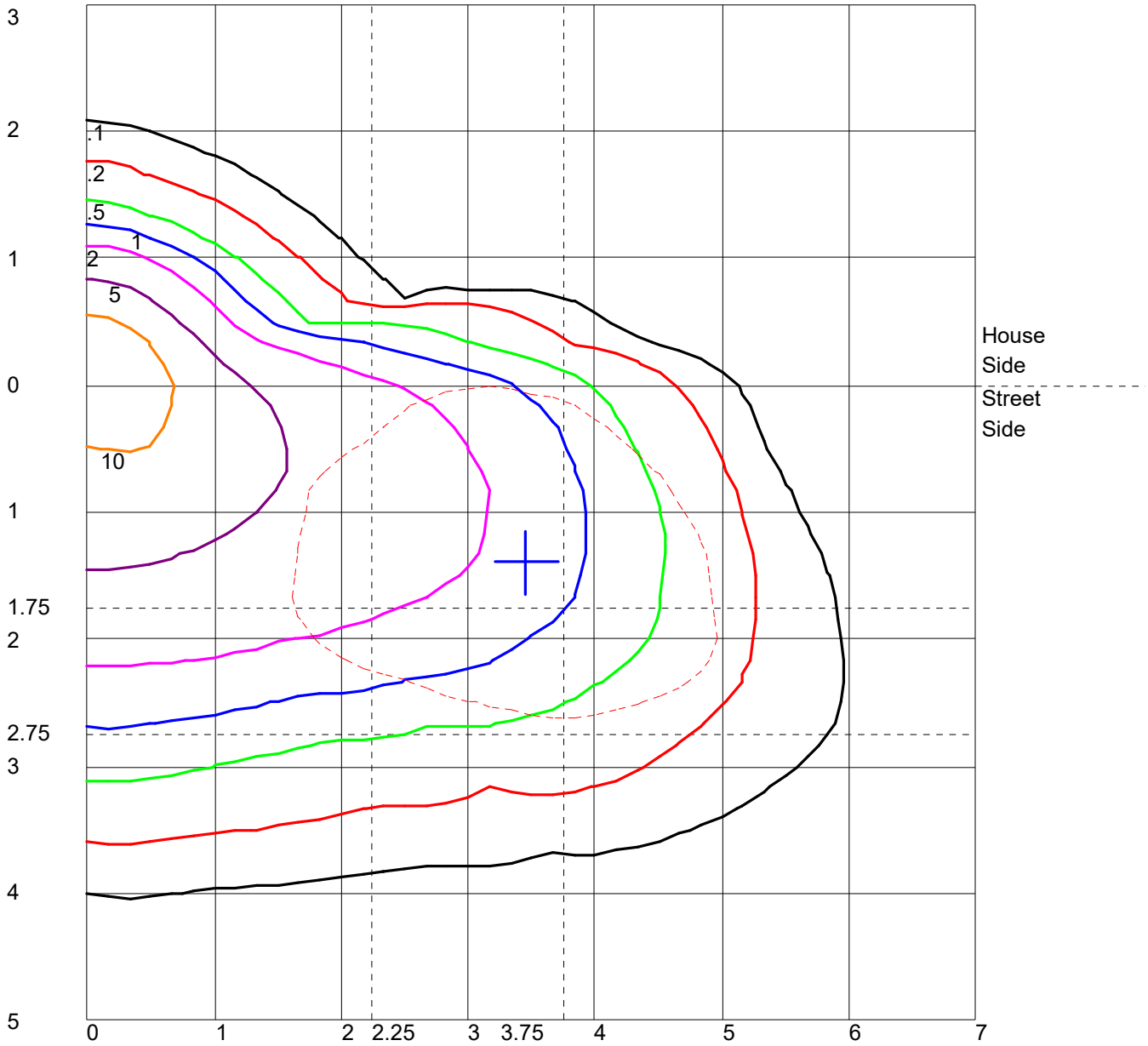
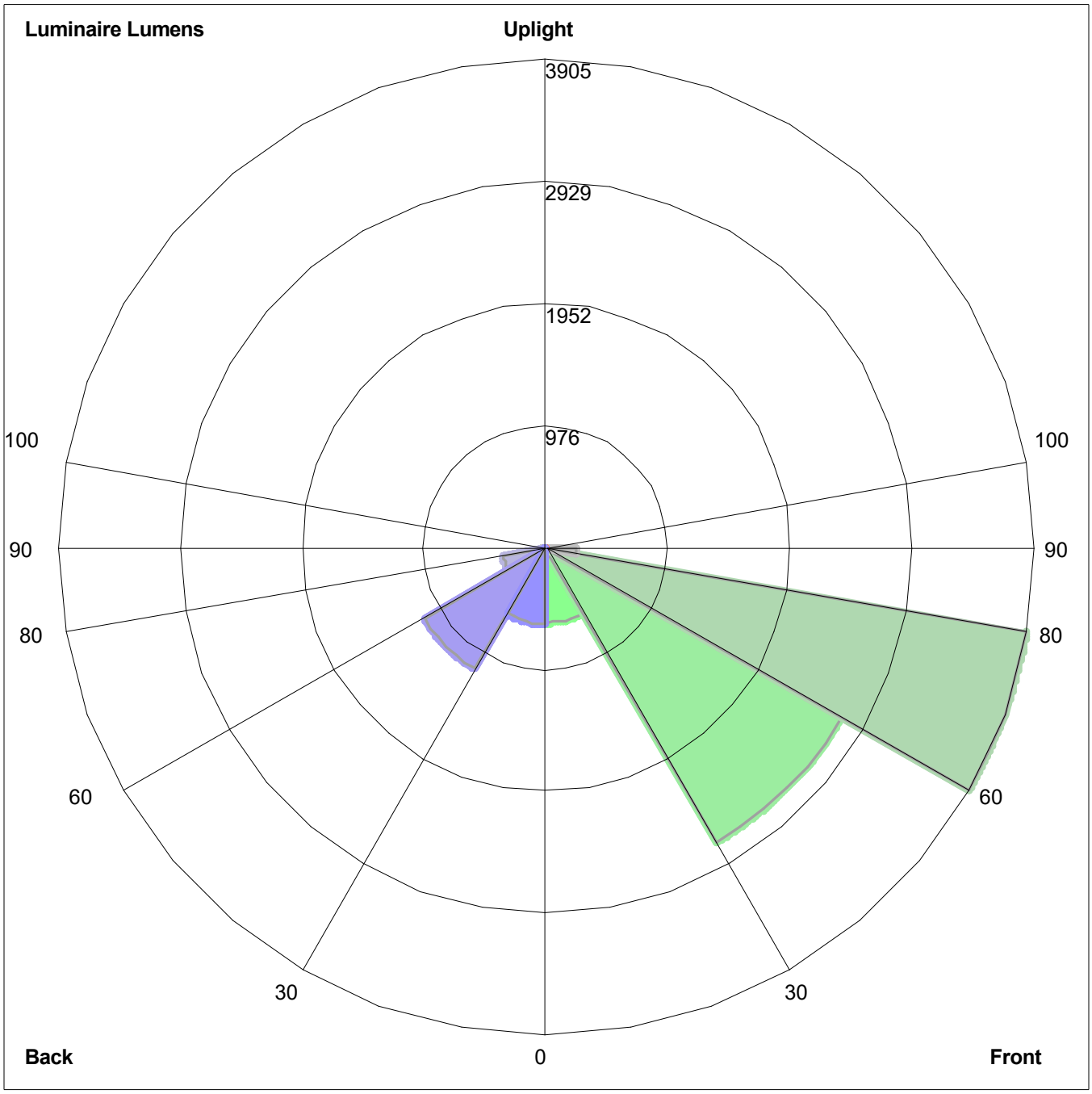
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-525MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=601.8, Medium=2726.9, High=3904.9, Very High=246.6
Back: Low=613.2, Medium=1122.3, High=349.3, Very High=27.0
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G3

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type III W

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

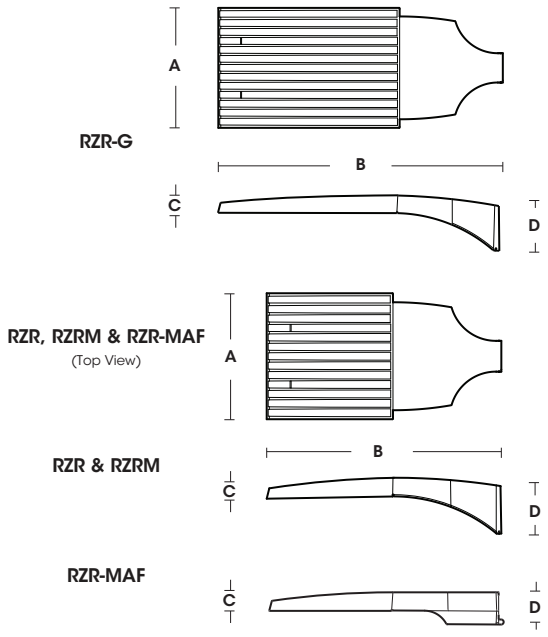
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

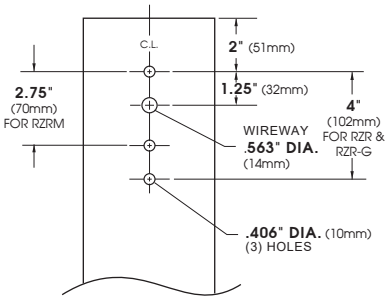
U.L. Listed for Wet Location

BABA COMPLIANT

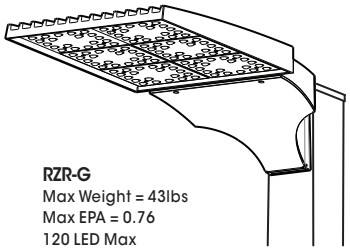
2024281

SPECIFICATIONS

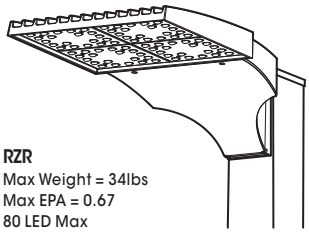
POLE DRILLING TEMPLATE



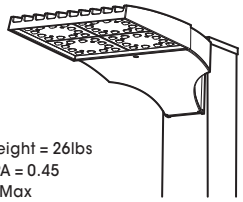
EPA & WEIGHT



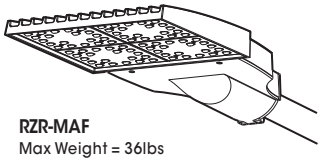
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

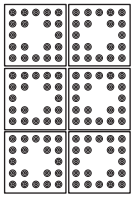


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

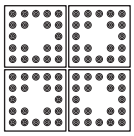


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

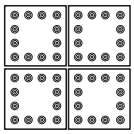
PLED™ MODULES



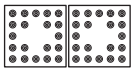
120 LED Module



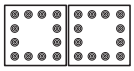
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**	**Voltage**	**Mounting**	**Finish**	**Options**
☐ RZR-G ☐ RZR ☐ RZR-MAF ☐ RZRM	PLED™ Distribution Type ☐ PLED-II ☐ PLED-II-FR ☐ PLED-II-MIL ☐ PLED-III ☐ PLED-III-W ☐ PLED-IV ☐ PLED-IV-FT ☐ PLED-VSQ-N ☐ PLED-V-SQ-M ☐ PLED-V-SQ-W	# of LEDs **RZR-G** ☐ 120LED ☐ 80LED **RZR / RZR-MAF** ☐ 80LED ☐ 40LED **RZRM** ☐ 48LED ☐ 24LED Drive Current ☐ 1400mA[1] ☐ 1225mA[1] ☐ 1050mA ☐ 875mA ☐ 700mA ☐ 525mA ☐ 350mA Color Temp - CCT ☐ 27K (2700K) ☐ 30K (3000K) ☐ 40K (4000K) ☐ 50K (5000K) ☐ TRA True Amber Consult Factory for Other LED Color, CCT, & CRI Options NOTES: 1 - 1400mA & 1225mA drive currents not available in RZRM 2 - TRA available in 350mA & 525mA drive currents only. Consult Factory for Other Drive Currents	☐ UNV (120-277) ☐ 347 ☐ 480	Arm Mount ☐ 1 ☐ 2-180 ☐ 2-90 ☐ 3-90 ☐ 3-120 ☐ 4-90 Wall Mount ☐ WM WM - Wall Mount provided with mounting bracket and cover.	Standard Textured Finish ☐ Black 9005-T ☐ White 9003-T ☐ Grey 7004-T ☐ Dark Bronze 8019-T ☐ Green 6005-T Premium Finishes ☐ Rust ☐ Patina Copper PC For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S) Consult factor for custom colors	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED** ☐ External Glare Shield 4 Sided **EGS4** ☐ External Glare Shield 3 Sided Rear Wedge **EGS3W** ☐ Round Pole Adapter **RPA** ☐ Twist Lock Receptable Only **TPR** ☐ 7-Pin Twist Lock Receptable Only **TPR7** ☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW** ☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V** ☐ Photo Cell + Voltage (Example: PC120V) **PC+V** ☐ Single Fuse (120V, 277V) **SF** ☐ Double Fuse (208V, 240V) **DF** ☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL88707-PR
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-III-W-40LED-700mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 86.8 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 12142
[_BUGRATING] LCS B2-U0-G3 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type III
Longitudinal Classification	Medium
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	12142
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	86.8
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	11487
Maximum Candela Angle	68H 75V
Maximum Candela (<90 Degrees Vertical)	11487
Maximum Candela Angle (<90 Degrees Vertical)	68H 75V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	4728 (38.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

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Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	761.7	N.A.	6.3
FM - Front-Medium (30-60)	3451.8	N.A.	28.4
FH - Front-High (60-80)	4942.8	N.A.	40.7
FVH - Front-Very High (80-90)	312.1	N.A.	2.6
BL - Back-Low (0-30)	776.2	N.A.	6.4
BM - Back-Medium (30-60)	1420.6	N.A.	11.7
BH - Back-High (60-80)	442.1	N.A.	3.6
BVH - Back-Very High (80-90)	34.2	N.A.	0.3
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	12141.5	N.A.	100.0
BUG Rating	B2-U0-G3		

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0	5	15	25	35	45	55	65	68	75
0.0	1624	1624	1624	1624	1624	1624	1624	1624	1624	1624
2.5	1637	1637	1635	1637	1635	1633	1633	1633	1633	1635
5.0	1641	1643	1641	1644	1646	1646	1646	1648	1646	1650
7.5	1630	1635	1635	1644	1653	1659	1664	1668	1668	1670
10.0	1612	1617	1624	1639	1657	1673	1686	1697	1697	1697
12.5	1597	1603	1615	1639	1666	1690	1712	1726	1728	1726
15.0	1601	1606	1617	1646	1683	1712	1741	1761	1764	1766
17.5	1612	1621	1637	1668	1710	1744	1779	1806	1812	1815
20.0	1633	1641	1664	1704	1752	1790	1832	1864	1872	1875
22.5	1664	1675	1699	1746	1803	1852	1901	1937	1943	1939
25.0	1710	1719	1746	1801	1863	1917	1986	2023	2021	1997
27.5	1775	1783	1810	1864	1926	1990	2085	2112	2092	2052
30.0	1868	1884	1897	1952	2003	2065	2181	2177	2148	2117
32.5	1981	1994	2010	2061	2105	2154	2248	2219	2199	2186
35.0	2085	2105	2121	2172	2228	2268	2306	2245	2236	2248
37.5	2219	2232	2243	2296	2361	2394	2383	2299	2285	2314
40.0	2368	2385	2396	2447	2507	2536	2488	2390	2374	2414
42.5	2541	2558	2574	2634	2685	2710	2636	2530	2505	2548
45.0	2708	2725	2754	2819	2881	2914	2814	2701	2678	2723
47.5	2876	2898	2932	3003	3087	3134	3023	2919	2899	2936
50.0	3056	3080	3120	3212	3298	3376	3272	3192	3183	3211
52.5	3231	3258	3303	3414	3531	3642	3573	3512	3512	3485
55.0	3400	3445	3498	3616	3767	3934	3942	3893	3900	3807
57.5	3565	3614	3702	3840	4007	4244	4377	4393	4375	4207
60.0	3654	3703	3833	4051	4293	4580	4893	4990	4960	4658
62.5	3703	3749	3929	4220	4578	4977	5422	5695	5646	5239
65.0	3673	3713	3945	4349	4835	5475	5959	6441	6381	5881
67.5	3400	3458	3680	4196	4990	5965	6738	7271	7243	6785
70.0	2927	2980	3074	3482	4580	6343	7736	8626	8662	8437
72.5	2099	2161	2183	2477	3278	5943	8582	10539	10576	10112
75.0	1099	1181	1241	1626	2114	3976	8169	11360	11487	10690
77.5	589	611	635	889	1395	2403	5915	9099	9182	8033
80.0	415	380	413	504	819	1572	3130	4728	4684	3563
82.5	171	164	236	284	384	824	1735	2323	2150	1199
85.0	65	62	102	135	189	362	882	1066	930	473
87.5	33	33	60	56	64	138	357	424	367	198
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	85	90	95	105	115	125	135	145	155	165
0.0	1624	1624	1624	1624	1624	1624	1624	1624	1624	1624
2.5	1633	1630	1628	1628	1624	1624	1613	1619	1615	1610
5.0	1643	1637	1635	1633	1626	1623	1610	1612	1610	1606
7.5	1659	1653	1648	1639	1630	1624	1612	1619	1619	1617
10.0	1683	1672	1664	1650	1639	1635	1630	1641	1646	1650
12.5	1710	1695	1684	1666	1657	1659	1664	1681	1693	1703
15.0	1744	1728	1713	1693	1690	1704	1719	1748	1766	1775
17.5	1795	1775	1754	1730	1735	1766	1797	1834	1850	1859
20.0	1846	1821	1795	1772	1788	1837	1879	1917	1928	1928
22.5	1892	1863	1843	1828	1852	1903	1946	1977	1979	1972
25.0	1948	1928	1914	1903	1921	1959	1983	2001	1994	1981
27.5	2021	2012	1999	1975	1977	1994	1988	1986	1966	1948

CANDELA TABULATION - (Cont.)

30.0	2106	2101	2085	2037	2008	1994	1952	1921	1888	1868
32.5	2203	2192	2159	2077	2006	1945	1868	1819	1774	1746
35.0	2292	2268	2219	2085	1963	1854	1757	1693	1639	1608
37.5	2372	2339	2261	2052	1875	1728	1623	1553	1501	1473
40.0	2468	2407	2286	1985	1754	1581	1468	1406	1362	1361
42.5	2565	2468	2297	1888	1604	1412	1302	1244	1204	1235
45.0	2678	2528	2290	1777	1424	1224	1122	1060	1028	1030
47.5	2803	2587	2285	1653	1237	1040	935	871	839	811
50.0	2936	2661	2303	1512	1033	853	766	686	642	617
52.5	3092	2781	2354	1332	833	689	600	518	480	444
55.0	3300	2947	2421	1102	660	546	453	378	342	326
57.5	3554	3145	2487	864	526	415	337	284	258	253
60.0	3853	3367	2545	648	411	309	255	215	191	196
62.5	4211	3636	2587	493	317	244	196	178	160	162
65.0	4697	4005	2608	378	251	196	164	153	142	144
67.5	5568	4637	2647	298	204	171	149	146	131	129
70.0	6678	5326	2583	229	169	156	151	138	120	116
72.5	7549	5663	2279	175	142	142	153	133	109	102
75.0	7251	5091	1635	140	124	135	146	124	98	89
77.5	4582	2958	837	116	111	127	136	116	87	75
80.0	1286	960	351	102	93	120	129	104	76	58
82.5	398	306	162	73	78	107	116	91	64	45
85.0	171	122	104	49	64	85	85	67	45	29
87.5	42	40	40	31	38	53	53	40	25	13
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	**Horizontal Angles**	
	175	**180**
0.0	1624	1624
2.5	1612	1604
5.0	1606	1599
7.5	1623	1615
10.0	1655	1650
12.5	1710	1704
15.0	1784	1783
17.5	1866	1863
20.0	1932	1928
22.5	1972	1970
25.0	1979	1977
27.5	1946	1945
30.0	1863	1861
32.5	1741	1735
35.0	1599	1595
37.5	1473	1481
40.0	1402	1408
42.5	1239	1250
45.0	1010	1022
47.5	804	809
50.0	600	618
52.5	453	464
55.0	347	360
57.5	269	267
60.0	213	213
62.5	173	173
65.0	146	146

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Results derived from content of manufacturers photometric file.

CANDELA TABULATION - (Cont.)

67.5	129	129
70.0	115	115
72.5	100	98
75.0	87	84
77.5	71	67
80.0	51	49
82.5	31	27
85.0	13	11
87.5	2	0
90.0	0	0

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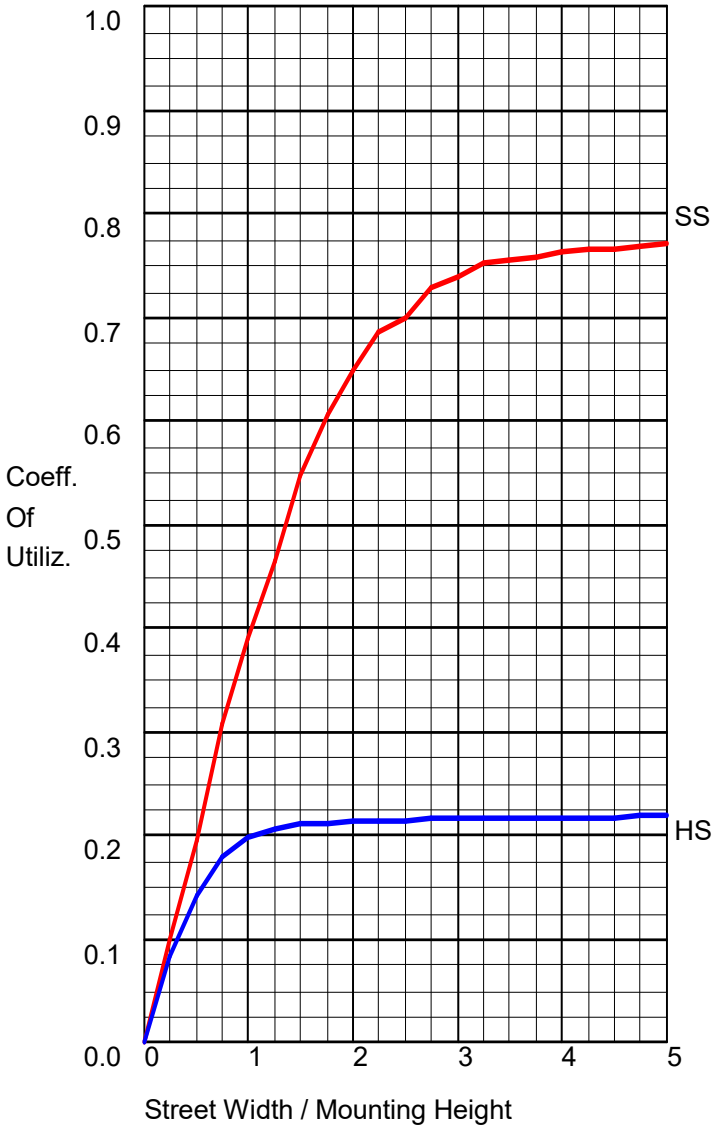
IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	9468.5	78.0
Downward House Side	2673.0	22.0
Downward Total	12141.5	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	12141.5	100.0

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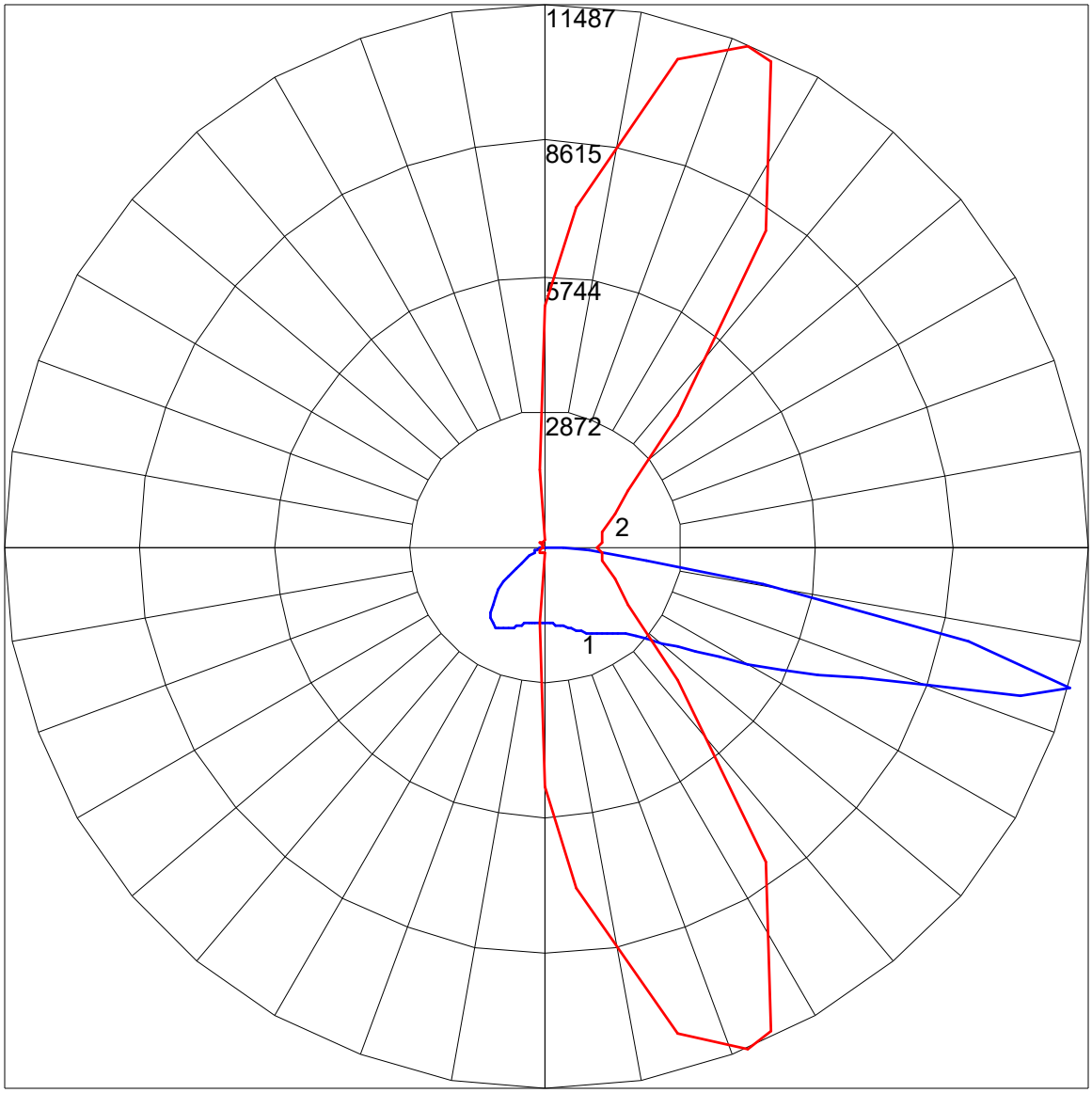
IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

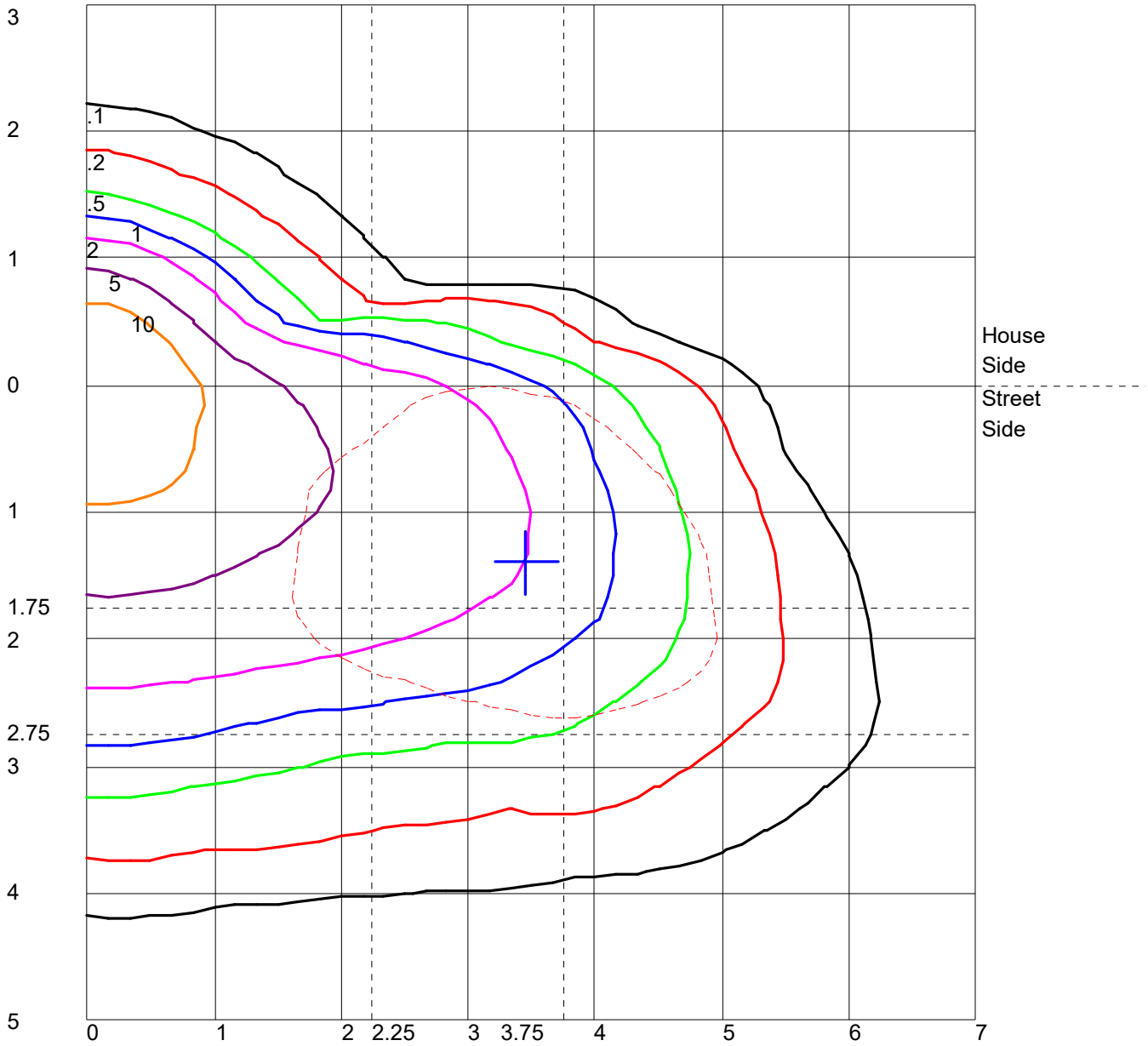
POLAR GRAPH



Maximum Candela = 11487 Located At Horizontal Angle = 68, Vertical Angle = 75
1 - Vertical Plane Through Horizontal Angles (68 - 248) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (75) (Through Max. Cd.)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

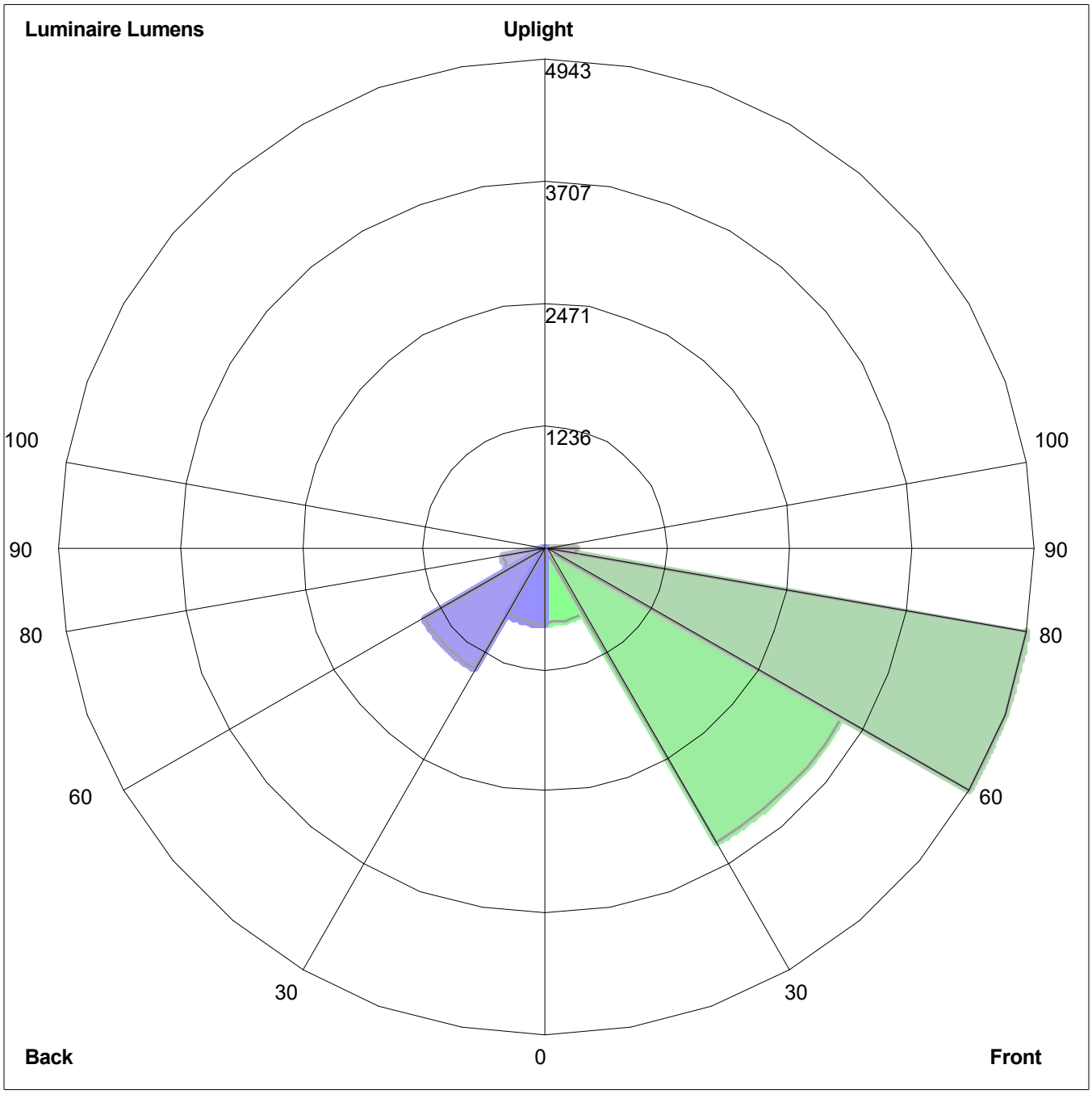
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-III-W-40LED-700MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=761.7, Medium=3451.8, High=4942.8, Very High=312.1
Back: Low=776.2, Medium=1420.6, High=442.1, Very High=34.2
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G3

U.S. ARCHITECTURAL LIGHTING

AREA & ROADWAY LIGHTING

PROJECT NAME:

PROJECT TYPE:

IMEG

Type IV FT

RAZAR SERIES - LED

LOW PROFILE AREA LUMINAIRE

RZR

(Models: RZRM, RZR, RZR-G & RZR-MAF)

Optical Housing

Heavy cast aluminum assembly minimum wall thickness .188". LED Module mounting area is machined to within a 0.002" surface flatness variance for maximum surface contact and thermal conductivity from the LED modules to the radiating fins. Passive radiating fins above the LED Optics provide superior thermal management and long LED life.The optical and electrical compartments are integrated with the support arm to create one assembly. Cast and hinged driver compartment cover allows access to the drivers and wiring.

Electrical Housing w/ Integrated Arm

Heavy cast aluminum assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

Mast Arm Fitter/Electrical Housing

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.

PLED™ Optics

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. LED optics completely seal each individual emitter to meet an IP66 rating. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side, maximizing usable light. Optional house side shields are available that cover each individual optic. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments. Quick-disconnects are provided above each panel for fast field replacement. All fixture optical options will provide a "U0" no uplight optical package and is are dark sky friendly.

LED Emitters

LED thermal management is designed to maintain LED operating temperature below 90 °C, well below the manufacturers thermal max of 150 °C for long life, high lumen maintenance and color stabilit. High Power White LED's are driven between 350mA and 875mA for a maximum output of 2.5 Watts nominal. LED's are available in standard Warm White (2700K & 3000K), Neutral White (4000K), or Cool White (5000K). All Standard LED's have a minimum of 70 CRI. Consult Factory for other LED options. Lumen Maintenance of L94 at 60,000 hours (TM-21 calculated at 6x Test Time).

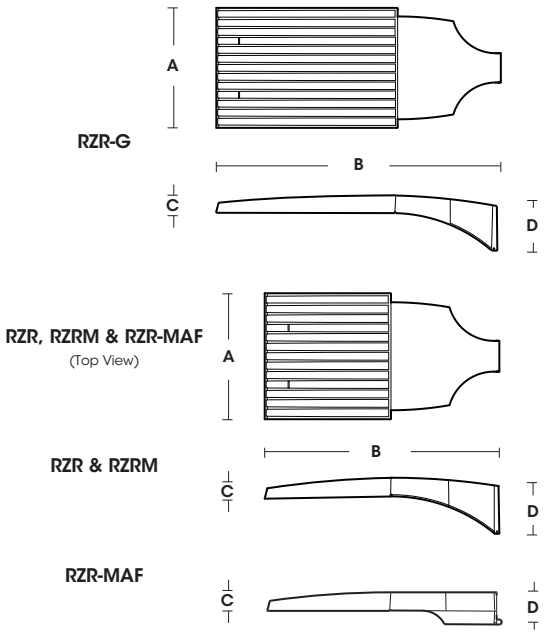
True Amber LED's TRA-True Amber LED's emit light in the amber spectral bandwidth centered on 585-590nm. True Amber has negligible blue light and is suitable for wildlife.

LED Driver

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F/-40°C. Driver(s) is/are UL and cUL recognized. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50/60Hz. 0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with a separate 20KV surge protector for field installation.

Finish

Super TGIC polyester powder coating is applied onto a metal substrate this has been pretreated with a four-stage process for maximum adhesion and color retention. The top coat is baked at 400° F for maximum hardness and exterior durability.



Fixture	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

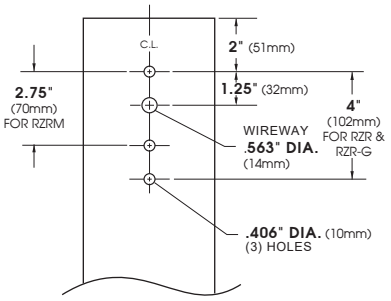
U.L. Listed for Wet Location

BABA COMPLIANT

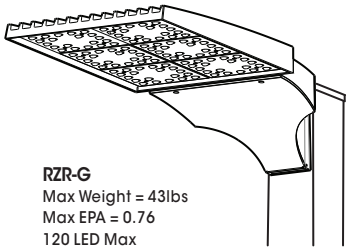
2024281

SPECIFICATIONS

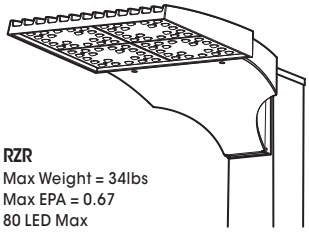
POLE DRILLING TEMPLATE



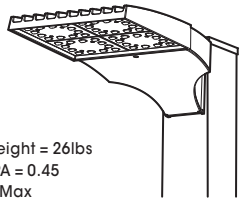
EPA & WEIGHT



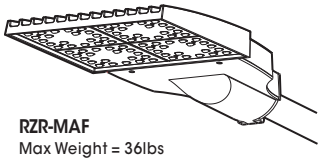
RZR-G
Max Weight = 43lbs
Max EPA = 0.76
120 LED Max



RZR
Max Weight = 34lbs
Max EPA = 0.67
80 LED Max

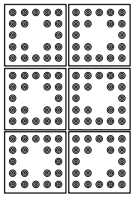


RZRM
Max Weight = 26lbs
Max EPA = 0.45
48 LED Max

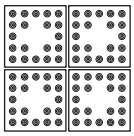


RZR-MAF
Max Weight = 36lbs
Max EPA = 0.56
80 LED Max

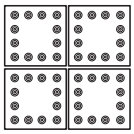
PLED™ MODULES



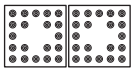
120 LED Module



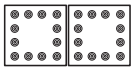
80 LED Module



48 LED Module



40 LED Module



24 LED Module

ORDERING INFORMATION

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/UNV/8019-S

Luminaire	Optics	LED Mode	Voltage	Mounting	Finish	Options
Luminaire	**Optics**	**LED**	**Voltage**	**Mounting**	**Finish**	**Options**
	PLED™ Distribution Type	# of LEDs / Drive Current / Color Temp - CCT		Arm Mount	Standard Textured Finish	
☐ RZR-G	☐ PLED-II	RZR-G: ☐ 120LED, ☐ 80LED	☐ UNV (120-277)	☐ 1	☐ Black **9005-T**	☐ Internal House Side Shield inc. LED Count (Example: HS-PLED/48) **HS-PLED**
	☐ PLED-II-FR	Drive Current: ☐ 1400mA[1], ☐ 1225mA[1], ☐ 1050mA, ☐ 875mA, ☐ 700mA, ☐ 525mA, ☐ 350mA	☐ 347	☐ 2-180	☐ White **9003-T**	☐ External Glare Shield 4 Sided **EGS4**
	☐ PLED-II-MIL	Color Temp - CCT: ☐ 27K (2700K), ☐ 30K (3000K), ☐ 40K (4000K), ☐ 50K (5000K)	☐ 480	☐ 2-90	☐ Grey **7004-T**	☐ External Glare Shield 3 Sided Rear Wedge **EGS3W**
☐ RZR	☐ PLED-III	RZR / RZR-MAF: ☐ 80LED, ☐ 40LED		☐ 3-90	☐ Dark Bronze **8019-T**	☐ Round Pole Adapter **RPA**
☐ RZR-MAF	☐ PLED-III-W	☐ TRA True Amber		☐ 3-120	☐ Green **6005-T**	☐ Twist Lock Receptable Only **TPR**
	☐ PLED-IV	Consult Factory for Other LED Color, CCT, & CRI Options		☐ 4-90	Premium Finishes	☐ 7-Pin Twist Lock Receptable Only **TPR7**
	☐ PLED-IV-FT				☐ Rust	☐ High-Low Dimming for Switch by Others/Select Levels 50/100 or 25/100 (Example: HLSW/25) **HLSW**
☐ RZRM	☐ PLED-VSQ-N	RZRM: ☐ 48LED, ☐ 24LED		Wall Mount	☐ Patina Copper **PC**	☐ Twist Lock Photocell + Voltage (Example: TPC347V) **TPC+V**
	☐ PLED-V-SQ-M	NOTES: 1 - 1400mA & 1225mA drive currents not available in RZRM; 2 - TRA available in 350mA & 525mA drive currents only.		☐ WM	For smooth finish replace suffix "T" with suffix "S" (Example: 9500-S)	☐ Photo Cell + Voltage (Example: PC120V) **PC+V**
	☐ PLED-V-SQ-W	Consult Factory for Other Drive Currents		WM - Wall Mount provided with mounting bracket and cover.	Consult factor for custom colors	☐ Single Fuse (120V, 277V) **SF**
						☐ Double Fuse (208V, 240V) **DF**
						☐ Blue-Tooth Programmable Photo/Motion Sensor (Factory - Motion 50/100; Photo 75fc) **MS-F311**

ELECTRICAL DATA GUIDE - AMPERAGE CHART

ELECTRICAL LOAD			CURRENT (Amps)				
# of LEDs	mA	System Watts	120V	208V	277V	347V	480V
24	350	26	0.21	0.12	0.09	0.07	0.05
24	525	39	0.32	0.19	0.14	0.11	0.08
24	700	52	0.43	0.25	0.19	0.15	0.11
24	875	67	0.55	0.32	0.24	0.19	0.14
24	1050	81	0.67	0.39	0.29	0.23	0.17
48	350	52	0.43	0.25	0.19	0.15	0.11
48	525	78	0.65	0.37	0.28	0.22	0.16
48	700	104	0.87	0.50	0.38	0.30	0.22
48	875	133	1.11	0.64	0.48	0.38	0.28
48	1050	162	1.35	0.78	0.58	0.47	0.34
40	350	43	0.36	0.21	0.15	0.12	0.09
40	525	65	0.54	0.31	0.23	0.19	0.14
40	700	87	0.72	0.42	0.31	0.25	0.18
40	875	111	0.92	0.53	0.40	0.32	0.23
40	1050	135	1.12	0.65	0.49	0.39	0.28
40	1225	159	1.32	0.76	0.57	0.46	0.33
40	1400	183	1.53	0.88	0.66	0.53	0.38
80	350	86	0.72	0.41	0.31	0.25	0.18
80	525	130	1.08	0.62	0.47	0.37	0.27
80	700	174	1.45	0.83	0.63	0.50	0.36
80	875	222	1.85	1.06	0.80	0.64	0.46
80	1050	270	2.25	1.30	0.97	0.78	0.56
80	1225	318	2.65	1.53	1.15	0.92	0.66
80	1400	366	3.05	1.76	1.32	1.06	0.76
120	350	129	1.07	0.62	0.46	0.37	0.27
120	525	195	1.62	0.94	0.70	0.56	0.41
120	700	260	2.17	1.25	0.94	0.75	0.54
120	875	332	2.77	1.60	1.20	0.96	0.69
120	1050	404	3.37	1.94	1.46	1.17	0.84
120	1225	477	3.97	2.29	1.72	1.37	0.99
120	1400	549	4.58	2.64	1.98	1.58	1.14

PHOTOMETRIC DATA GUIDE - LM-80 LUMEN MAINTENANCE

LED LUMEN MAINTENANCE (350mA to 1050mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L96	0.96x
100,000 (6X LED Test Hrs)	L93	0.93x
150,000 (Theoretical)	L89	0.90x
200,000 (Theoretical)	L86	0.87x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.

LED LUMEN MAINTENANCE (1225mA & 1400mA)		
LED Life / Operating Hours	Lumen Depreciation	Lumen Depreciation Scale Factor
60,000	L93	0.93x
100,000 (6X LED Test Hrs)	L89	0.89x
150,000 (Theoretical)	L84	0.84x
200,000 (Theoretical)	L80	0.80x

TM-21 6x Test Time Dicatates that L93 > 100,000 Hours.
Lumen Depreciation Calculations Done in Accordance With IESNA TM-21 & LM-80 (25°C Ambient)

IES File downloads for this product can be found at www.usaltg.com/downloads/asr.html

COOPER Lighting

Photometric Toolbox

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] ITL89292-GONIOPHOTOMETRY
[TESTLAB] INDEPENDENT TESTING LABORATORIES, INC.
[ISSUEDATE] 10/4/2024
[MANUFAC] U.S. ARCHITECTURAL LIGHTING
[LUMCAT] RZR-PLED-IV-FT-40LED-700mA-40K
[LUMINAIRE] CAST BLACK PAINTED FINNED METAL HOUSING.
[LAMP] 40 WHITE LIGHT EMITTING DIODES (LEDS), BASE UP.
[_OPTIC] 1 CLEAR PLASTIC OPTIC BELOW EACH LED.
[_LUMEN_SCALE] PRORATED FROM 2020 PLED TO 2023 PLED TESTS.
[_INPUT_ELECTRICAL] 120.0 VOLTS, 86.8 WATTS
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTELUMENS] 11822
[_BUGRATING] LCS B2-U0-G3 RATING
[_SEARCH_SOURCETYPE] LED
[_SEARCH_COLORTEMP] 4000K
[_SEARCH_CRI] 70
[_SEARCH_MOUNTING] Arm, Pole, Wall
[_SEARCH_APPLICATION] Outdoor, Architectural, Area, Amusement, Automotive, Government, Healthcare, Hospitality, Hotel, In
[MORE] Street, Walkway, Corrosion Resistant, Vandal Resistant, Wet Location

CHARACTERISTICS

IES Classification	Type IV
Longitudinal Classification	Short
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11822
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	136
Total Luminaire Watts	86.8
Ballast Factor	1.00
Upward Waste Light Ratio	0.00
Maximum Candela	9681
Maximum Candela Angle	31.5H 74V
Maximum Candela (<90 Degrees Vertical)	9681
Maximum Candela Angle (<90 Degrees Vertical)	31.5H 74V
Maximum Candela At 90 Degrees Vertical	0 (0.0% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	3296 (27.9% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

Photometric Toolbox Professional Edition - Copyright 2002-2011 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

	Lumens	% Lamp	% Luminaire
FL - Front-Low (0-30)	805.6	N.A.	6.8
FM - Front-Medium (30-60)	3310.2	N.A.	28.0
FH - Front-High (60-80)	5006.4	N.A.	42.3
FVH - Front-Very High (80-90)	370.9	N.A.	3.1
BL - Back-Low (0-30)	792.9	N.A.	6.7
BM - Back-Medium (30-60)	1056.8	N.A.	8.9
BH - Back-High (60-80)	435.6	N.A.	3.7
BVH - Back-Very High (80-90)	43.9	N.A.	0.4
UL - Uplight-Low (90-100)	0.0	N.A.	0.0
UH - Uplight-High (100-180)	0.0	N.A.	0.0
Total	11822.3	N.A.	100.0
BUG Rating	B2-U0-G3		

Photometric Toolbox Professional Edition - Copyright 2002-2011 by Lighting Analysts, Inc.
Calculations based on published IES Methods and recommendations, values rounded for display purposes.
Results derived from content of manufacturers photometric file.

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	0.0	5.0	15.0	25.0	31.5	35.0	45.0	55.0	65.0	75.0
0.0	2023	2023	2023	2023	2023	2023	2023	2023	2023	2023
2.5	2006	2006	2005	1999	2003	2012	2005	2010	2015	2023
5.0	1974	1972	1972	1968	1975	1985	1981	1994	2006	2019
7.5	1939	1934	1934	1932	1939	1948	1950	1970	1992	2015
10.0	1901	1897	1897	1890	1899	1910	1915	1945	1977	2015
12.5	1864	1861	1854	1850	1857	1872	1886	1925	1972	2023
15.0	1821	1814	1806	1806	1814	1832	1857	1910	1974	2039
17.5	1768	1763	1754	1759	1775	1795	1839	1904	1986	2068
20.0	1726	1715	1699	1715	1743	1768	1830	1915	2012	2106
22.5	1713	1697	1659	1679	1715	1748	1834	1937	2048	2148
25.0	1728	1708	1644	1655	1699	1737	1843	1972	2095	2192
27.5	1770	1743	1663	1657	1701	1743	1864	2012	2146	2236
30.0	1817	1790	1710	1690	1728	1764	1892	2059	2203	2279
32.5	1879	1850	1781	1768	1784	1806	1926	2119	2268	2330
35.0	1934	1901	1846	1848	1854	1868	1975	2196	2356	2396
37.5	1925	1895	1864	1928	1939	1950	2054	2305	2476	2485
40.0	1923	1894	1886	2030	2061	2070	2170	2454	2632	2587
42.5	1970	1945	1974	2183	2245	2256	2348	2650	2796	2685
45.0	2048	2039	2117	2383	2503	2517	2610	2870	2961	2801
47.5	2172	2176	2296	2623	2818	2869	2943	3078	3123	2952
50.0	2367	2377	2539	2945	3225	3318	3298	3294	3332	3154
52.5	2643	2656	2845	3336	3614	3738	3660	3556	3600	3436
55.0	2996	3016	3212	3745	4031	4164	4051	3867	3938	3789
57.5	3460	3483	3689	4251	4551	4628	4482	4262	4362	4202
60.0	3947	3982	4204	4782	5111	5193	4957	4749	4891	4584
62.5	4431	4480	4735	5382	5739	5843	5561	5308	5302	4771
65.0	4995	5060	5359	6061	6461	6572	6254	5844	5519	4622
67.5	5723	5801	6135	6867	7251	7414	6987	6139	5328	4056
70.0	6568	6658	7043	7896	8322	8437	7496	5914	4471	3103
72.5	7241	7294	7880	9008	9450	9268	7212	4844	3196	2097
74.0	7247	7236	7927	9324	9681	9157	6343	3762	2408	1595
75.0	6927	6876	7571	9119	9364	8540	5430	3020	1954	1313
77.5	5066	4828	4882	6114	6290	5459	2885	1721	1075	715
80.0	2798	2896	2990	3296	3085	2634	1510	829	524	317
82.5	1864	1850	2097	2243	1988	1564	749	362	266	144
85.0	1017	1017	1250	1368	1166	835	313	167	149	100
87.5	422	427	535	551	418	258	85	56	56	40
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal Angles									
	85.0	90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0
0.0	2023	2023	2023	2023	2023	2023	2023	2023	2023	2023
2.5	2026	2026	2026	2026	2032	2025	2026	2034	2032	2028
5.0	2026	2028	2032	2034	2039	2032	2032	2034	2026	2023
7.5	2032	2037	2039	2046	2048	2035	2026	2021	2010	1997
10.0	2039	2048	2057	2059	2057	2034	2015	2001	1981	1966
12.5	2059	2070	2077	2075	2065	2034	2001	1977	1950	1932
15.0	2086	2097	2105	2095	2070	2025	1983	1948	1914	1890
17.5	2121	2132	2134	2110	2070	2010	1957	1910	1868	1835
20.0	2159	2166	2165	2123	2059	1983	1917	1859	1804	1768
22.5	2196	2196	2183	2119	2034	1939	1855	1784	1726	1683
25.0	2228	2217	2190	2097	1981	1868	1772	1688	1626	1579

CANDELA TABULATION - (Cont.)

27.5	2252	2228	2186	2054	1904	1768	1663	1570	1508	1464
30.0	2270	2228	2168	1988	1799	1641	1532	1437	1381	1344
32.5	2292	2226	2136	1897	1668	1497	1386	1301	1251	1221
35.0	2314	2216	2088	1779	1515	1335	1228	1157	1121	1100
37.5	2332	2190	2012	1635	1341	1162	1066	1011	991	979
40.0	2341	2143	1912	1466	1155	993	906	873	868	866
42.5	2350	2092	1803	1275	966	833	764	746	757	773
45.0	2390	2074	1715	1086	791	678	646	640	671	709
47.5	2488	2119	1672	906	635	560	549	566	606	660
50.0	2668	2236	1690	749	508	453	466	511	566	624
52.5	2905	2428	1777	653	407	382	407	467	529	588
55.0	3218	2665	1894	595	338	331	367	429	489	542
57.5	3516	2892	2019	571	289	287	338	397	449	500
60.0	3734	3018	2035	538	262	269	309	360	407	453
62.5	3765	3005	1974	500	260	260	296	324	371	413
65.0	3505	2792	1824	469	293	249	267	302	342	375
67.5	2930	2345	1572	429	307	282	286	311	346	369
70.0	2165	1752	1228	395	313	338	331	340	369	378
72.5	1468	1204	891	346	282	333	366	382	344	317
74.0	1148	953	724	309	255	302	364	397	302	293
75.0	970	817	629	286	231	271	329	342	280	275
77.5	571	495	400	218	171	215	258	246	246	227
80.0	255	289	236	147	124	167	209	209	215	169
82.5	113	129	120	100	95	122	147	171	162	113
85.0	64	62	65	76	75	82	93	115	96	62
87.5	22	20	27	40	35	40	45	47	40	25
90.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	**Horizontal Angles**	
	175.0	**180.0**
0.0	2023	2023
2.5	2030	2032
5.0	2023	2023
7.5	1995	1995
10.0	1961	1961
12.5	1926	1925
15.0	1879	1881
17.5	1824	1824
20.0	1754	1755
22.5	1666	1668
25.0	1561	1563
27.5	1444	1448
30.0	1326	1332
32.5	1206	1213
35.0	1086	1093
37.5	973	977
40.0	869	869
42.5	788	793
45.0	737	744
47.5	700	708
50.0	664	673
52.5	631	638
55.0	582	586
57.5	531	537
60.0	484	487

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Results derived from content of manufacturers photometric file.

CANDELA TABULATION - (Cont.)

62.5	433	435
65.0	384	384
67.5	367	367
70.0	369	369
72.5	326	333
74.0	302	302
75.0	280	280
77.5	231	233
80.0	153	140
82.5	73	64
85.0	20	9
87.5	5	0
90.0	0	0

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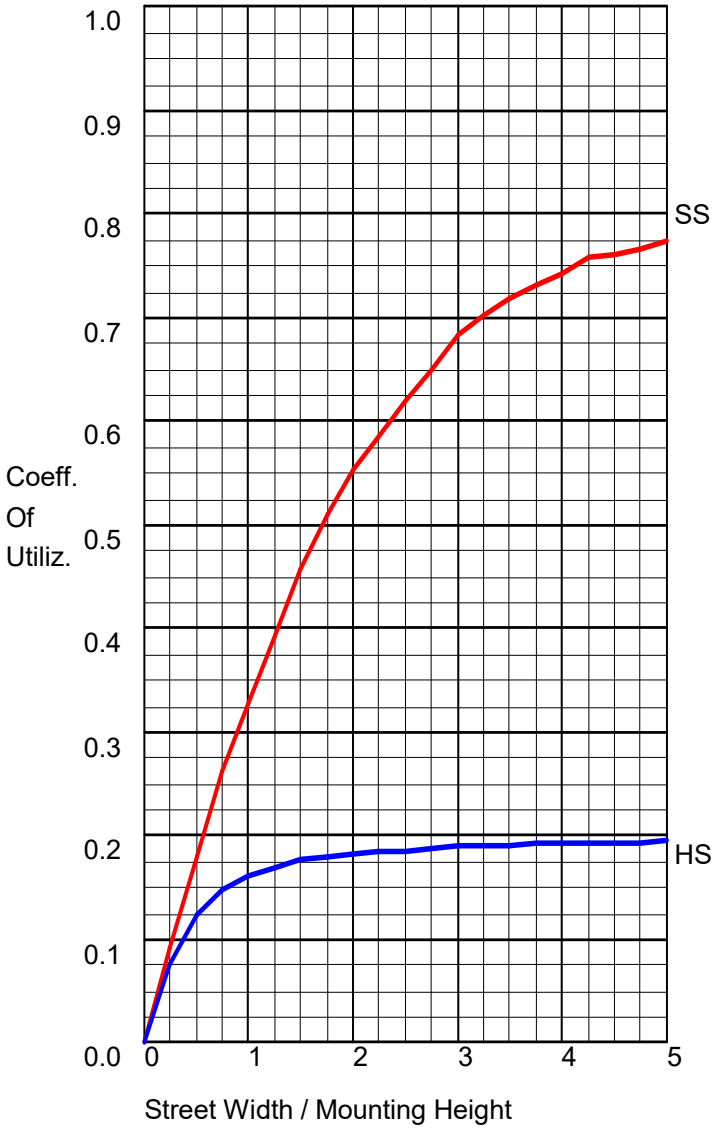
IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

	Lumens	Percent Of Luminaire
Downward Street Side	9493.1	80.3
Downward House Side	2329.1	19.7
Downward Total	11822.2	100.0
Upward Street Side	0.0	0.0
Upward House Side	0.0	0.0
Upward Total	0.0	0.0
Total Flux	11822.2	100.0

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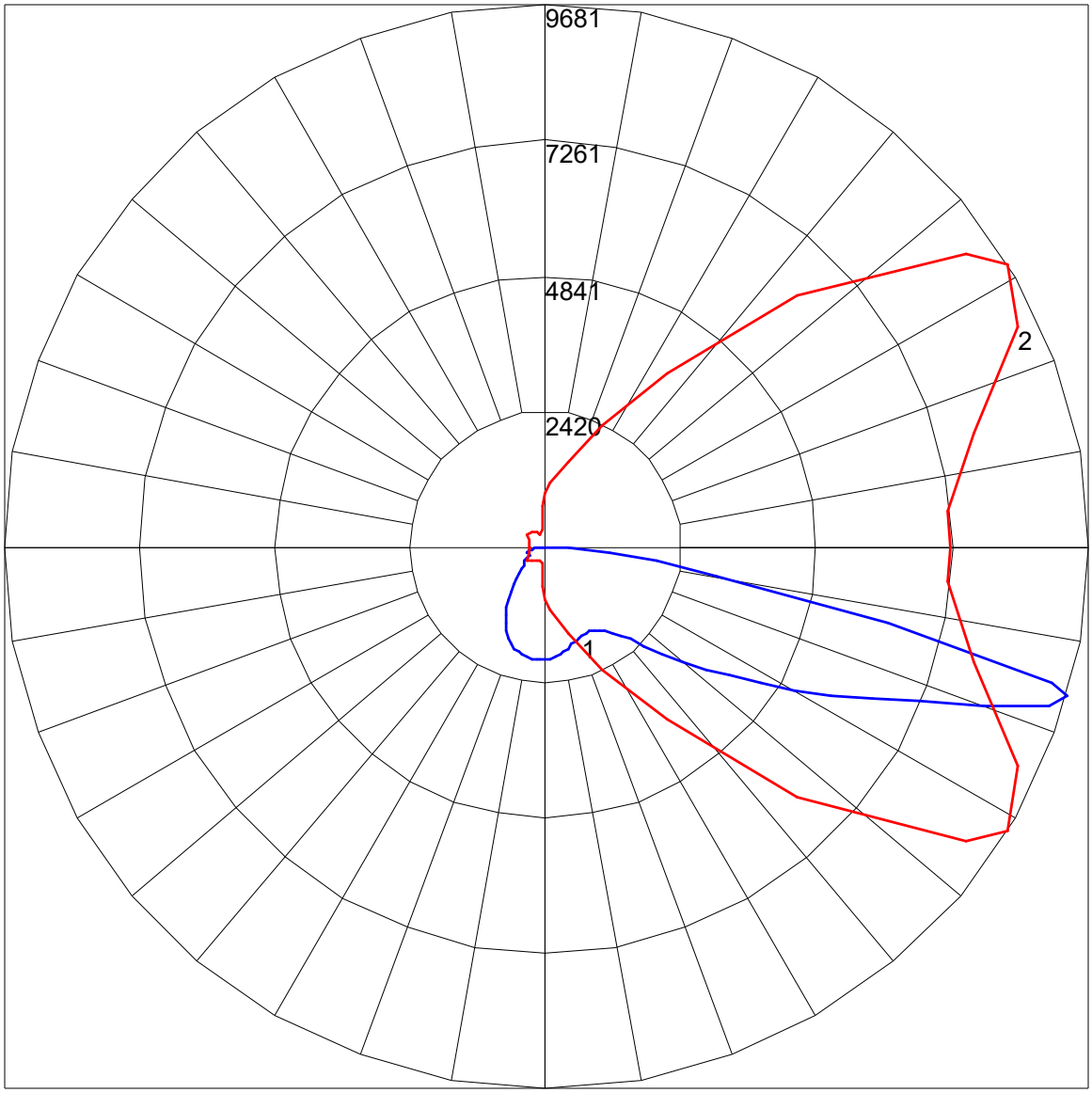
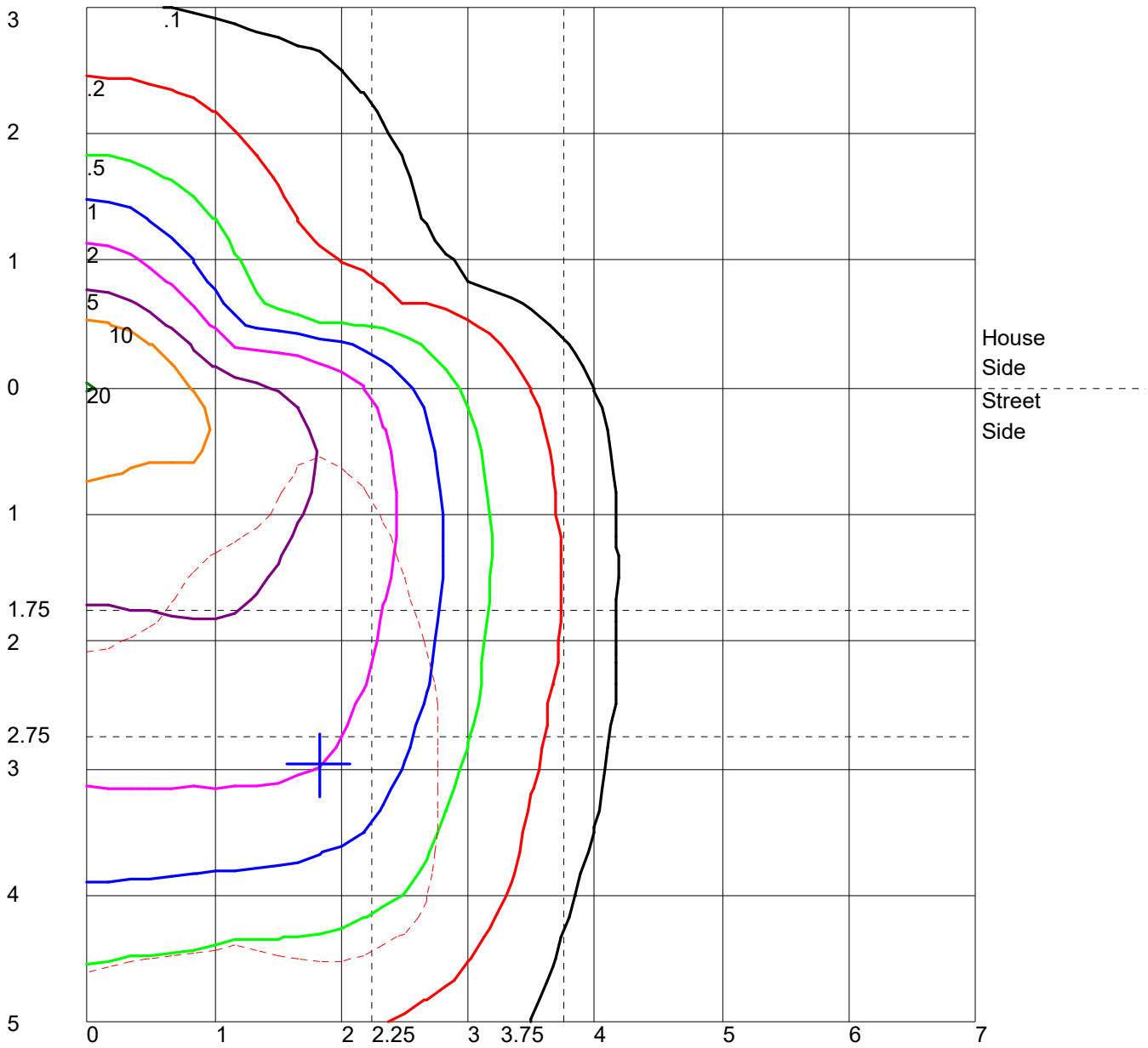
POLAR GRAPH



Maximum Candela = 9681 Located At Horizontal Angle = 31.5, Vertical Angle = 74
1 - Vertical Plane Through Horizontal Angles (31.5 - 211.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (74) (Through Max. Cd.)

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

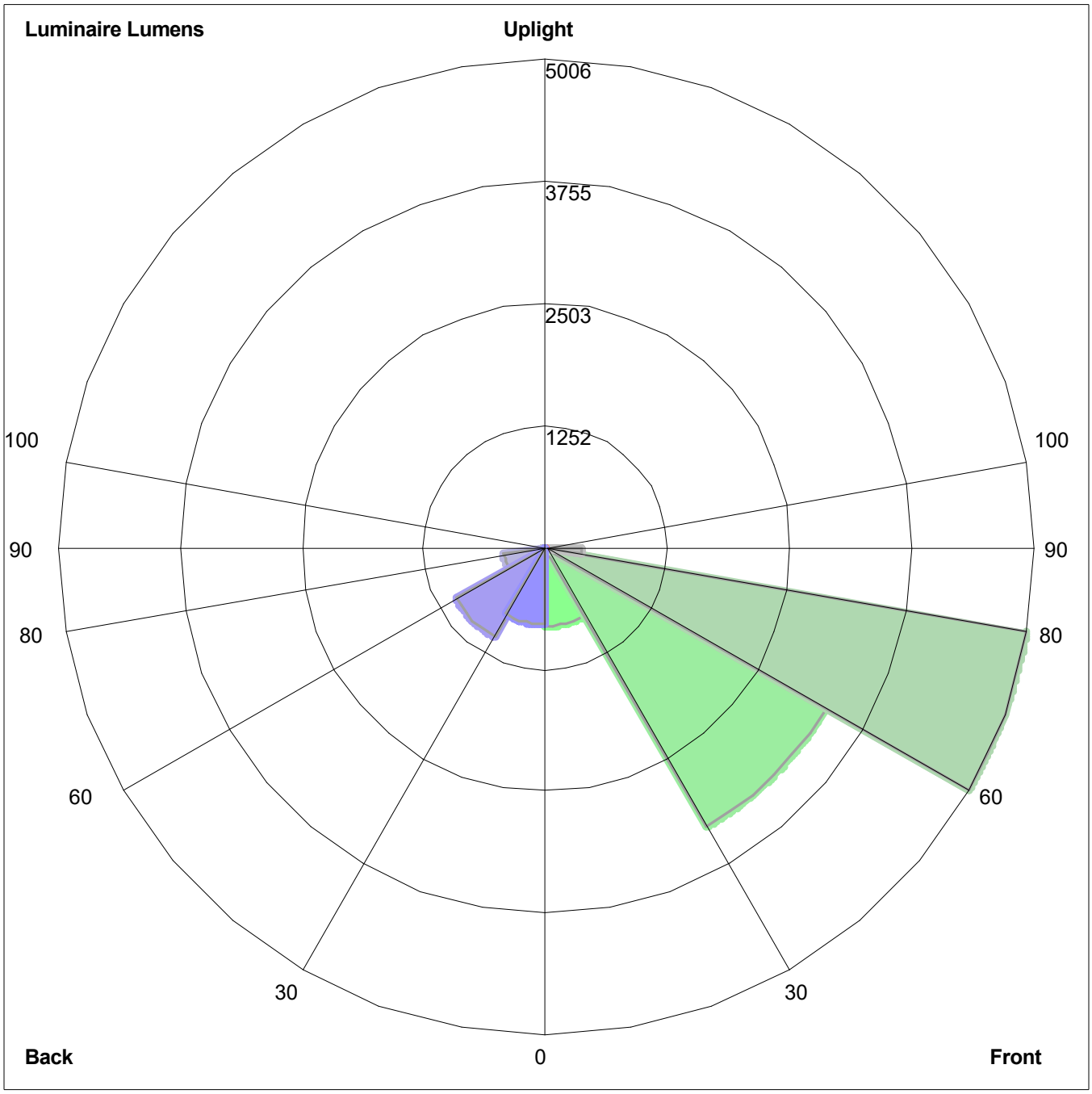
ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On 10 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

IES ROAD REPORT
PHOTOMETRIC FILENAME : RZR-PLED-IV-FT-40LED-700MA-40K.IES

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=805.6, Medium=3310.2, High=5006.4, Very High=370.9
Back: Low=792.9, Medium=1056.8, High=435.6, Very High=43.9
Uplight: Low=0.0, High=0.0

BUG Rating : B2-U0-G3