

URBAN DESIGN COMMISSION APPLICATION

UDC

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



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

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

FOR OFFICE USE ONLY:

Paid _____ Receipt # _____
Date received _____
Received by _____
Aldermanic District _____
Zoning District _____
Urban Design District _____
Submittal reviewed by _____

1. Project Information

Address: 3330 Atwood Ave, Madison, WI 53704
Title: Olbrich Botanical Gardens, Expansion Phase 1

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

UDC meeting date requested February 7, 2018.

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

3. Project Type

- ☐ Project in an Urban Design District
☐ Project in the Downtown Core District (DC), Urban Mixed-Use District (UMX), or Mixed-Use Center District (MXC)
☐ Project in the Suburban Employment Center District (SEC), Campus Institutional District (CI), or Employment Campus District (EC)
☐ Planned Development (PD)
 ☐ General Development Plan (GDP)
 ☐ Specific Implementation Plan (SIP)
☐ Planned Multi-Use Site or Residential Building Complex
- Signage**
☐ Comprehensive Design Review (CDR)
☐ Signage Variance (i.e. modification of signage height, area, and setback)
- Other**
☒ Please specify
 Public Building

4. Applicant, Agent, and Property Owner Information

Applicant name Eric Knepp, Parks Superintendent Company City of Madison Parks Division
Street address 210 Martin Luther King Jr. Blvd, Rm104 City/State/Zip Madison, WI 53703
Telephone 608-266-4207 Email eknepp@cityofmadison.com

Project contact person Stephen Bellairs Company MSR Design
Street address 710 S. 2nd St, 8th Floor City/State/Zip Minneapolis, MN 55401
Telephone 612-315-0246 Email stephen@msrdesign.com

Property owner (if not applicant) _____
Street address _____ City/State/Zip _____
Telephone _____ Email _____

5. Required Submittal Materials

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

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

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

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

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

6. Applicant Declarations

1. Prior to submitting this application, the applicant is required to discuss the proposed project with Urban Design Commission staff. This application was discussed with Janine Glaeser, Urban Design Commission Secretary on October 19, 2017.
2. The applicant attests that all required materials are included in this submittal and understands that if any required information is not provided by the application deadline, the application will not be placed on an Urban Design Commission agenda for consideration.

Applicant name Eric Knepp, Parks Superintendent Relationship to property City of Madison Parks Division

Authorized signature of Property Owner  Date 7/16/18

7. Application Filing Fees

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

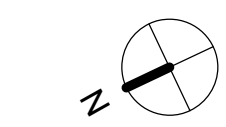
Please consult the schedule below for the appropriate fee for your request:

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

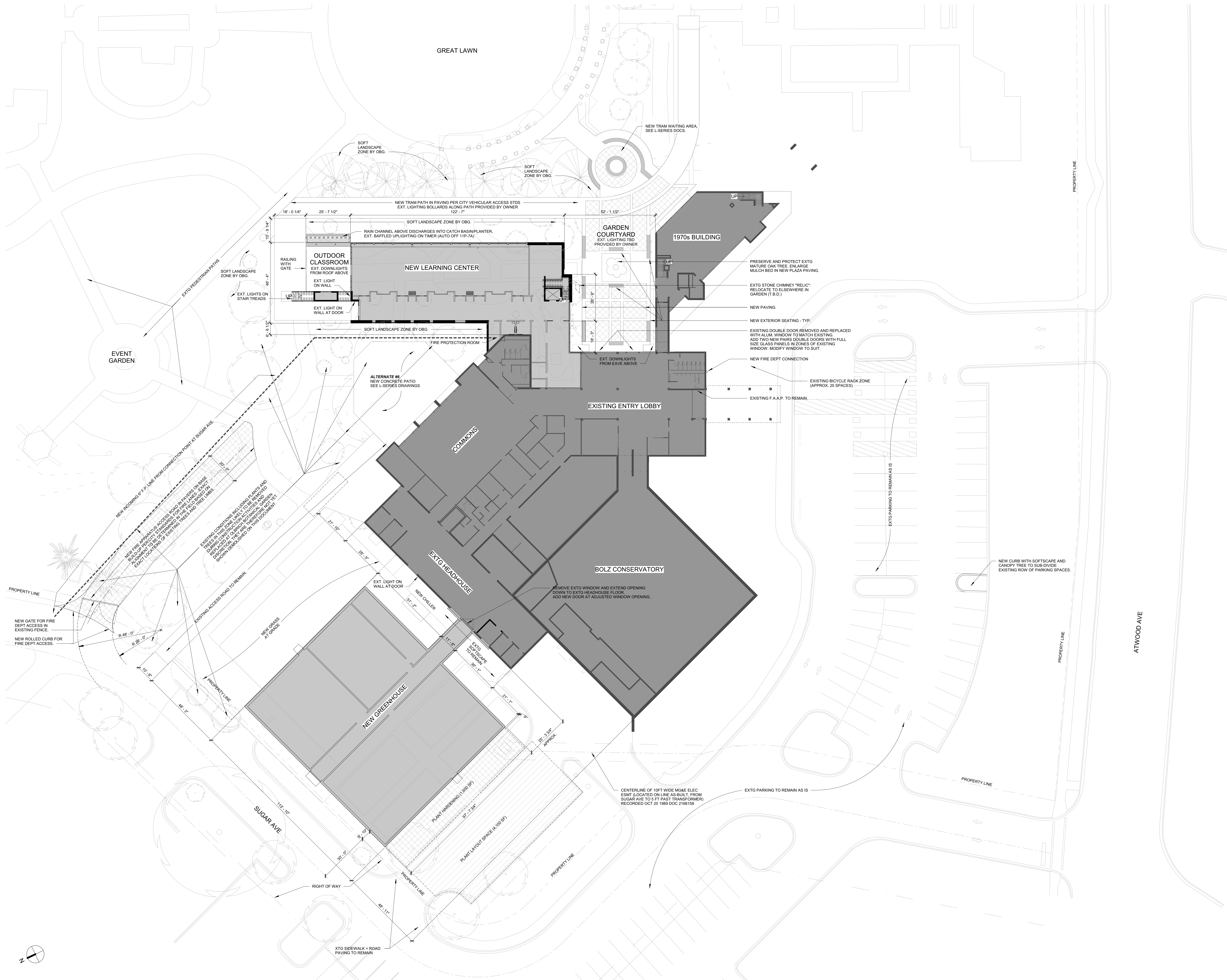
A filing fee is not required for the following project applications if part of the combined application process involving both Urban Design Commission and Plan Commission:

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

D:\proj\2017\2017016 - Olbrich Botanical Gardens Expansion Phase 1\A001 - SITE PLAN - ARCHITECTURAL.dwg 11/28/2017 11:47 AM C:\ProgramData\Autodesk\LT2017\Help\Readme.htm



1 SITE PLAN - ARCHITECTURAL
A001 1" = 20'-0"



MSR 710 South 2nd Street, 8th Floor
Minneapolis, Minnesota 55401-2282
Architecture 612.375.0336 tel
Interiors and 612.342.2216 fax
Urban Design www.msrdesign.com

Civil Engineer
Vierbicher Associates, Inc.

999 Fournier Drive, Suite 201
Madison, WI 53717
608.826.0532 tel

Landscape Architect
Ken Saiki Design, Inc.

303 South Paterson Street, Suite 1
Madison, WI 53703
608.251.3600 tel

Structural Engineer, Technology and AV
IMEG Corp.

1800 Denning Way, Suite 200
Middleton, WI 53562
608.223.9600 tel

MEP Engineer
MEP Associates, LLC

860 Blue Garden Road, Suite 175
Eagan, MN 55121
651.379.9120 tel

Fire Protection Engineer and Code Consultant
Summit Fire Consulting

575 Minnehaha Ave West
St. Paul, MN 55103
651.251.1880 tel

Greenhouse Design
Rough Brothers, Inc.

5513 Vine Street
Cincinnati, OH 45217
513.242.0310 tel

Olbrich Botanical Gardens Expansion Phase 1 3330 Atwood Avenue Madison, WI 53704

I hereby certify that this plan, specification or report was prepared
by me or under my direct supervision and that I am a duly
Licensed Architect under the Laws of the State of Wisconsin.
ARCHITECT SEAL

Signature: _____
Print Names: _____
Date: _____ License No: _____

ISSUE	MARK	DATE	DESCRIPTION
		09.29.2017	SCHEMATIC DESIGN SUBMISSION
		12.08.2017	DD PRICING SET
		01.10.2018	DESIGN DEVELOPMENT SUBMISSION
		01.17.2018	UDC SUBMISSION

PROJECT NO. 2017016

PROJECT PHASE DESIGN DEVELOPMENT

DRAWN BY: MSR CHECKED BY: MSR

Issued 2017 Copyright Wayne, Schuman & Associates, LLC

ARCHITECTURAL
SITE PLAN

A001

3330 Atwood Avenue
Madison, WI 53704

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.
ARCHITECT SEAL

Signature: _____

Print Names: _____

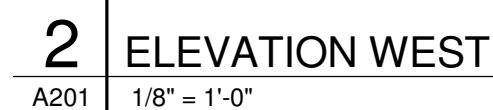
PROJECT NO.	2017016
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PROJECT PHASE	DESIGN DEVELOPMENT
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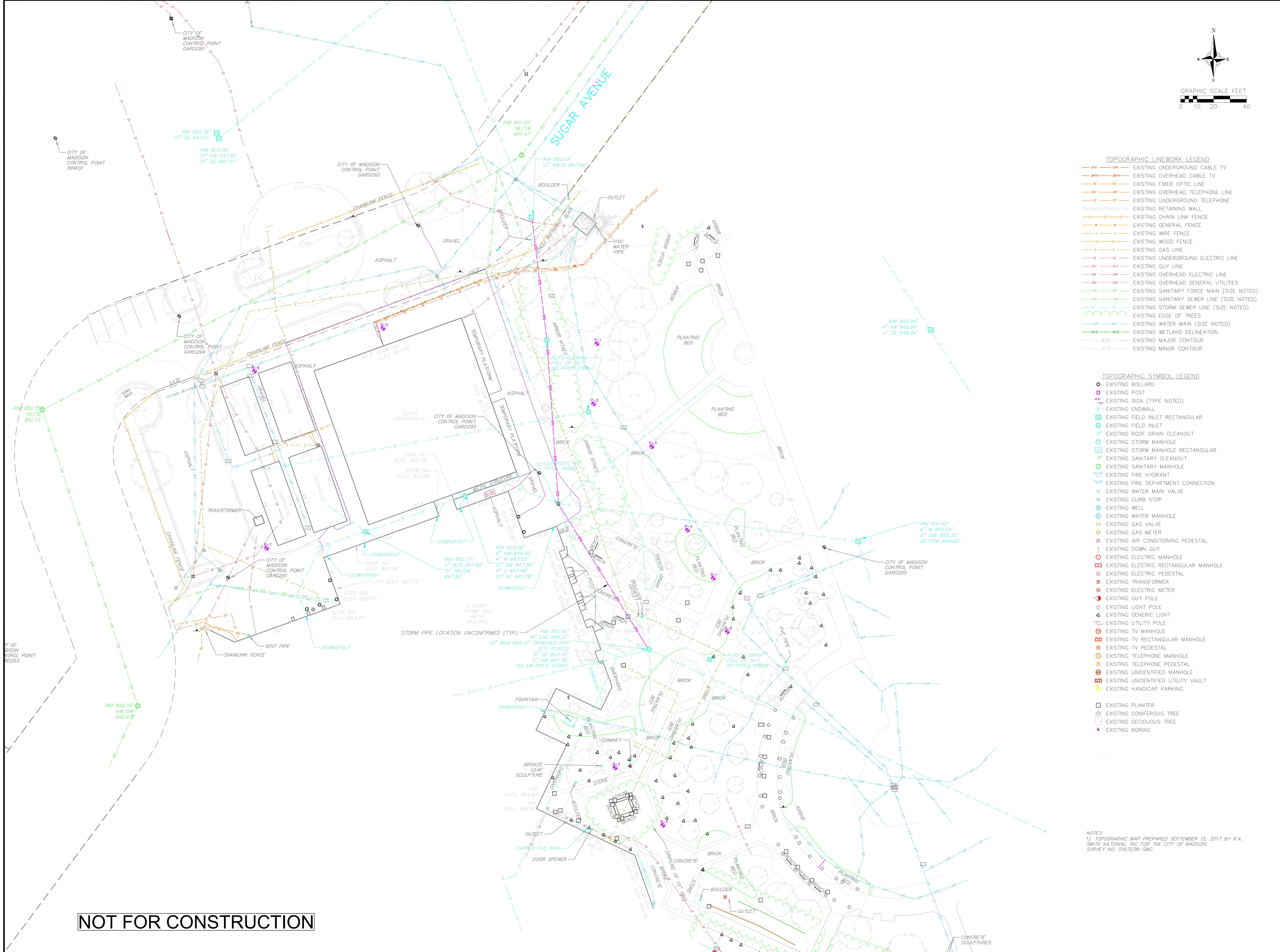
DRAWN BY: MSR	CHECKED BY: MSR
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A201



NOTE: NOT ALL MATERIALS APPLICABLE TO ELEVATIONS			FOR UDC SUBSECTION
MATERIAL / PRODUCT ID LIST			SPEC SECTION
ID	DESCRIPTION		
ACCL-1	ACOUSTICAL CEILING SYSTEM		09-5113
ACCL-2	ACOUSTICAL CEILING SYSTEM		09-5113
ACP-1	ACOUSTICAL PANEL SYSTEM		09-0433
ACFL	ACROUSTIC FLOORING		09-0000
ACP	ACCESS PANEL		08-3311
CMP	COLD-FORMED METAL FRAMING		05-4000
CMU	CONCRETE MASONRY UNIT		04-2200
CONC-1	SEAL COAT CONCRETE FINISH		03-0000
CONC-2	SEAL COAT CONCRETE FINISH		03-5543
CP-1	CARPET TILE FLOORING - PLANK		09-0633
CP-2	CARPET TILE FLOORING - PLANK		09-0633
CP-3	CARPET TILE FLOORING - PLANK		09-0633
CT-1	CARPET TILE FLOORING - PLANK		09-0633
ELV-1	HYDRAULIC MRL ELEVATOR		12-2400
ELV-2	FIRE EXTINGUISHING CABINET		14-4416
GDR-1	GYPSONUM BOARD		04-2000
GDR-1A	GLASS ANNEALED GLASS		10-1000
GDR-1B	GLASS QUARTERBOARD - WHITE		10-1000
GDR-1B	GLASS QUARTERBOARD - BLACK		10-1100
GDR-1	MONOLITHIC GLASS MIRROR		08-5000
GDR-1	METAL HANDRAIL		05-8300
INS-1	INSULATION GLASS UNIT		08-8000
INSUL-1	BELOW GRADE INSULATION		07-2100
INSUL-2	CONTINUOUS WALL INSULATION		07-2100
INSUL-3	BUTT INSULATION		07-2100
LNFL-1	LINOLEUM FLOORING		09-6516
LNFL-1	LOVEER		08-9819
MP-1	METAL PANEL		07-4313.13
MP-2	METAL PANEL - BLACKENED STEEL		10-5000 (?)
MP-2	MONOLITHIC METAL PANEL FRAMING		09-2216
OP-1	OPERABLE PARTITION		02-2209
PLAM-1	PLASTIC LAMINATE		06-4116
PLAM-2	PLASTIC LAMINATE		06-4116
PL-1	INTERIOR PART - FLAT		09-9123
PL-2	INTERIOR PART - EGGSHELL		09-9123
PL-3	HIGH-PERFORMANCE INTERIOR PART - SEMI-GLOSS		09-9123
PL-3B	HIGH-PERFORMANCE INTERIOR PART - SEMI-GLOSS		09-9123
PL-4	HIGH-PERFORMANCE EXTERIOR PART - SEMI-GLOSS		09-9123
PL-5	PART COLOR - WHITE		09-9123
PL-6	PART COLOR - CHARCOAL		09-9123
PL-7	PART COLOR - WHITE		09-9123
PL-8	PART COLOR -		09-9123
PWR-1	PEDESTAL PAPER SYSTEM		07-7600
PWR-2	PEDESTAL PAPER SYSTEM		07-7600
RFG-1	EPDM ROOFING SYSTEM		07-5633
SHG-1	GYPSONUM SHEATHING		05-4000
SHF-1	SHEET METAL FLASHING		02-6200
SHF-2	SHEET METAL FLASHING		02-6200
SF-1	SOLID SURFACE		12-3661
SF-2	SOLID SURFACE		12-3661
STN-1	STONE VENEER		04-0433.13
TD-1	TOILET DISPENSER JUMBO ROLL		10-2800
TE-7C	WASTE RECEPTOR		10-2800
TA-11	LIQUID SOAP DISPENSER		10-2800
TA-12	GRAB BAR		10-2800
TA-14	SANITARY SANITARY DISPOSAL UNIT		10-2800
TA-17	MIRROR UNIT (FRAMED)		10-2800
TL-1B	TRAIL BRICKER BOARD		09-2900
TL-1	TRAIL FLOORING		09-3013
TL-2	STAINLESS STEEL TRAILING SYSTEM		05-8443
TL-2	STAINLESS STEEL TRAILING SYSTEM		09-3013
TLF	THRU-WALL FLASHING AND Drip EDGE		07-7600
TVF	TRUCK VAPOR BARRIER		07-2226
WAB	WATER-APR VAPOR BARRIER MEMBRANE		07-2226
WB-1	RUBBER WALL BASE		09-0633
WB-2	STEEL WALL BASE		05-7000 (?)
WD-2	ACETATED WOOD		09-2626
WD-2	INTERIOR FINISH WOOD		09-2626
WDC-1	WOOD CEILING SYSTEM		09-0433
WDW-1	ALUMINUM WOOD WINDOW		12-5200
WDW-2	WOT TYPING MEMBRANE		10-2800
WDR	ROLLER WINDOW SHADE		08-8313



NOT FOR CONSTRUCTION

- TOPOGRAPHIC LINEWORK LEGEND**
- UTV EXISTING UNDERGROUND CABLE TV
 - OHV EXISTING OVERHEAD CABLE TV
 - FO EXISTING FIBER OPTIC LINE
 - OH EXISTING OVERHEAD TELEPHONE LINE
 - UT EXISTING UNDERGROUND TELEPHONE
 - EXISTING RETAINING WALL
 - EXISTING CHAIN LINK FENCE
 - EXISTING GENERAL FENCE
 - EXISTING WIRE FENCE
 - EXISTING WOOD FENCE
 - EXISTING GAS LINE
 - EXISTING UNDERGROUND ELECTRIC LINE
 - EXISTING GUY LINE
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING OVERHEAD GENERAL UTILITIES
 - EXISTING SANITARY FORCE MAIN (SIZE NOTED)
 - EXISTING SANITARY SEWER LINE (SIZE NOTED)
 - EXISTING STORM SEWER LINE (SIZE NOTED)
 - EXISTING EDGE OF TREES
 - EXISTING WATER MAIN (SIZE NOTED)
 - EXISTING WETLAND DELINEATION
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR

- TOPOGRAPHIC SYMBOL LEGEND**
- EXISTING BOLLARD
 - EXISTING POST
 - EXISTING SIGN (TYPE NOTED)
 - EXISTING ENDWALL
 - EXISTING FIELD INLET RECTANGULAR
 - EXISTING FIELD INLET
 - EXISTING ROOF DRAIN CLEANOUT
 - EXISTING STORM MANHOLE
 - EXISTING STORM MANHOLE RECTANGULAR
 - EXISTING SANITARY CLEANOUT
 - EXISTING SANITARY MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING FIRE DEPARTMENT CONNECTION
 - EXISTING WATER MAIN VALVE
 - EXISTING CURB STOP
 - EXISTING WELL
 - EXISTING WATER MANHOLE
 - EXISTING GAS VALVE
 - EXISTING GAS METER
 - EXISTING AIR CONDITIONING PEDESTAL
 - EXISTING DOWN GUY
 - EXISTING ELECTRIC MANHOLE
 - EXISTING ELECTRIC RECTANGULAR MANHOLE
 - EXISTING ELECTRIC PEDESTAL
 - EXISTING TRANSFORMER
 - EXISTING ELECTRIC METER
 - EXISTING GUY POLE
 - EXISTING LIGHT POLE
 - EXISTING GENERIC LIGHT
 - EXISTING UTILITY POLE
 - EXISTING TV MANHOLE
 - EXISTING TV RECTANGULAR MANHOLE
 - EXISTING TV PEDESTAL
 - EXISTING TELEPHONE MANHOLE
 - EXISTING TELEPHONE PEDESTAL
 - EXISTING UNIDENTIFIED MANHOLE
 - EXISTING UNIDENTIFIED UTILITY VAULT
 - EXISTING HANDICAP PARKING
 - EXISTING PLANTER
 - EXISTING CONIFEROUS TREE
 - EXISTING DECIDUOUS TREE
 - EXISTING BORING

NOTES:
1) TOPOGRAPHIC MAP PREPARED SEPTEMBER 15, 2017 BY R.A. SMITH NATIONAL, INC FOR THE CITY OF MADISON. SURVEY NO. 5167238-SMC.



vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

Existing Conditions Plan
Olbrich Botanical Gardens: Expansion Phase 1
City of Madison
Dane County, WI

REVISIONS	REVISIONS	REVISIONS
NO.	DATE	REMARKS

SCALE
AS SHOWN

DATE
01-17-2018

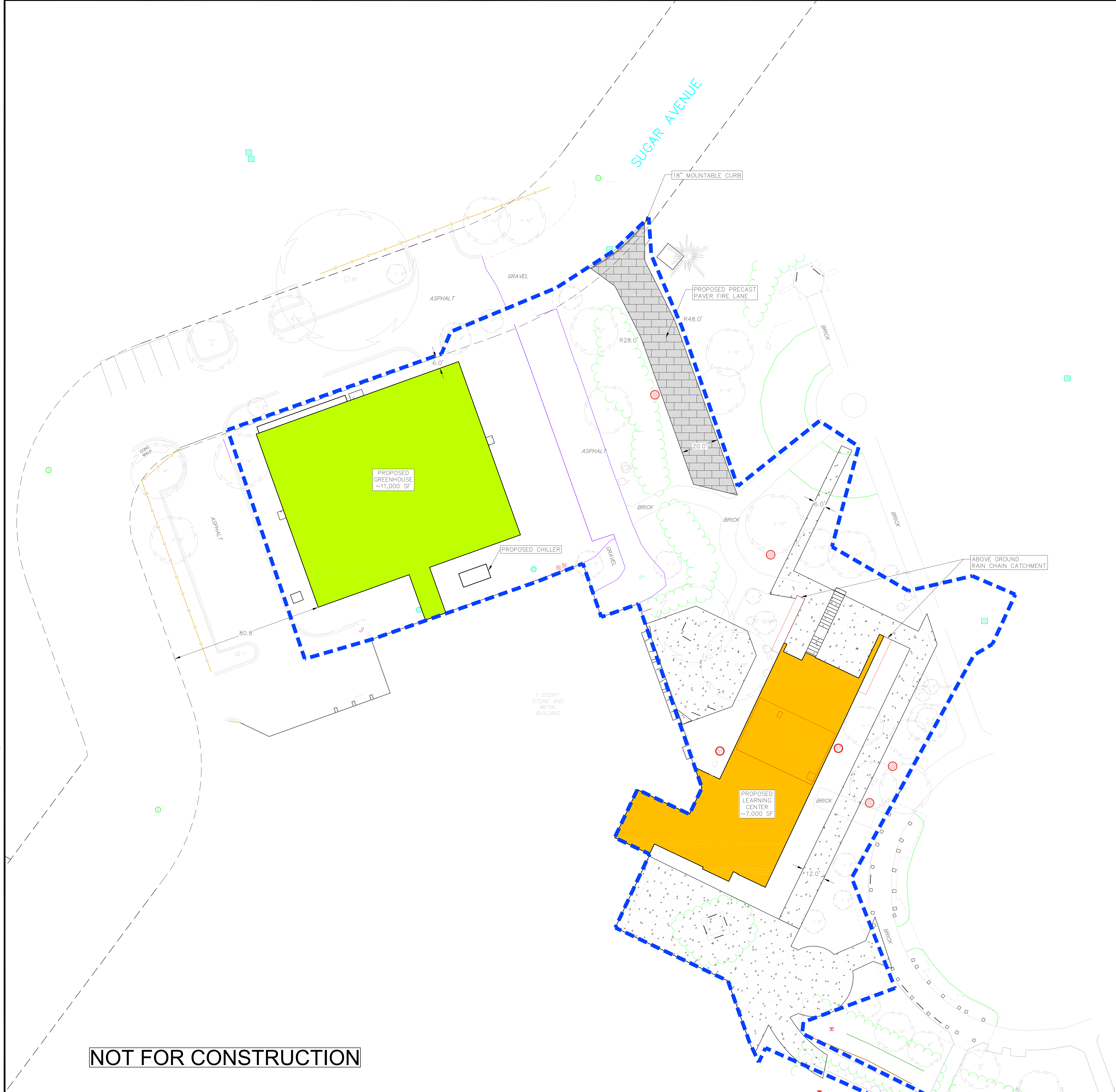
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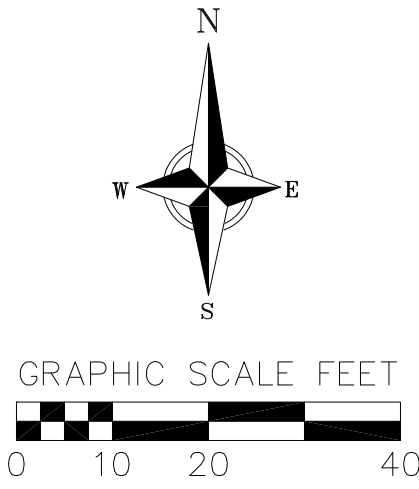


SITE PLAN LEGEND

- PROPERTY BOUNDARY
- CURB AND GUTTER (REVERSE CURB HATCHED)
- PROPOSED CHAIN LINK FENCE
- PROPOSED WOOD FENCE
- PROPOSED CONCRETE
- PROPOSED PRECAST PAVERS
- PROPOSED ASPHALT
- PROPOSED SIGN
- PROPOSED LIGHT POLE
- PROPOSED BOLLARD
- PROPOSED ADA DETECTABLE WARNING FIELD
- PROPOSED HANDICAP PARKING

- NOTES:**
1. ALL DIMENSIONS GIVEN ARE TO FACE OF CURB WHEN APPLICABLE.
 2. CONSTRUCTION SHALL CONFORM TO CITY OF MADISON STANDARD SPECIFICATIONS, DETAILS ON THE PLANS, AND THE LATEST EDITION OF THE DOT SPECIFICATIONS.
 3. EXISTING CURB REMOVAL AND ASPHALT REPLACEMENT LIMITS ARE APPROXIMATE. ADDITIONAL REMOVAL AND REPLACEMENT MAY BE REQUIRED.
 4. ALL WORK IN THE PUBLIC RIGHT-OF-WAY AND ALL PUBLIC IMPROVEMENTS SHALL BE CONSTRUCTED PER THE CITY OF MADISON SPECIFICATIONS.

NOT FOR CONSTRUCTION





vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

Site Plan
Olbrich Botanical Gardens: Expansion Phase 1
City of Madison
Dane County, WI

REVISIONS		REVISIONS	
NO.	DATE	NO.	DATE

SCALE
AS SHOWN

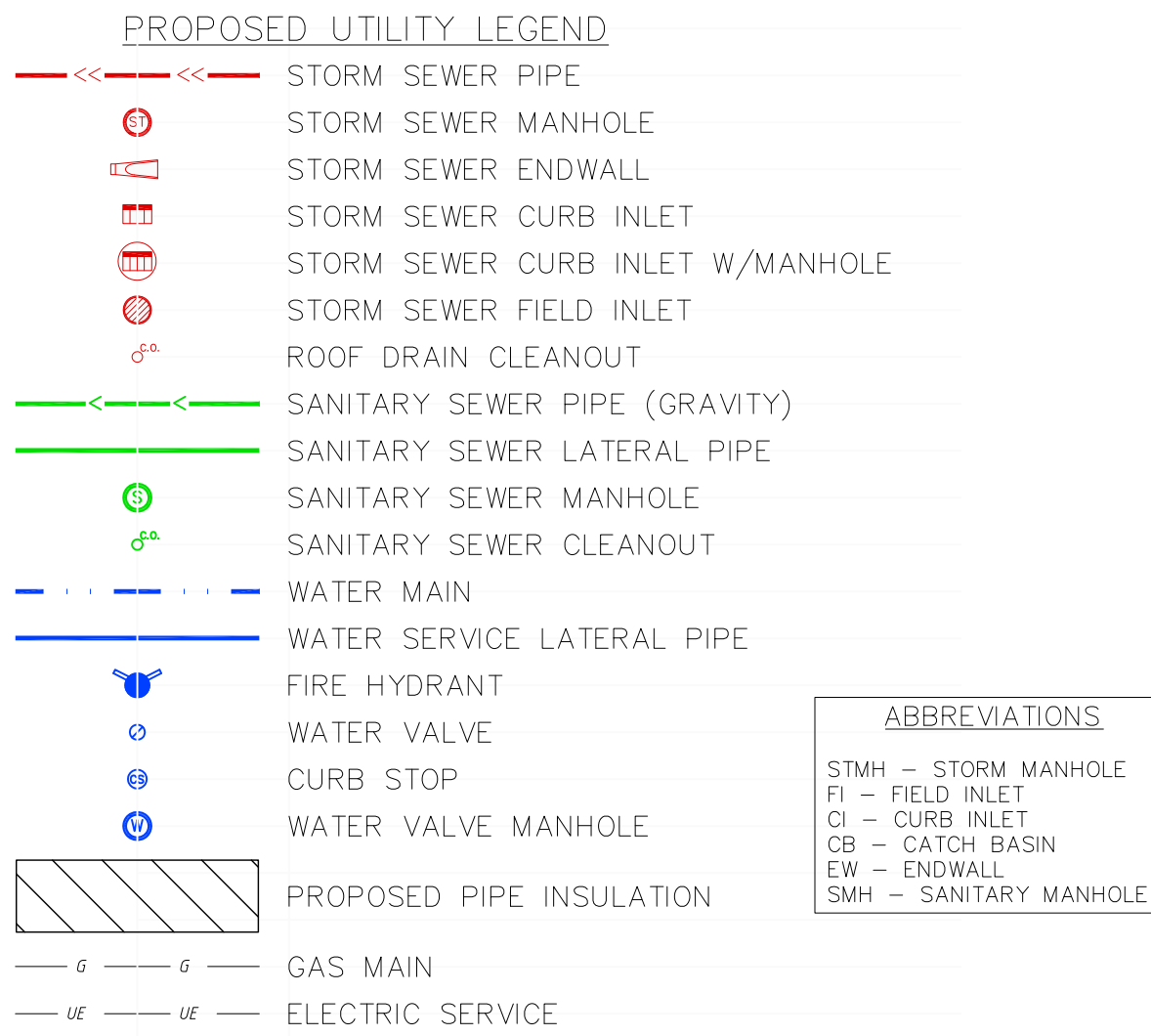
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01-17-2018

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SCHR

CHECKED
MSCH

PROJECT NO.
160322

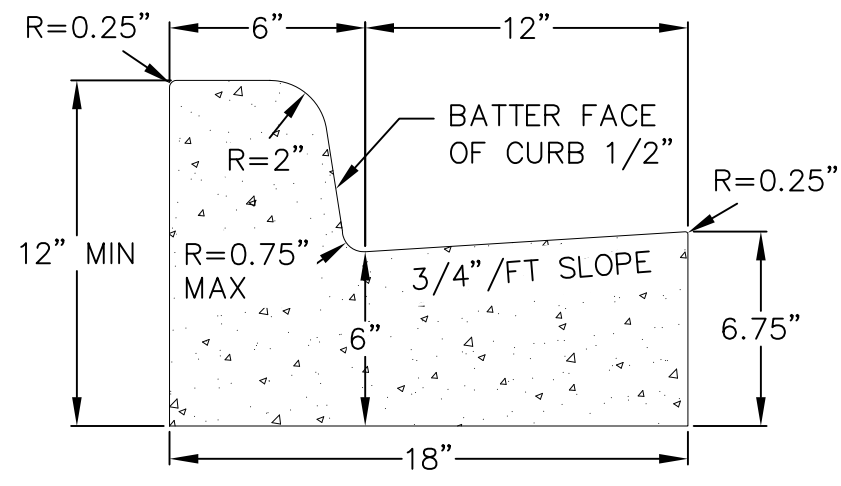
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C
3



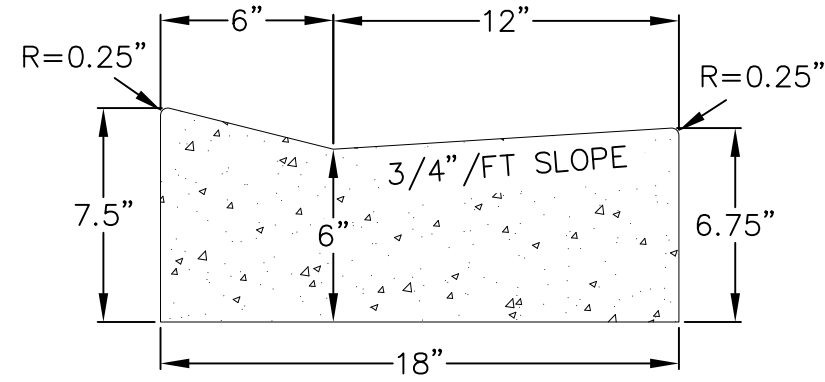
- [illegible]

©2017 Vierbicher Associates, Inc.

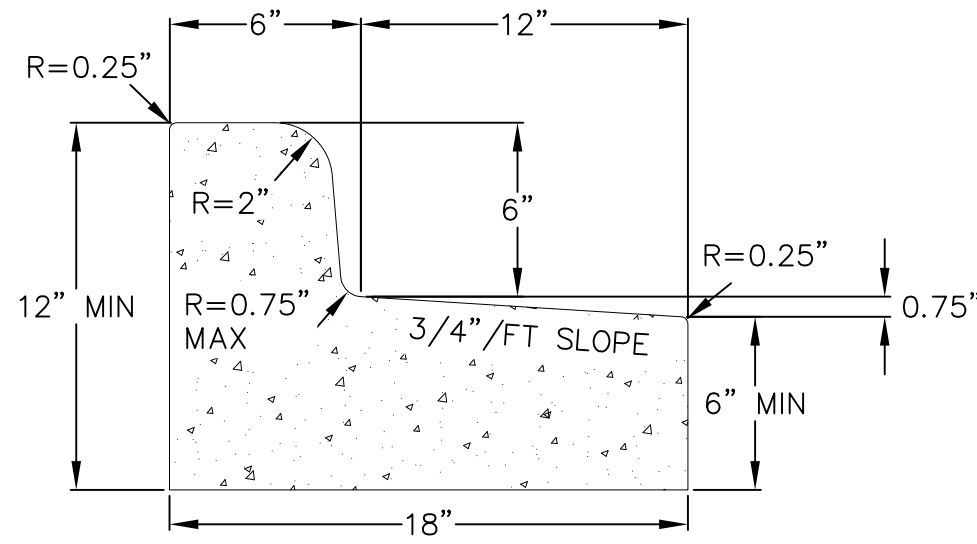
- M:\MSR (Meyer, Scherer & Rockcastle, Ltd)\160322 Oilrich Botanical Gardens, Madison\160322 - Construction Details.dwg
16 Jan 2018 - 8:12a



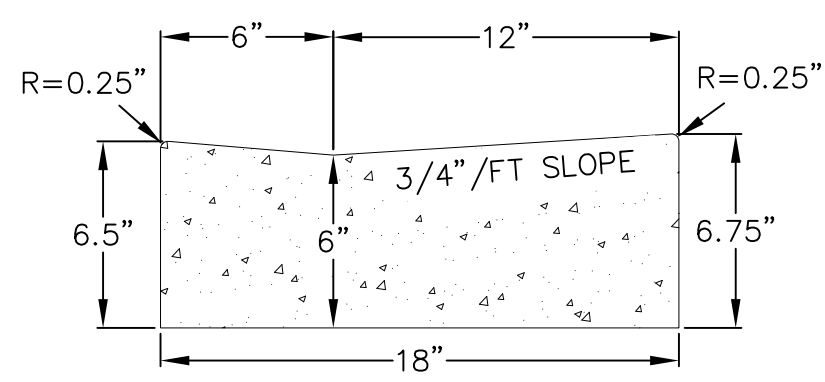
CURB AND GUTTER
CROSS SECTION



DRIVEWAY GUTTER
CROSS SECTION

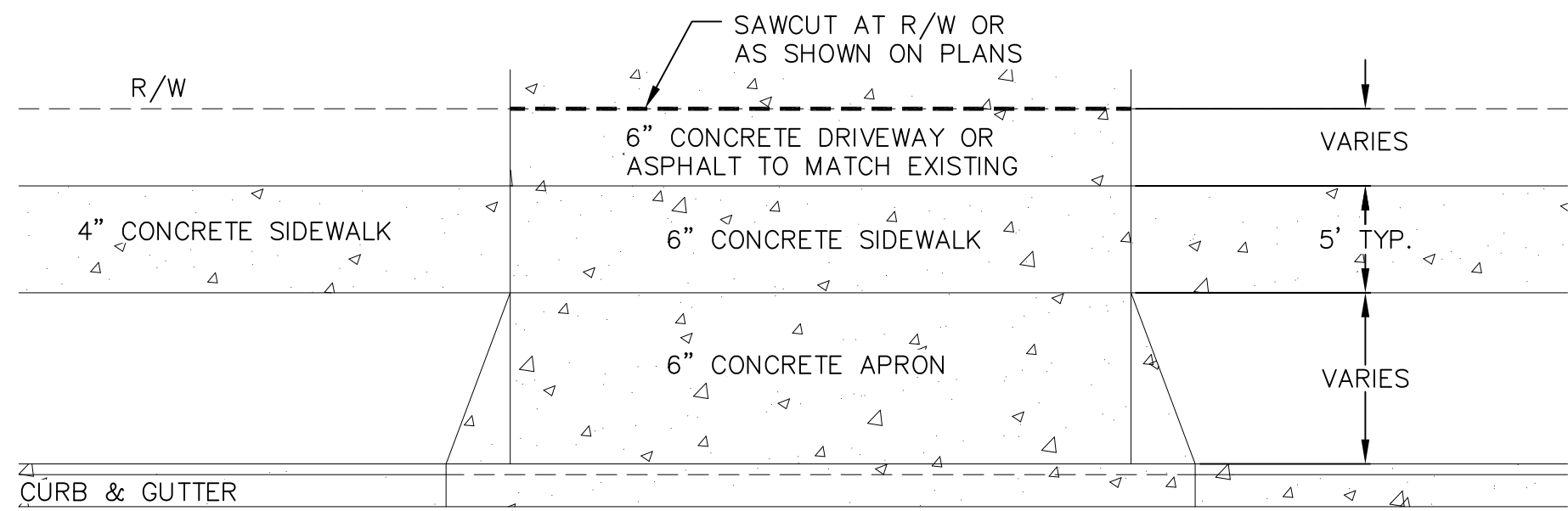
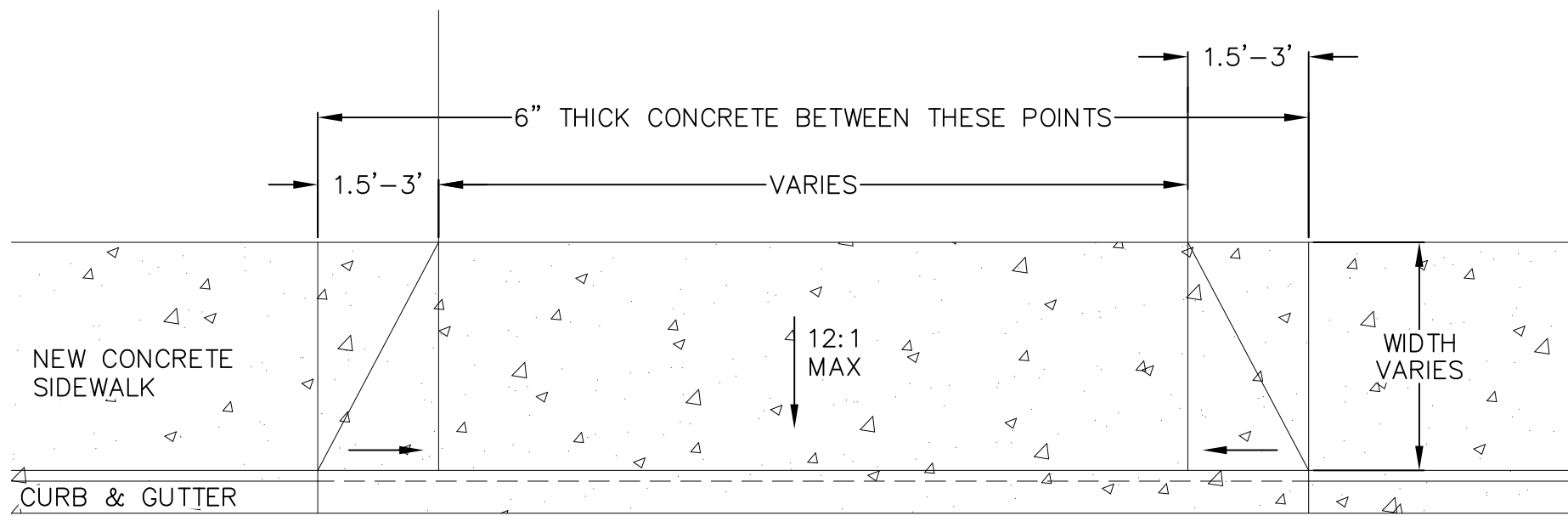


CURB AND GUTTER
REJECT SECTION

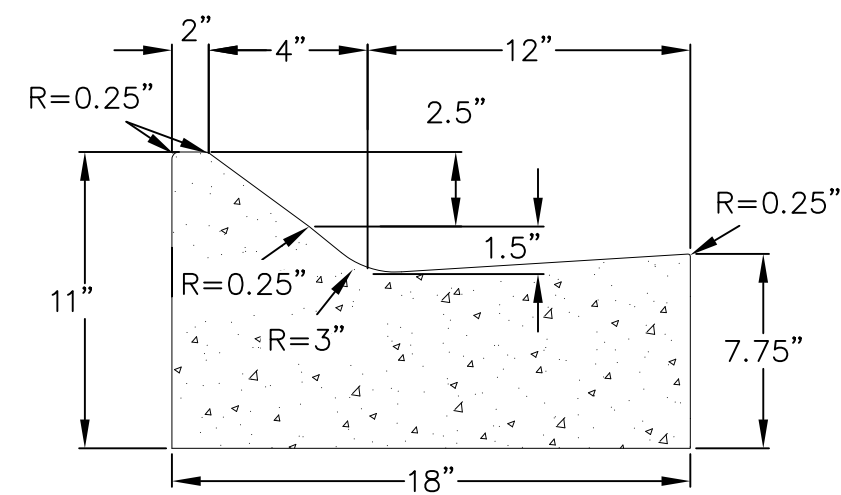


HANDICAP RAMP
GUTTER CROSS SECTION

1 18" CONCRETE CURB AND GUTTER
1 NOT TO SCALE

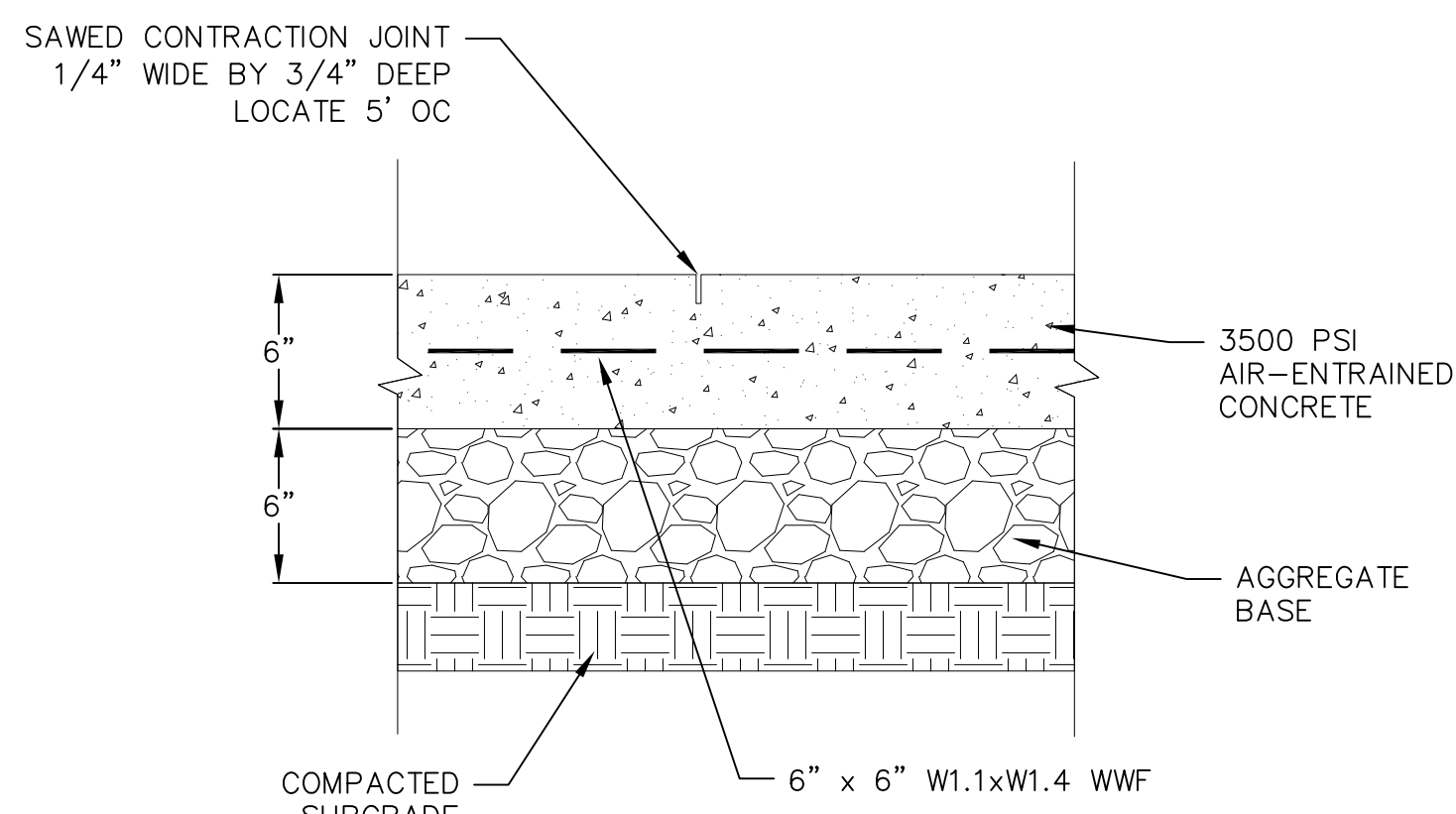


1 DRIVEWAY DETAIL
1 NOT TO SCALE

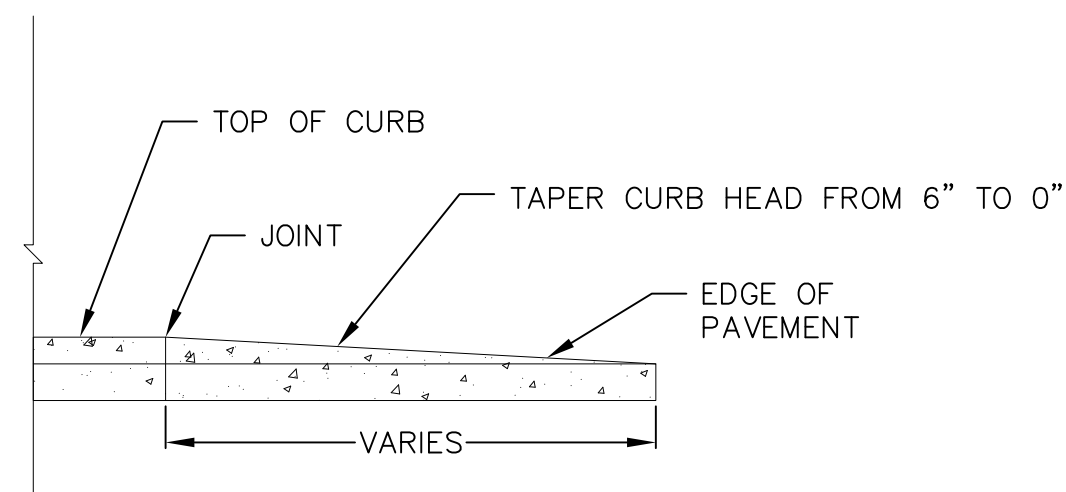


MOUNTABLE CURB AND
GUTTER
CROSS SECTION

1 18" MOUNTABLE CURB & GUTTER
1 NOT TO SCALE

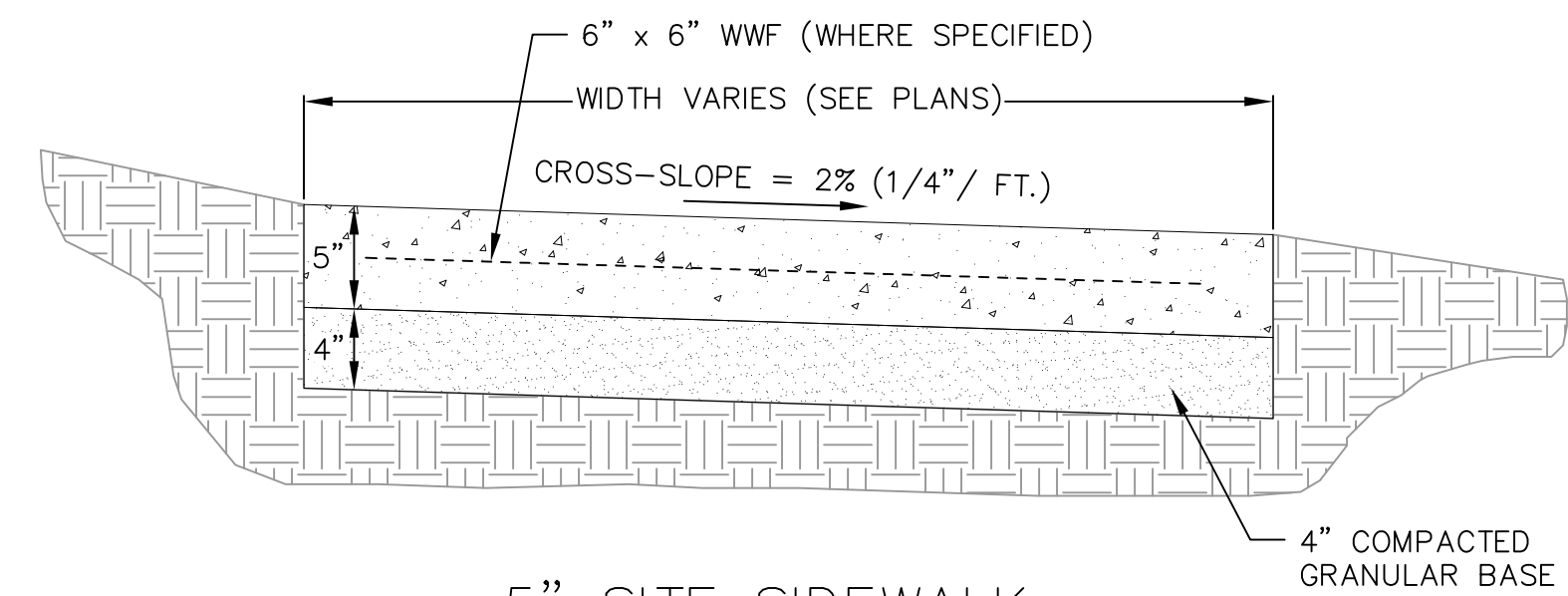


1 CONCRETE PAD
1 NOT TO SCALE

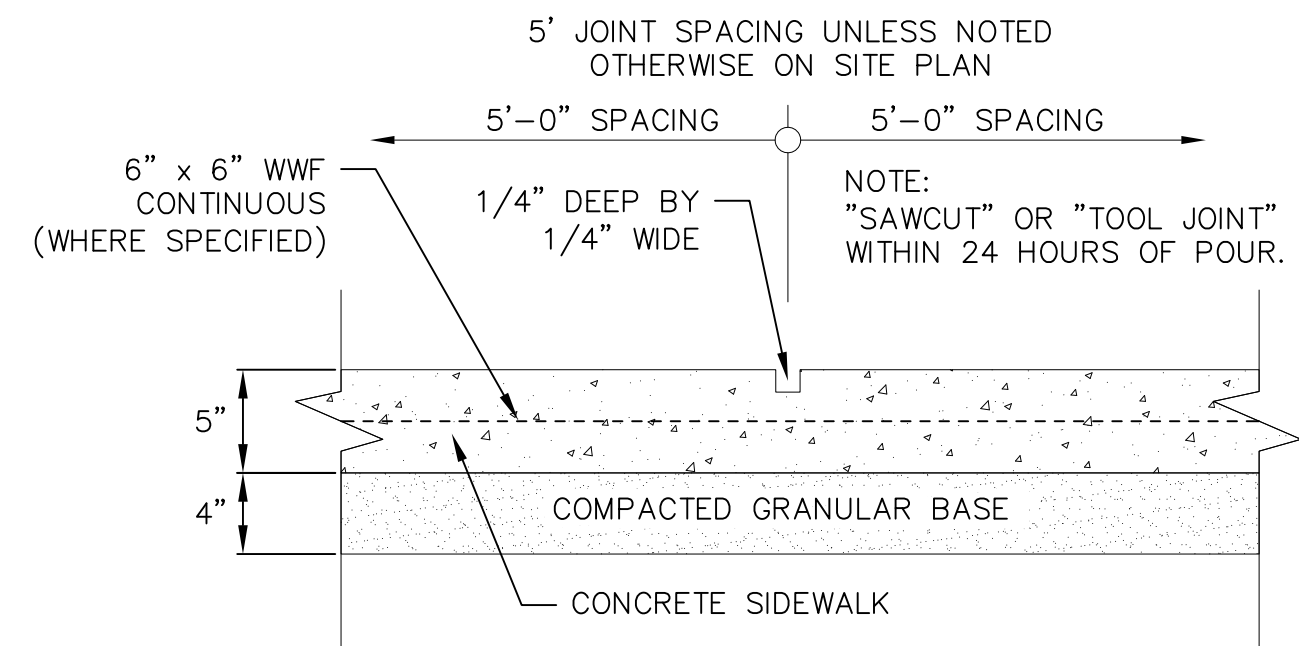


PROFILE VIEW

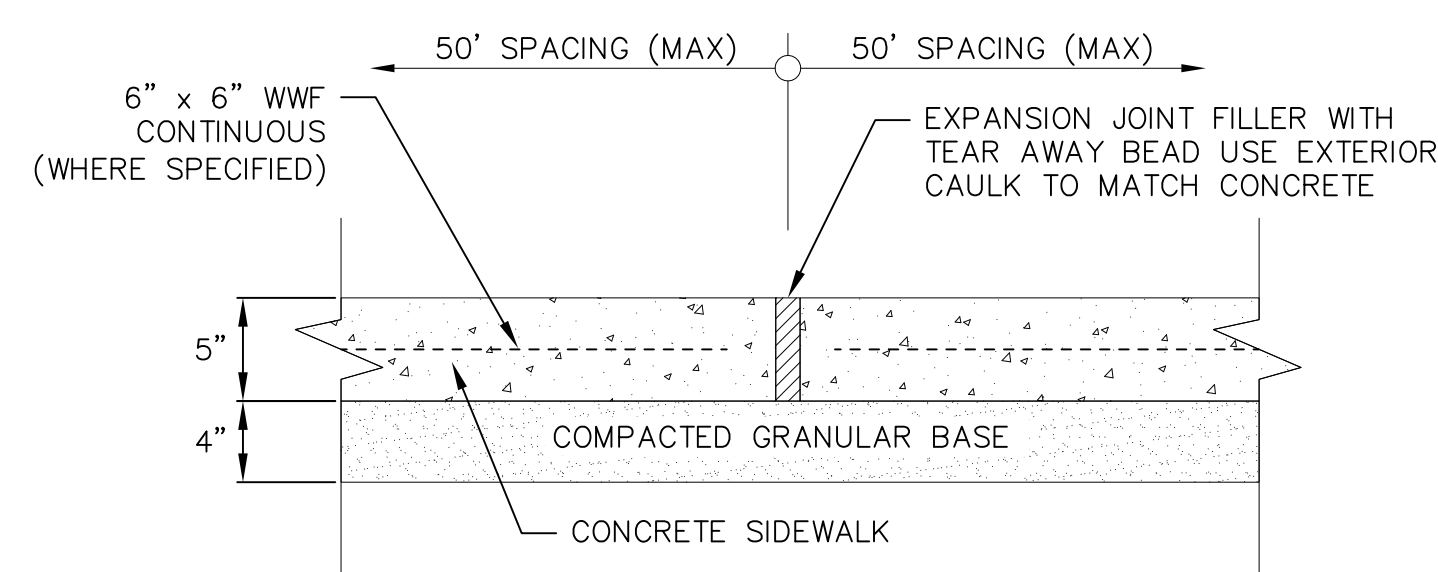
1 CURB & GUTTER TERMINATION
1 NOT TO SCALE



5" SITE SIDEWALK

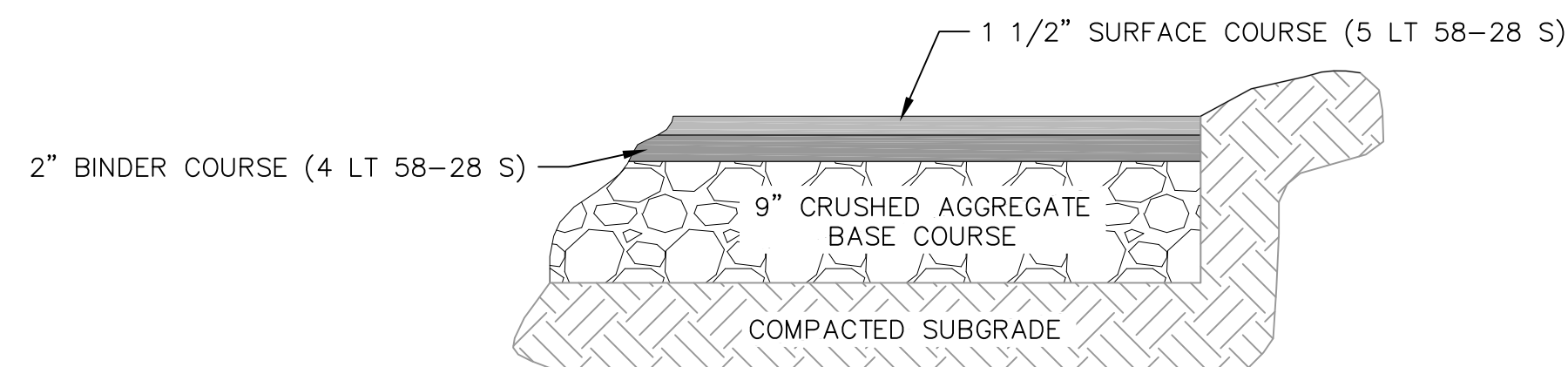


SIDEWALK CONTROL JOINT

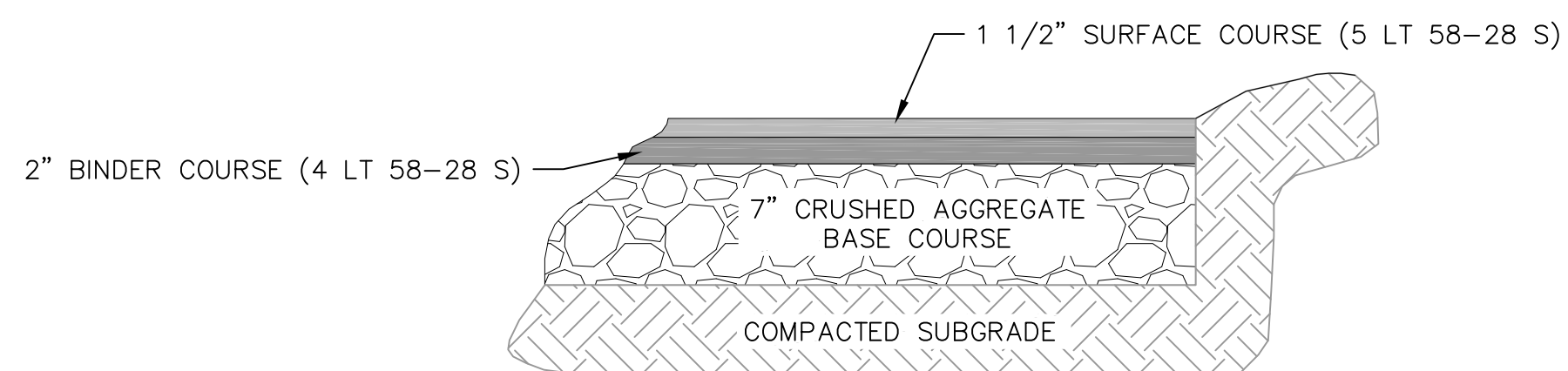


SIDEWALK EXPANSION JOINT

1 5" SIDEWALK
1 NOT TO SCALE



BITUMINOUS PAVEMENT DRIVES



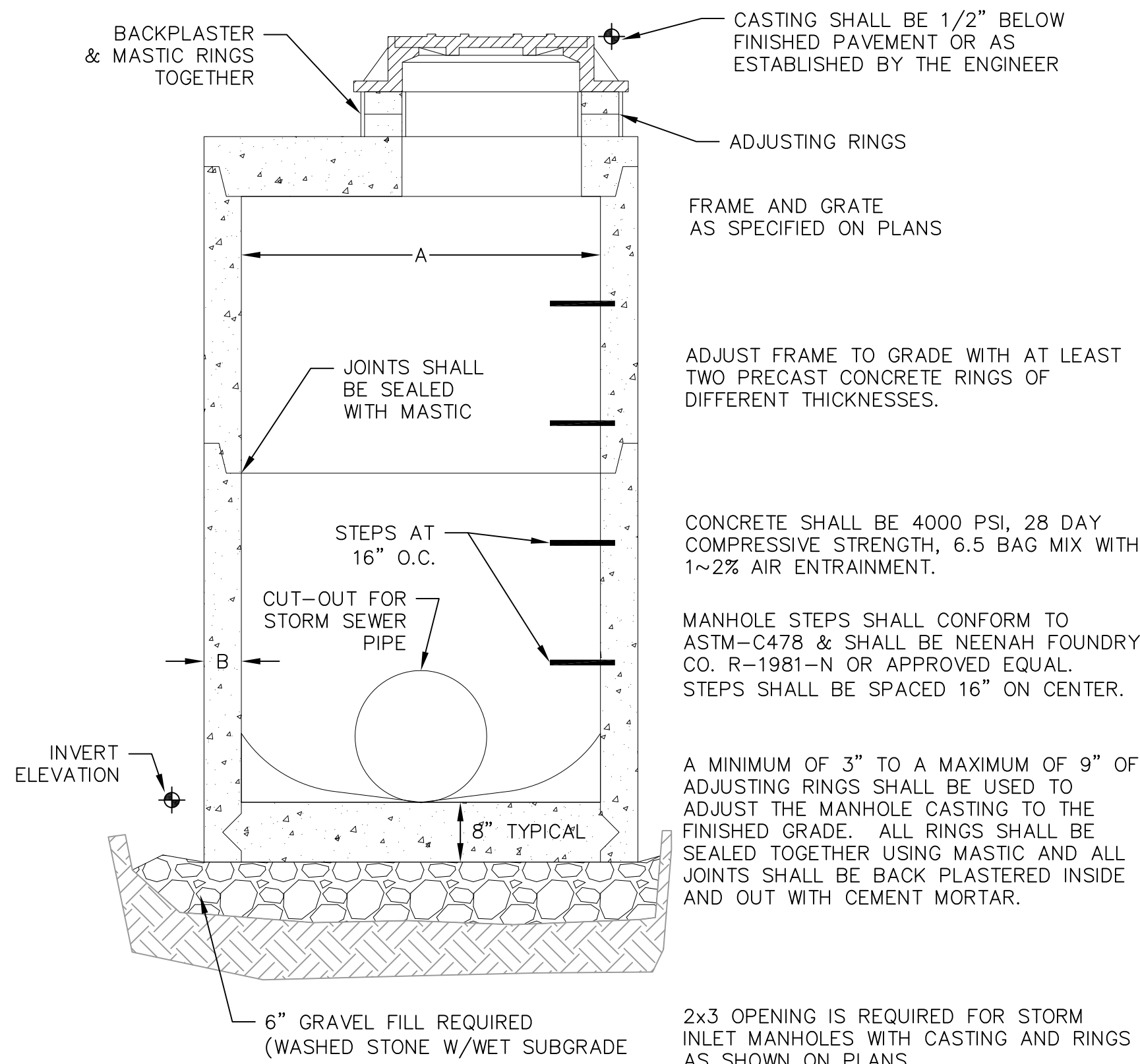
BITUMINOUS PAVEMENT
PARKING LOT

1 SITE PAVEMENT
1 NOT TO SCALE

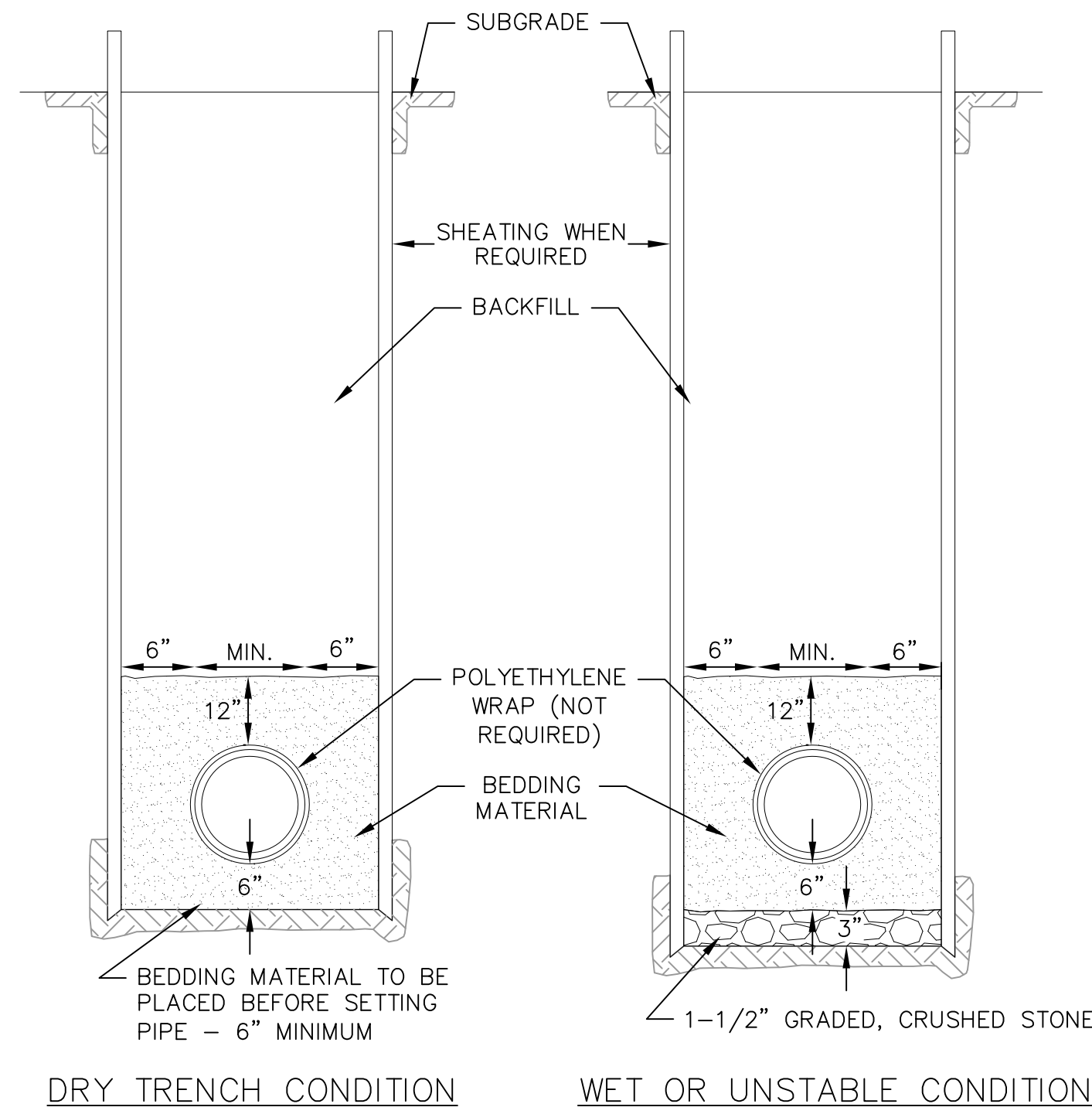
NOT FOR CONSTRUCTION

REVISIONS	NO.	DATE	REMARKS

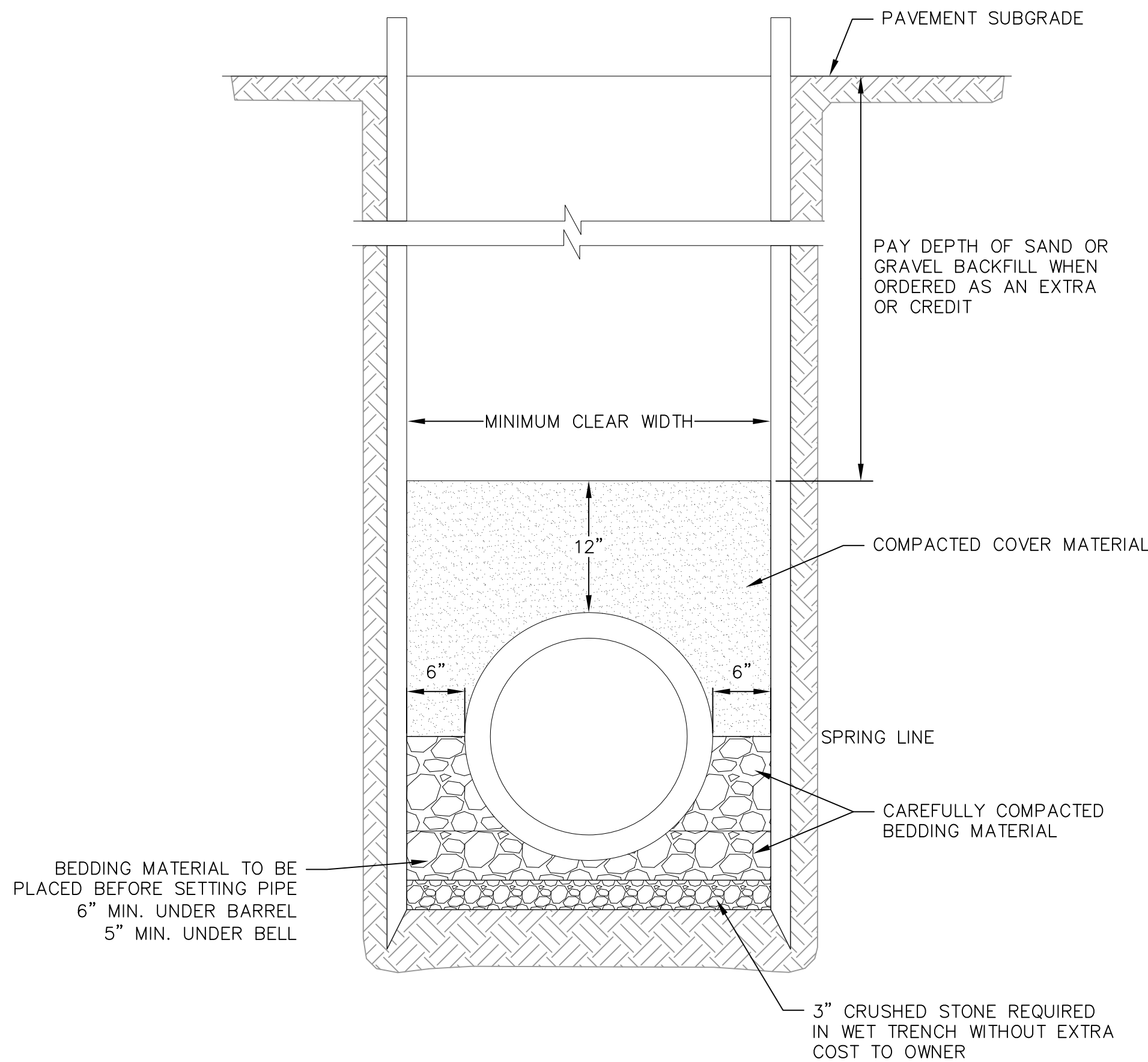
SCALE	AS SHOWN
DATE	01-17-2018
DRAFTER	SCHR
CHECKED	MSCH
PROJECT NO.	160322
SHEET	



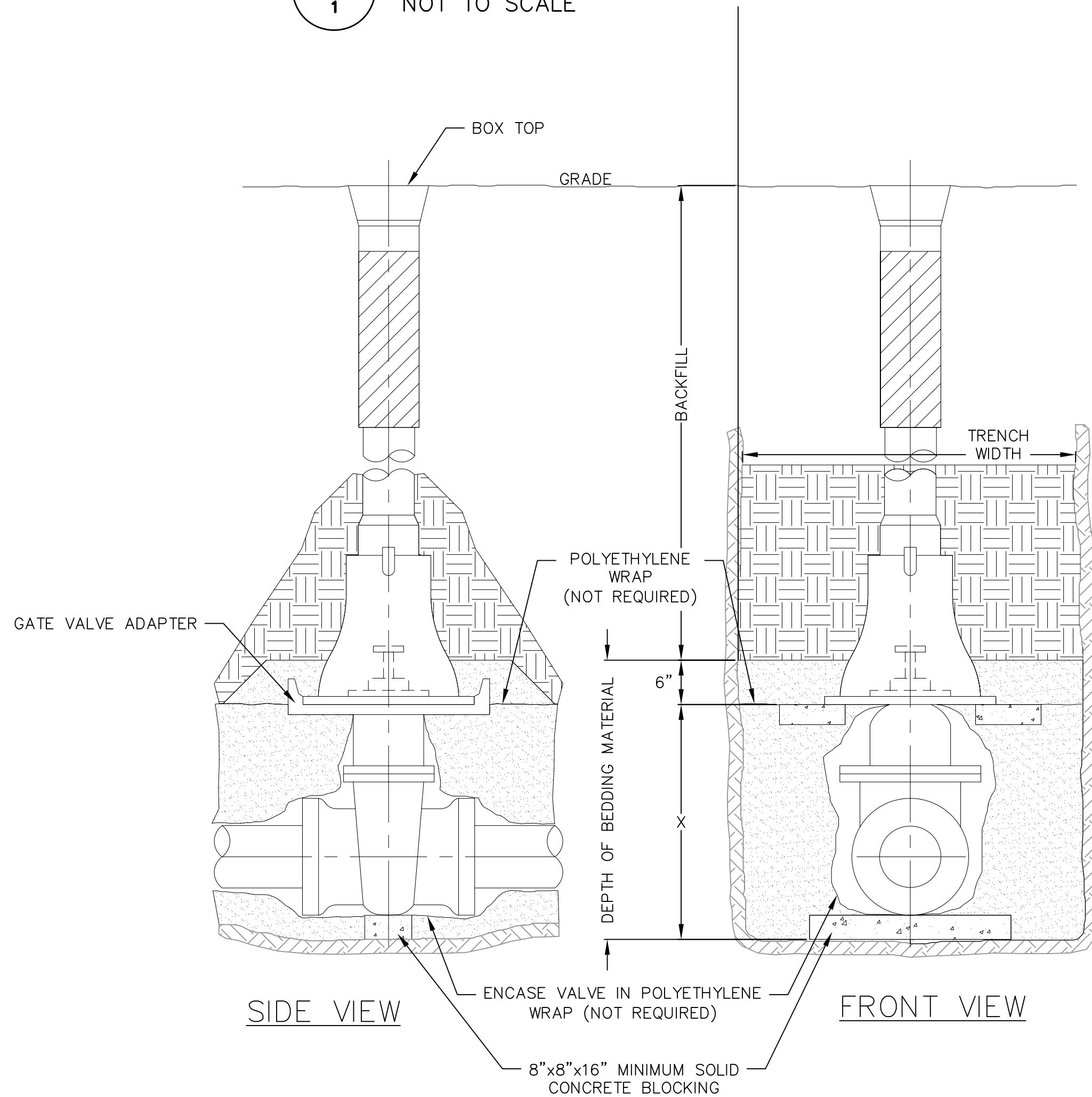
1 STORM SEWER MANHOLE
1 NOT TO SCALE



1 STANDARD WATER MAIN TRENCH SECTION
1 NOT TO SCALE

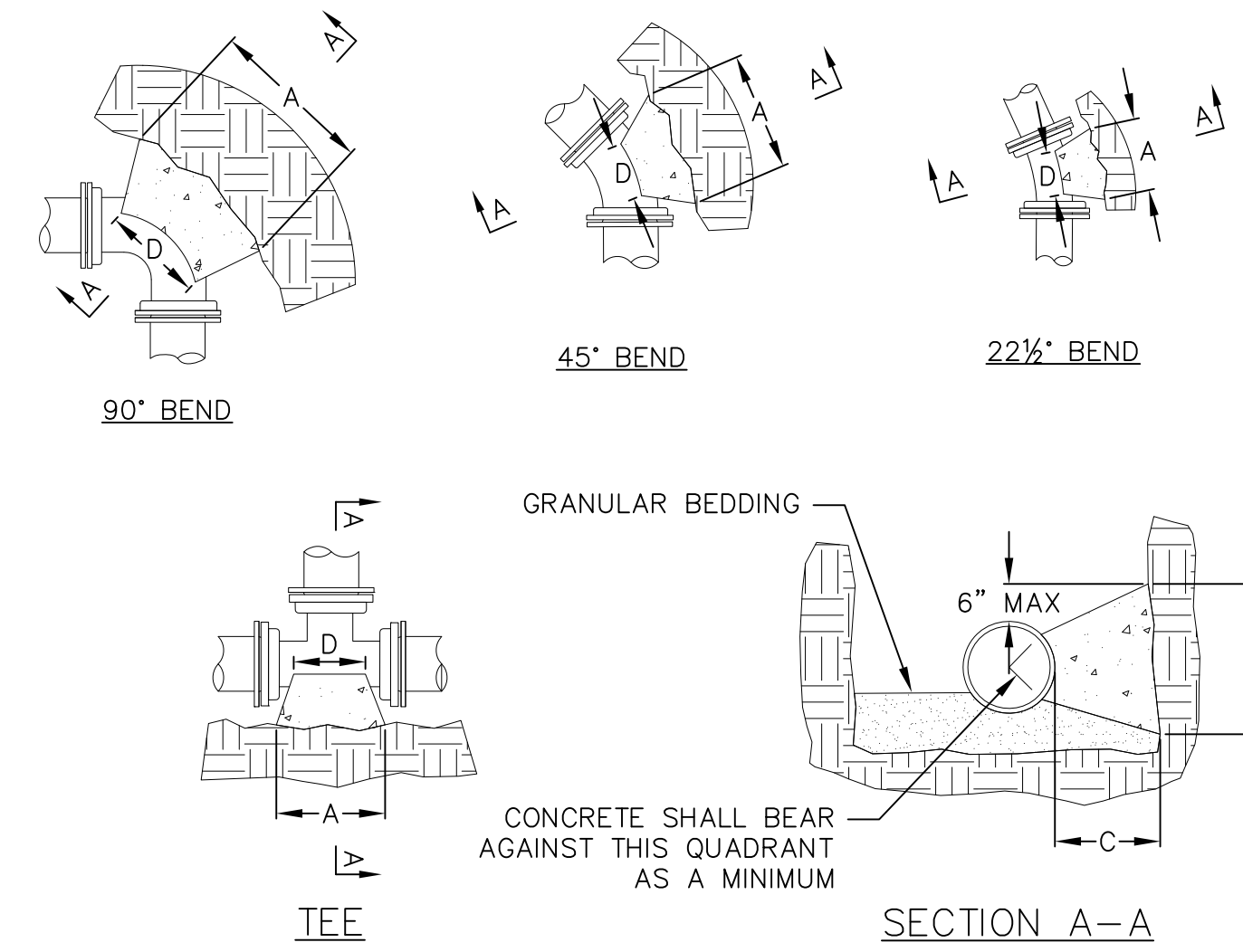


1 CLASS B BEDDING COMPACTED SECTION
1 NOT TO SCALE



PIPE DIA. INCHES	X=SETTING INCHES
2	6
3	7
4	8
6	12
8	13
12	21
16	30

1 STANDARD GATE VALVE BOX SETTING
1 NOT TO SCALE



DIMENSION "D" SHALL BE AS LARGE AS POSSIBLE, BUT THE CONCRETE SHALL NOT INTERFERE WITH THE MECHANICAL JOINTS.

DIMENSION "C" SHALL BE AT LEAST 6 INCHES, AND LARGE ENOUGH TO MAKE THE "Q" ANGLE EQUAL TO OR GREATER THAN 45 DEGREES WITH THE DIMENSION "A" AS SHOWN ON THE TABLE, OR GREATER, AND WITH DIMENSION "D" AS LARGE AS POSSIBLE.

CONCRETE SHALL BE CLASS "C", SEE SECTION 03301

PIPE SIZE	BUTTRISS DIMENSIONS							
	TEES		22.5° BEND		45° BEND		90° BEND	
	A	B	A	B	A	B	A	B
4	0'-10"	1'-6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
6	1'-6"	1'-8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
8	1'-9"	2'-4"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
10	1'-9"	2'-4"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
12	2'-3"	1'-7"	2'-4"	2'-0"	3'-3"	2'-10"	5'-10"	3'-4"
16	3'-8"	2'-10"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"
20	5'-0"	3'-10"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	4'-8"
24	5'-4"	4'-8"						

DIMENSIONS IN THE TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND SOIL RESISTANCE OF 2000 LBS/SQ FT

* = FOR TEE THIS WILL BE THE BRANCH PIPE

1 BUTTRISS FOR BENDS
1 NOT TO SCALE

NOT FOR CONSTRUCTION

REVISIONS	REVISIONS
NO.	NO.
DATE	DATE

SCALE	AS SHOWN
DATE	01-17-2018
DRAFTER	SCHR
CHECKED	MSCH
PROJECT NO.	160322
SHEET	

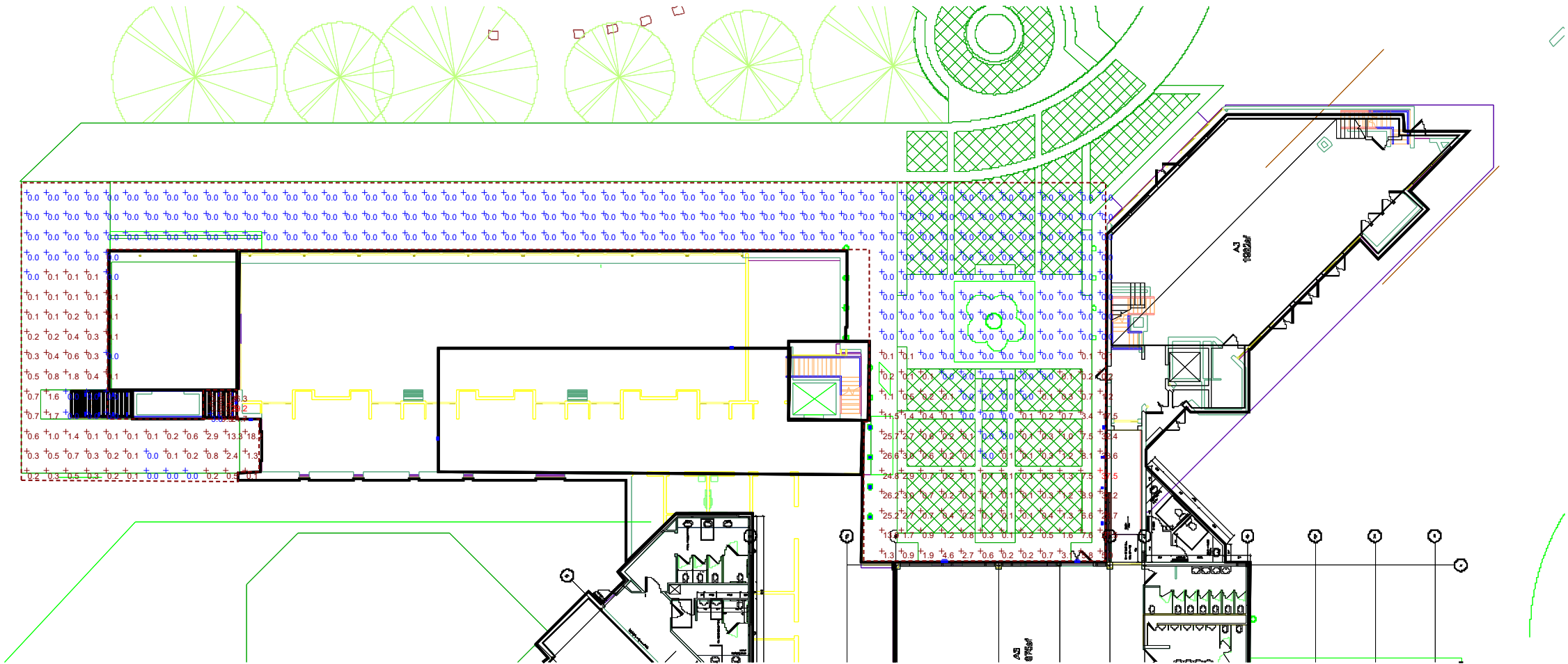


OLBRICH BOTANICAL GARDENS SITE PLAN

Designer

Date
1/16/2018
Scale
Not to Scale
Drawing No.

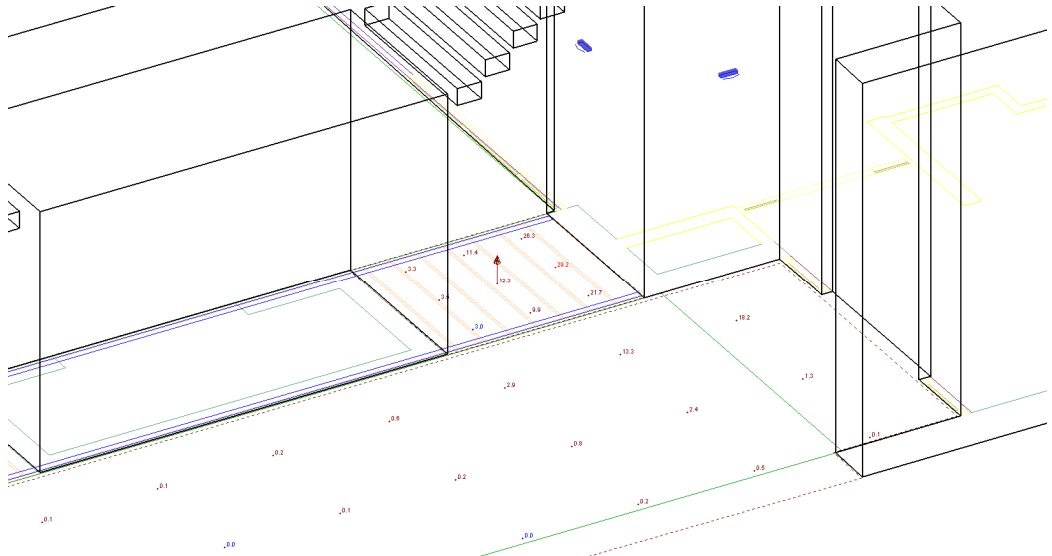
SITE
PHOTOMETRICS



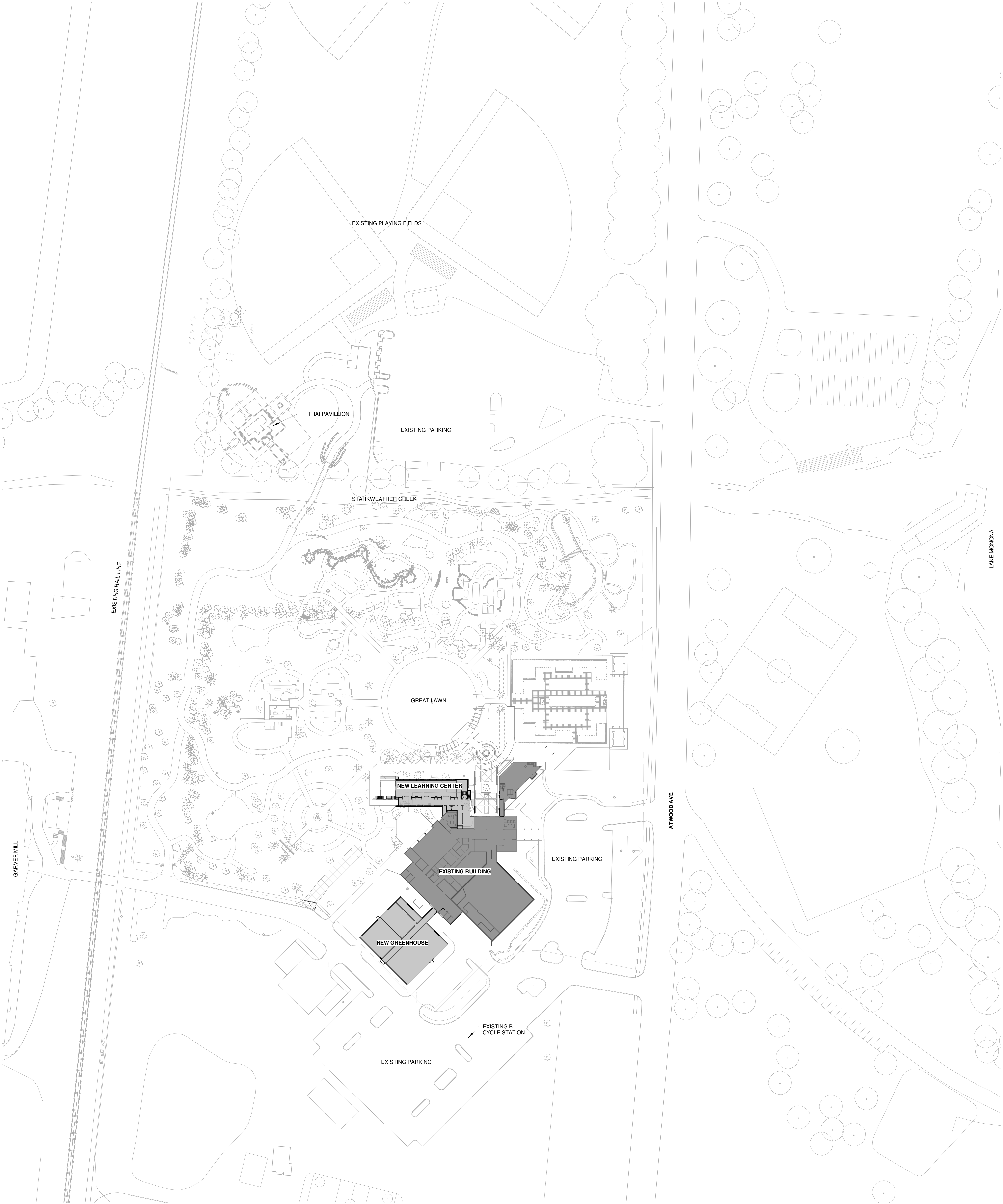
Plan View



Plan View



View #2



1 CONTEXT - SITE CONTEXT PLAN
G001 1" = 80'-0"



CONTEXT - SOLAR PATH DIAGRAM



OLBRICH BOTANICAL GARDENS - LOCATION PLAN

MSR 710 South 2nd Street, 8th Floor
Minneapolis, Minnesota 55401-2282

Architecture 612.375.0336 tel
Interiors and 612.342.2216 fax
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Greenhouse Design
Rough Brothers, Inc.

5513 Vine Street
Cincinnati, OH 45217
513.242.0310 tel

Olbrich Botanical Gardens Expansion Phase 1 3330 Atwood Avenue Madison, WI 53704

I hereby certify that this plan, specification or report was prepared
by me or under my direct supervision and that I am a duly
Licensed Architect under the Laws of the State of Wisconsin.
ARCHITECT SEAL

Signature: _____
Print Name: _____
Date: _____ License No: _____

ISSUE	DATE	DESCRIPTION
MARK	09.29.2017	SCHEMATIC DESIGN SUBMISSION
	12.08.2017	DD PRICING SET
	01.10.2018	DESIGN DEVELOPMENT SUBMISSION
	01.17.2018	UDC SUBMISSION

PROJECT NO. 2017016

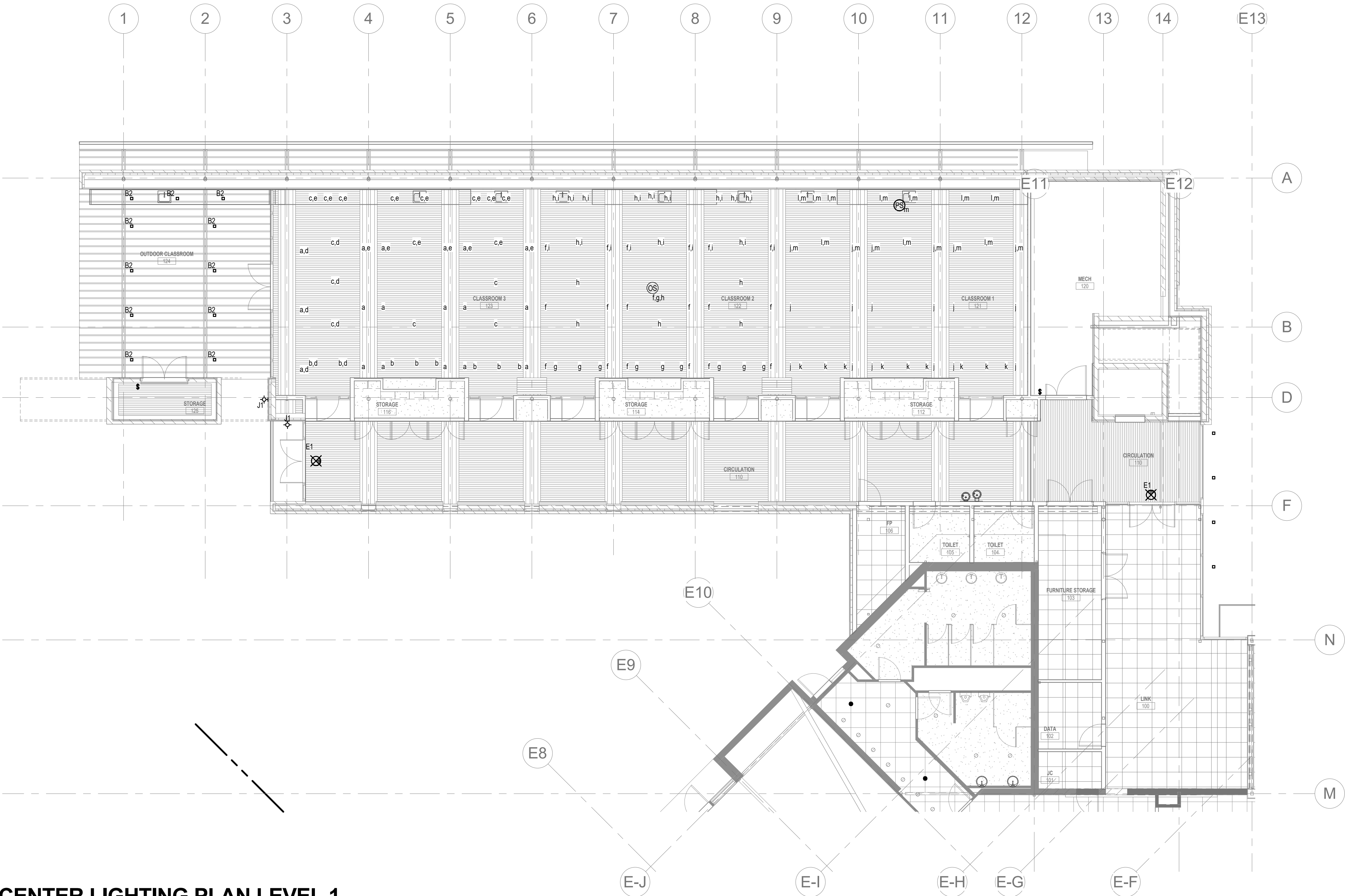
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DRAWN BY: MSR
CHECKED BY: MSR

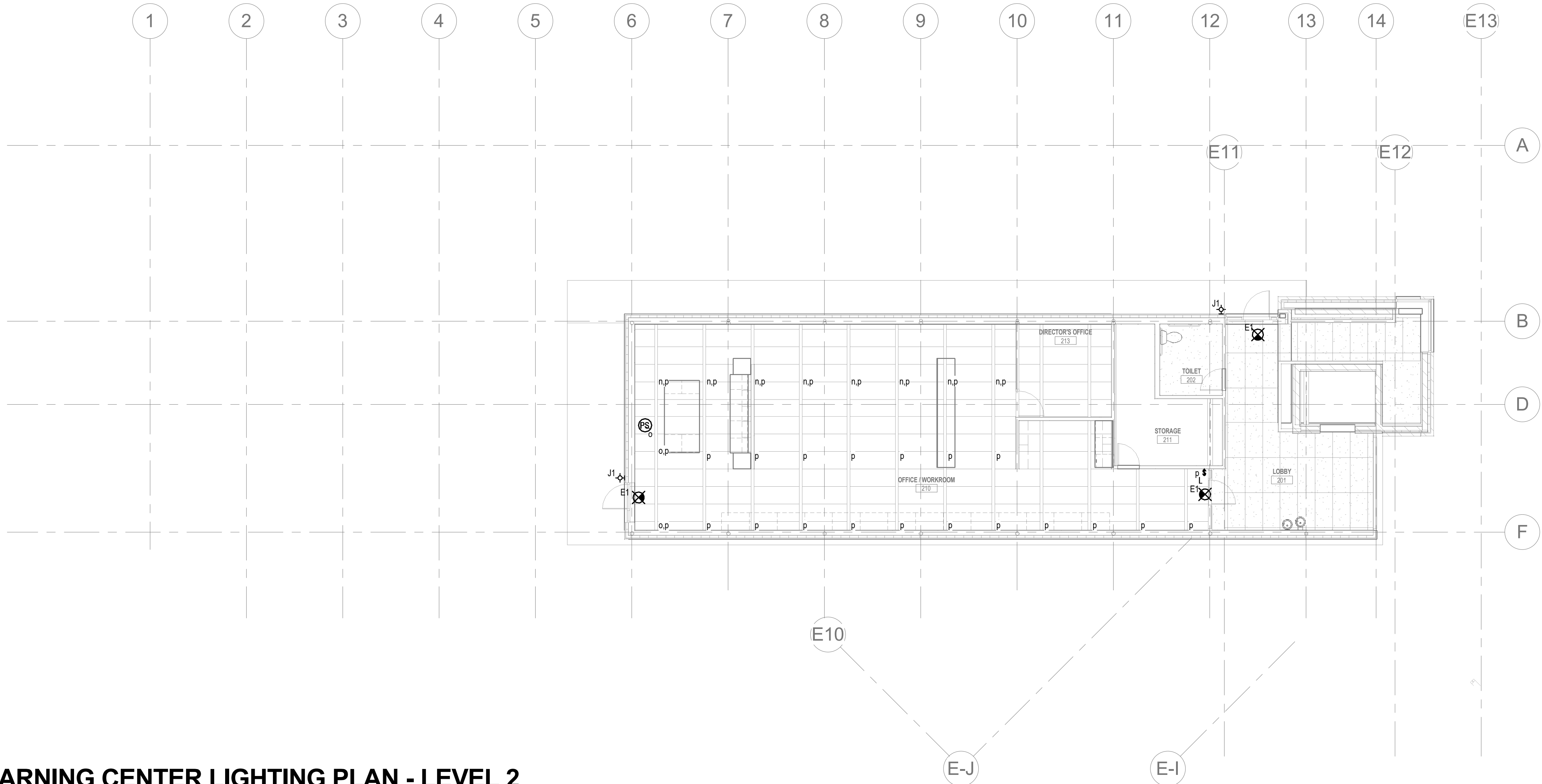
Revised and Copyrighted Map, Street & Highway Data

SITE CONTEXT

G001



1 LEARNING CENTER LIGHTING PLAN LEVEL 1
1/8" = 1'-0"



2 LEARNING CENTER LIGHTING PLAN - LEVEL 2
1/8" = 1'-0"

GENERAL LIGHTING NOTES

A. SEE ARCHITECTURE DRAWINGS FOR LUMINAIRE SCHEDULE AND INSTALLATION DETAILS.

B. INSTALL IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. PROVIDE SUPPORTING DEVICES FOR ADEQUATE SUPPORT OF LUMINAIRES FROM THE STRUCTURE.

C. PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. MULTIWIRE BRANCH CIRCUITS SHALL NOT BE UTILIZED.

D. SWITCHES/LIGHTING CONTROL DEVICES SHOWN ADJACENT TO EACH OTHER SHALL BE MOUNTED UNDER A COMMON FACEPLATE, UNLESS NOTED OTHERWISE.

E. LUMINAIRES THAT DO NOT INCLUDE A SWITCH LEG OR OTHER CONTROL DESIGNATION SHALL BE CONTROLLED FROM THE SWITCH/LIGHTING CONTROL DEVICE SHOWN WITHIN THE ROOM INCLUDING THE LUMINAIRE.

KEYED NOTES

1 CLASSROOM LIGHTING SHALL BE IN DAYLIGHTING ZONES WITH DIMMABLE CONTROLS - LIGHT FIXTURES IN EACH ZONE AS NOTED BY PHOTOSENSOR SWITCH TAG.

2 LED SLOT LIGHTS (A) TO BE MOUNTED IN COVE NEXT TO GLULAM BEAM WITH BOTTOM OF FIXTURE AT 11' 2" AFF.

3 BATTERY BACK-UP POWER EMERGENCY LIGHT FIXTURE.

4 OCCUPANCY SENSOR SWITCH SHALL HAVE DUAL INPUTS WIRED TO LIGHT FIXTURES AND EXHAUST FAN.

5 OUTDOOR CLASSROOM LIGHT SWITCH SHALL HAVE VACANCY SENSOR.

6 INDIVIDUAL TASK LIGHTING, INCORPORATED INTO THE OFFICE FURNITURE, SHALL BE LOCATED AT EACH WORKSTATION.

LIGHT FIXTURE SCHEDULE						
TYPE	DESCRIPTION	Mounting	MANUFACTURER	MODEL	LAMP	VOLTS
A2	ABL Recessed 2x4	Recessed	Acuity Brands Lighting	MARK SLOT4	3000K, 80 CRI, 4 LMFT	120 V
A6	4" LED Recessed Slot 2" Long, Flush Clear Diffuser	Recessed	Acuity Brands Lighting	MARK SLOT4	3000K, 80 CRI, 4 LMFT	120 V
A8	4" LED Recessed Slot 6" Long, Flush Clear Diffuser	Recessed	Acuity Brands Lighting	MARK SLOT4	3000K, 80 CRI, 4 LMFT	120 V
A8E	4" LED Recessed Slot 6" Long, Battery Backup, Flush Clear Diffuser	Recessed	Acuity Brands Lighting	MARK SLOT4	3000K, 80 CRI, 4 LMFT	120 V
B1	4" Square LED Downlight, Black Housing, Clear Reflector	Recessed	Indy	SDS04B80	2700K, 80+ CRI, 1250 LM	120 V
B2	4" Square LED Downlight, Black Housing, Clear Reflector	Recessed	Indy	SDS04B80	2700K, 80+ CRI, 1250 LM	120 V
D1	2' x 4' LED Troffer, Clear Diffuser	Recessed	Lithonia Lighting	ALL	3000K, 80 CRI, 4000 LM	120 V
D1E	2' x 4' LED Troffer, Battery Backup, Clear Diffuser	Recessed	Lithonia Lighting	ALL	3000K, 80 CRI, 4000 LM	120 V
E1	1-Sided EXIT Light, LED, Battery Backup	Recessed	Lithonia Lighting	LRP	LED	120 V
EM1	Emergency Lighting Unit, Battery Backup	Recessed	Lithonia Lighting	ELM2	LED	120 V
F1	4" LED Strip Light	Surface	Lithonia Lighting	ZL SERIES	3500K, 5000 LM	120 V
F2	2" LED Strip Light	Surface	Lithonia Lighting	ZL SERIES	3500K, 2500 LM	120 V
G1	LED Wall-Mounted Rectangular Sconce, Black	Wall Surface	BEGA	STUDIO LINE	3000K, 80+ CRI, 4000 LM	120 V
H1	LED Recessed Can Down Light	Recessed	Lithonia Lighting	LDN SERIES	3000K, 80 CRI, 1000 LM	120 V
I1	4" LED Under Cabinet Strip Light w. Integrated Power Cord	Under Cabinet Surface	Lithonia Lighting	UCLD	3000K, 80+ CRI, 760 LM	120 V
J1	Exterior Rectangular Wall Pack, Black	Wall Surface	BEGA	33 242	3000K, 80+ CRI, 120 V	120 V
J2	Exterior Rectangular Wall Pack, Black	Wall Surface	BEGA	22 380	3000K, 80+ CRI, 120 V	120 V
K1	LED Plant Growth Strip Light	Suspended	Hubbell Lighting	NutriLED SERIES	3500K, 5000 LM	120 V
N1	INGROUND FLOOD W/ GRILL AND GLASS BEZEL	Recessed	AURORA LIGHT	HINLEY LIGHTHAUS	2700K, 1000	120 V

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Olbrich Botanical Gardens
Expansion Phase 1
3330 Atwood Avenue
Madison, WI 53704

NOT FOR
CONSTRUCTION

ISSUE MARK DATE DESCRIPTION
09.09.2017 SCHEMATIC DESIGN SUBMISSION
12.08.2017 DO PRICING SET
01.10.2018 DESIGN DEVELOPMENT SUBMISSION
01.17.2018 UDC SUBMISSION

PROJECT NO. 2017016

PROJECT PHASE Design Development

DRAWN BY: MJG CHECKED BY: RAJ

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LEARNING CENTER
LIGHTING PLAN

E101

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andscape Architect
en Saiki Design, Inc.

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Olbrich Botanical Gardens
Expansion Phase 1
3330 Atwood Avenue
Madison, WI 53704

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Minnesota.

Signature: _____
 Names: _____
 _____ License No: _____

DATE	DESCRIPTION
09.29.2017	SCHEMATIC DESIGN SUBMISSION
12.08.2017	DD PRICING SET
01.10.2018	DESIGN DEVELOPMENT SUBMISSION
01.17.2018	UDC SUBMISSION

CT NO. 2017016

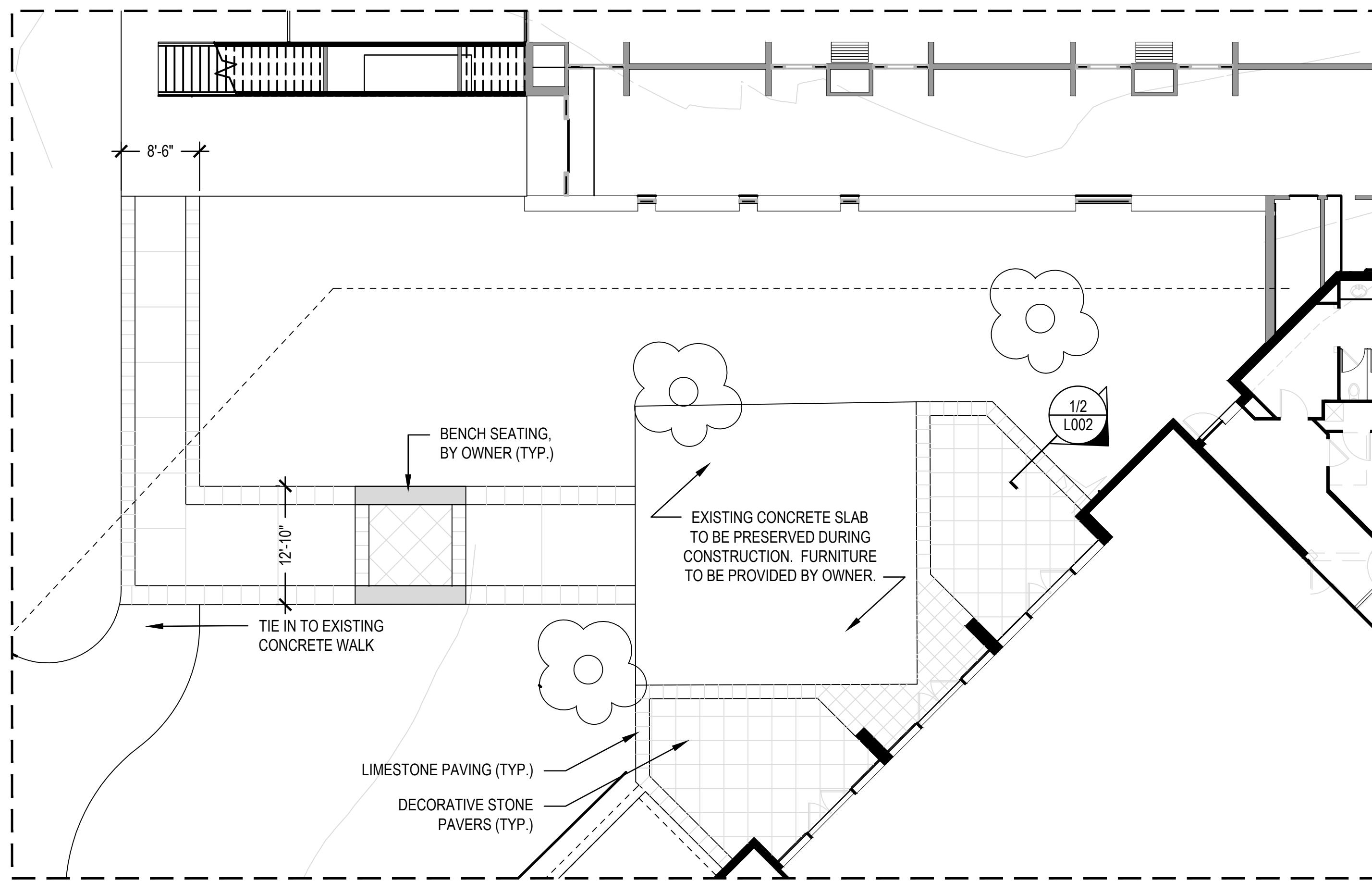
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DESIGN DEVELOPMENT

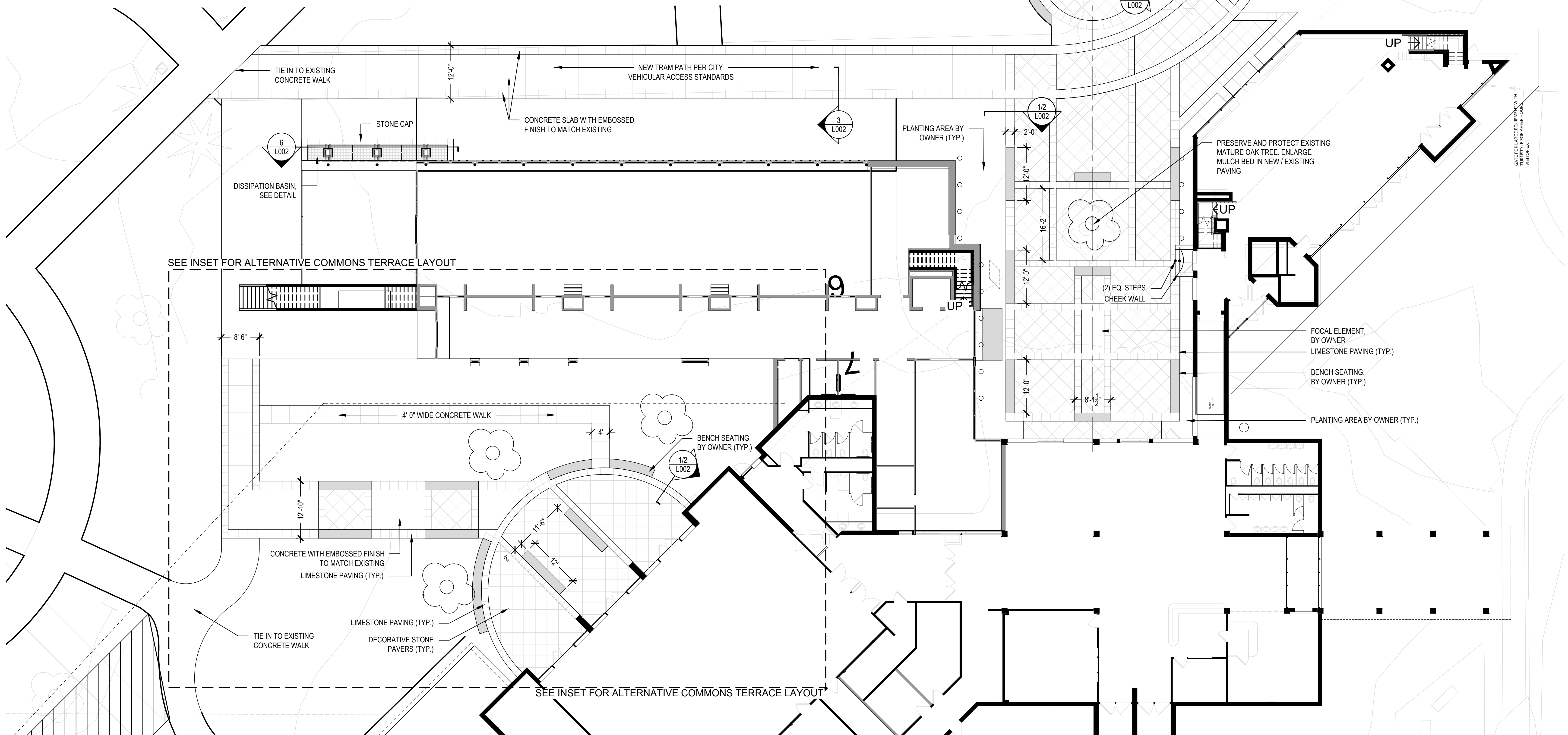
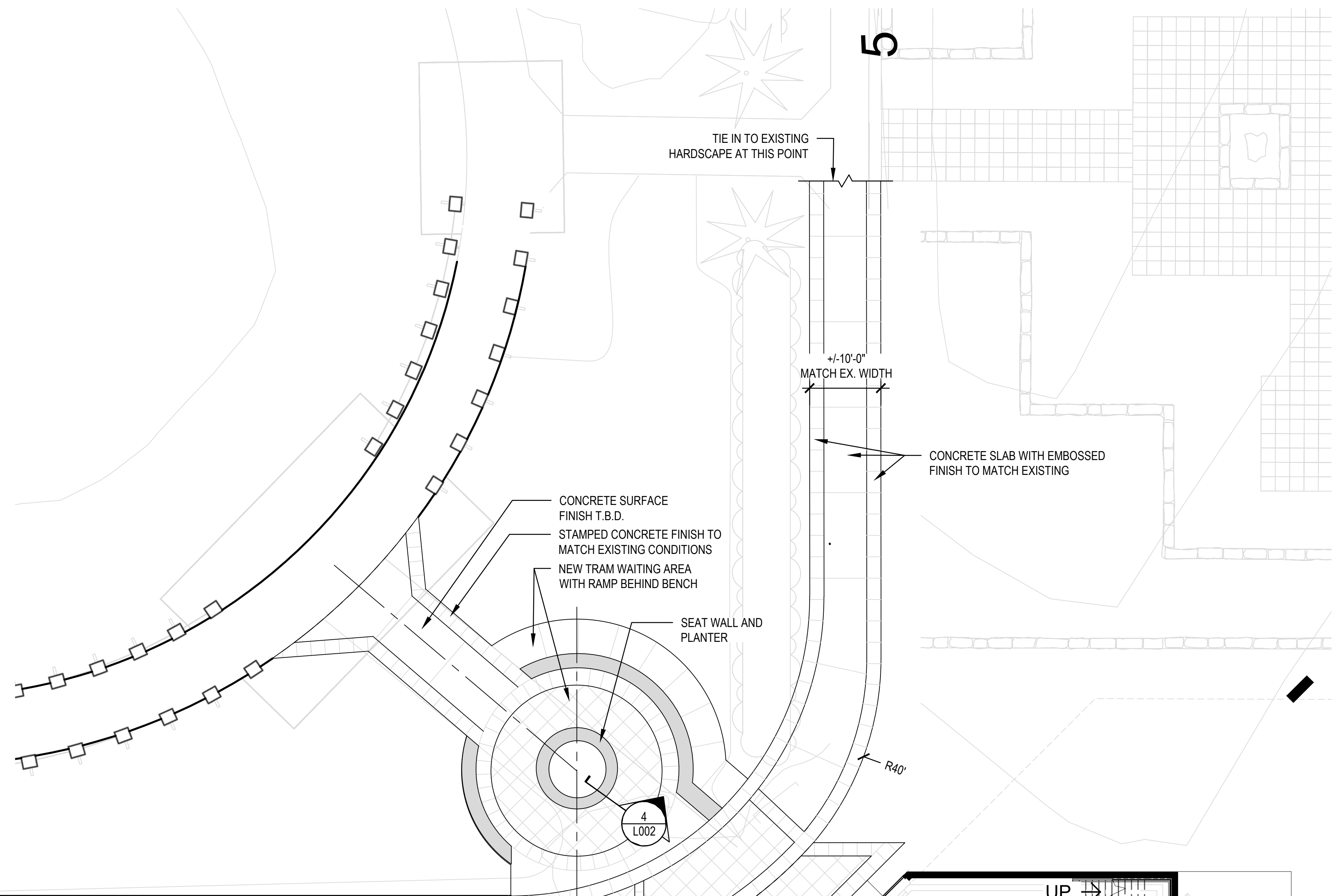
BY: _____ CHECKED BY: _____
D _____ KSD _____

HARDSCAPE PLAN

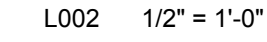
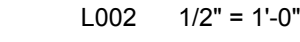
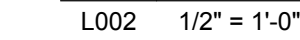
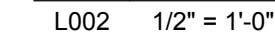
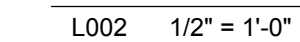
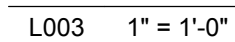
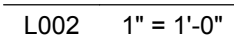
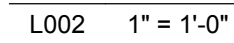
L001



2 COMMONS TERRACE (OPTION 2)



1 HARDSCAPE PLAN



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Cincinnati, OH 45217
3.242.0310 tel

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Madison, WI 53704

L003

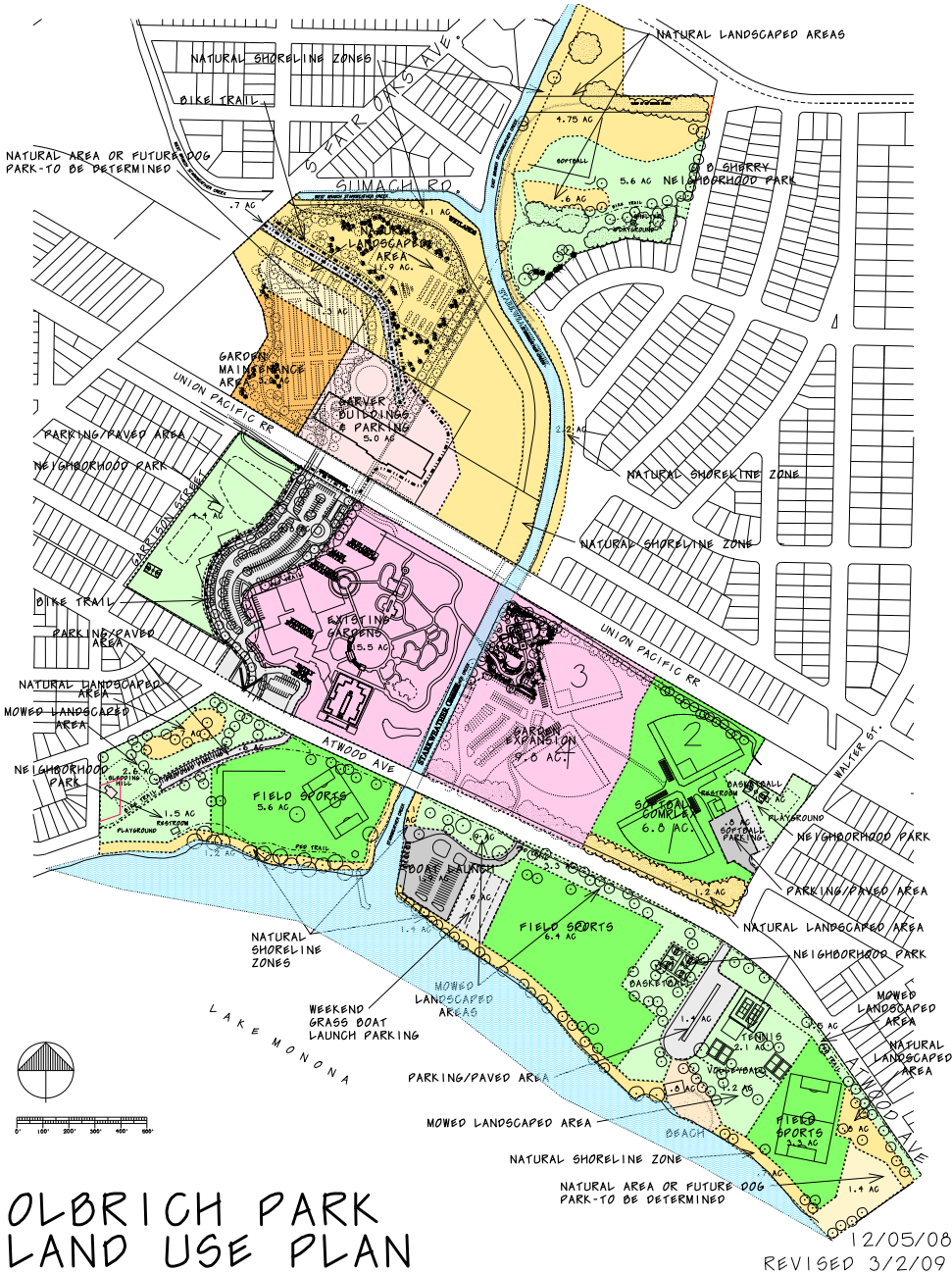


context

greater site context



neighboring land use plan



transit links



Aspects of the site context emphasized during the preliminary planning phases include the following:

- The subsurface conditions will be unpredictable and likely poor for foundation bearing based on previous site uses. The City is in the process of carrying out ground investigations and borings in the zones of expansion to provide more data for the design team to use from schematic design onwards.
- The existing water table is high, being just a few feet below existing grade.
- The site currently manages most roof stormwater by directing it into Starkweather Creek, which leads to Lake Monona. This will need to be changed to meet current City of Madison storm water management ordinances from facility expansion phases beyond Phase I. Most surface stormwater is managed on site with rain gardens – new or renovated places in the outdoor gardens has managed hard surface runoff into rain gardens since 2005.
- The local residents have a high regard for the important role OBG fulfills as a feature amenity in the green zone it occupies.
- The transit opportunities for accessing OBG are diverse and frequent. However, there is no weekend bus service without walking from Fair Oaks Avenue, so current transit service is not adequate for weekend visitors.

design team and existing facilities plan

design team

Olbrich Botanical Gardens
Olbrich Botanical Society
City of Madison Engineering
City of Madison Parks Department

Consultant Team

Architect and Interiors: MSR Design
Traci Engel Lesneski, Principal in Charge
Tom Meyer, Design Architect
Stephen Bellairs, Project Manager
Greta Foster, Interior Designer
Chris Wingate, Design/Sustainability
Brendan Sapienza, Architect
Lauren Gardner, Interior Designer.

Landscape Design: Ken Saiki Design
Ken Saiki, Landscape Architect

Civil: Viebicher Associates, Inc.
Matt Schreiner, Civil Engineer
Spencer Christiansen, Civil Engineer

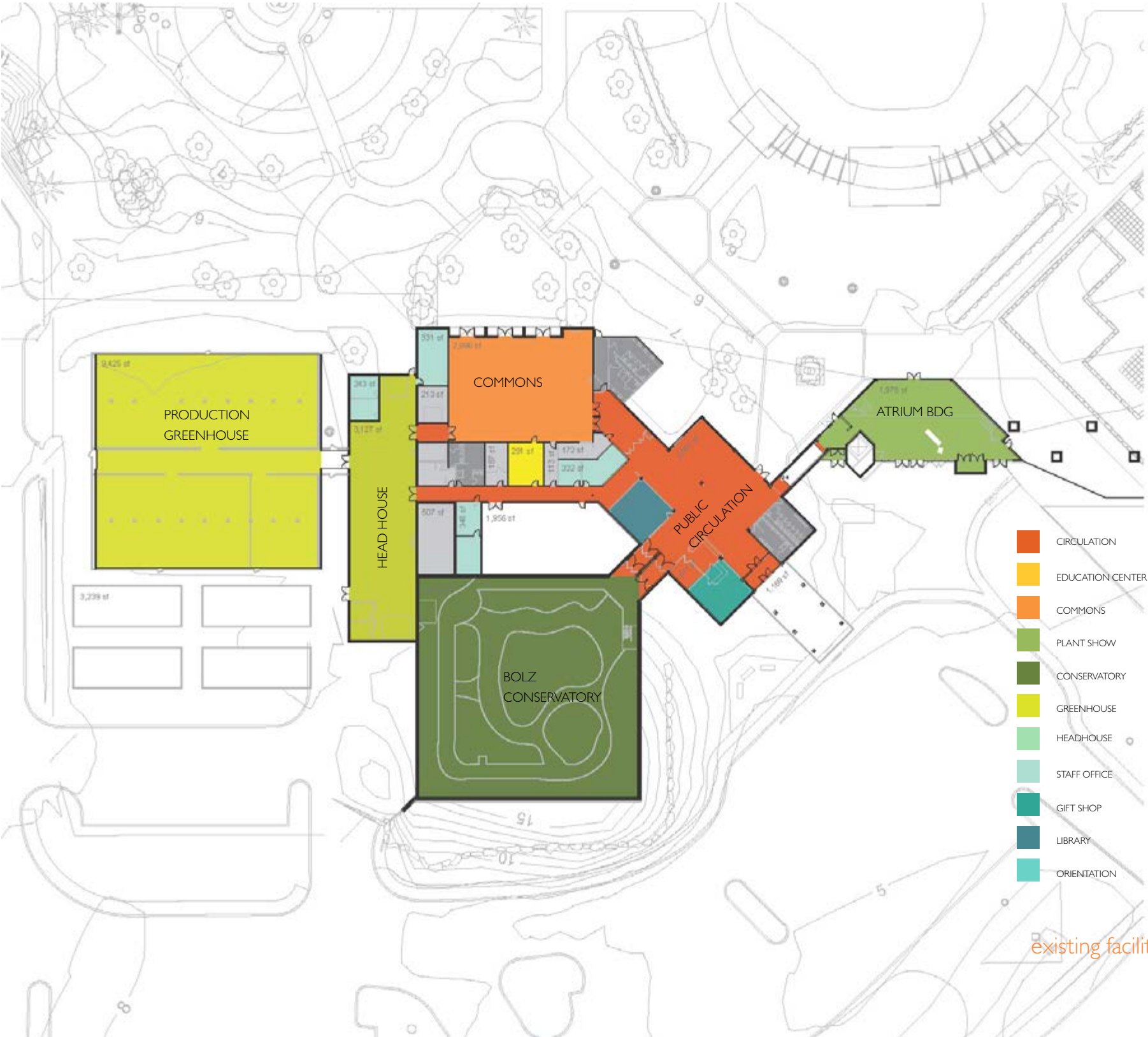
Structural and AV: IMEG Corp
Abby Pertzborn, PE, Structural Engineer
Marty Witt, Don Paul, Technology Designers

Mechanical, Electrical, Plumbing: MEP Associates, LLC
Larry Nemer, Robert Aschenbrenner, PE, Sr. Mechanical Engineers
Randy Jacobs, Sr. Electrical Engineer

Fire Protection: Summit Fire and Code Consulting, Inc.
Chris Leaver, Fire Protection Engineer
Natalie Buckman.

Greenhouse Design: Rough Brothers, Inc.
Sofia Wick, Greenhouse Consultant

Cost Estimator: Middleton Construction Consulting, Inc.
Josh Houston, Cost Estimator



existing facilities

existing site and facilities



existing site and facilities



exterior entry



public gardens



gardens



exterior



public gardens



bolz conservatory

existing site and facilities



existing site and facilities



library



catering kitchen



commons



education offices



entry foyer



atrium

02 | project description

phase I scope:

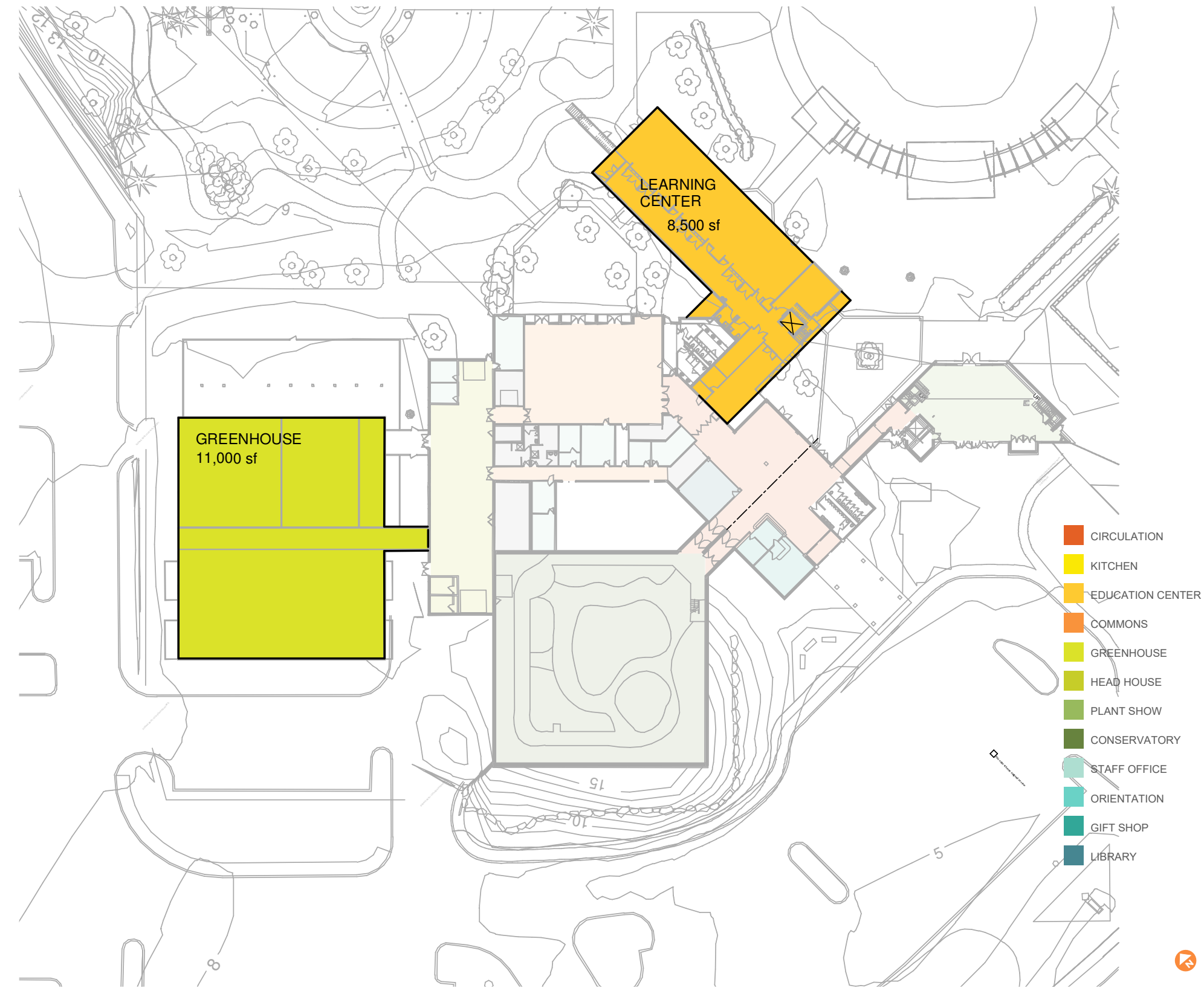
The scope of this project includes a new Learning Center, and replacement of the existing greenhouse with a new greenhouse of similar size. The new greenhouse will be almost identical in size as the existing greenhouse, and located in a similar place (shifted slightly west).

After detailed discussions with all stakeholders involved in the early design process regarding placement of the Learning Center, OBG recommended the location of the Learning Center, per the diagram adjacent, and as a two-story version, for the Design Team to use as a basis for the design for Phase I.

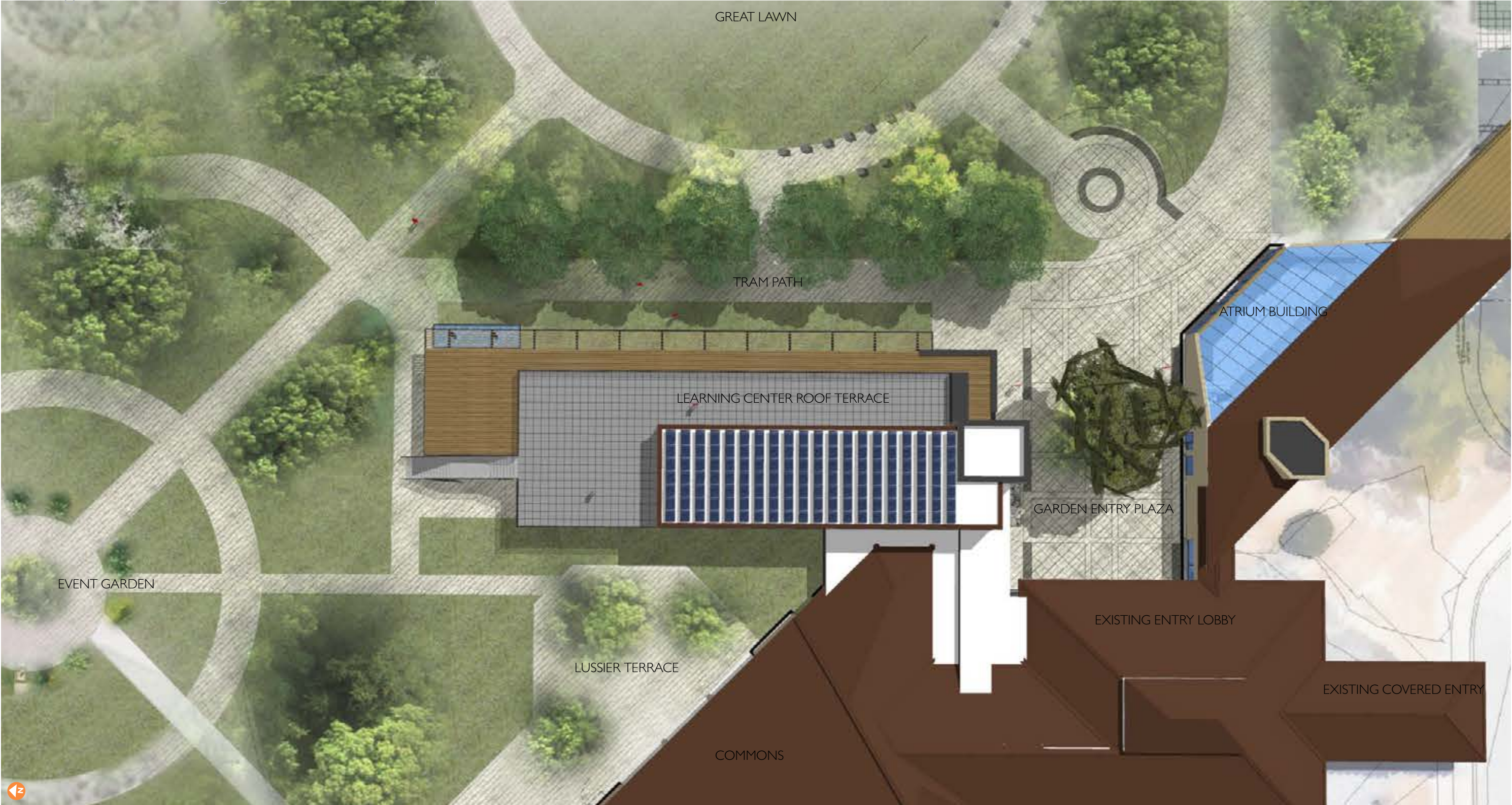
The reasons for this recommendation are as follows:

- Clear circulation to Learning Center from Phase I.
- Learning Center location close to center of garden showcases OBG's educational mission.
- Learning Center is expandable in the future.
- There is a desire to reduce the footprint by exploring a two-story option.
- Components of the rest of the facility used by Education (Conservatory, Commons, Library) are close to Learning Center.

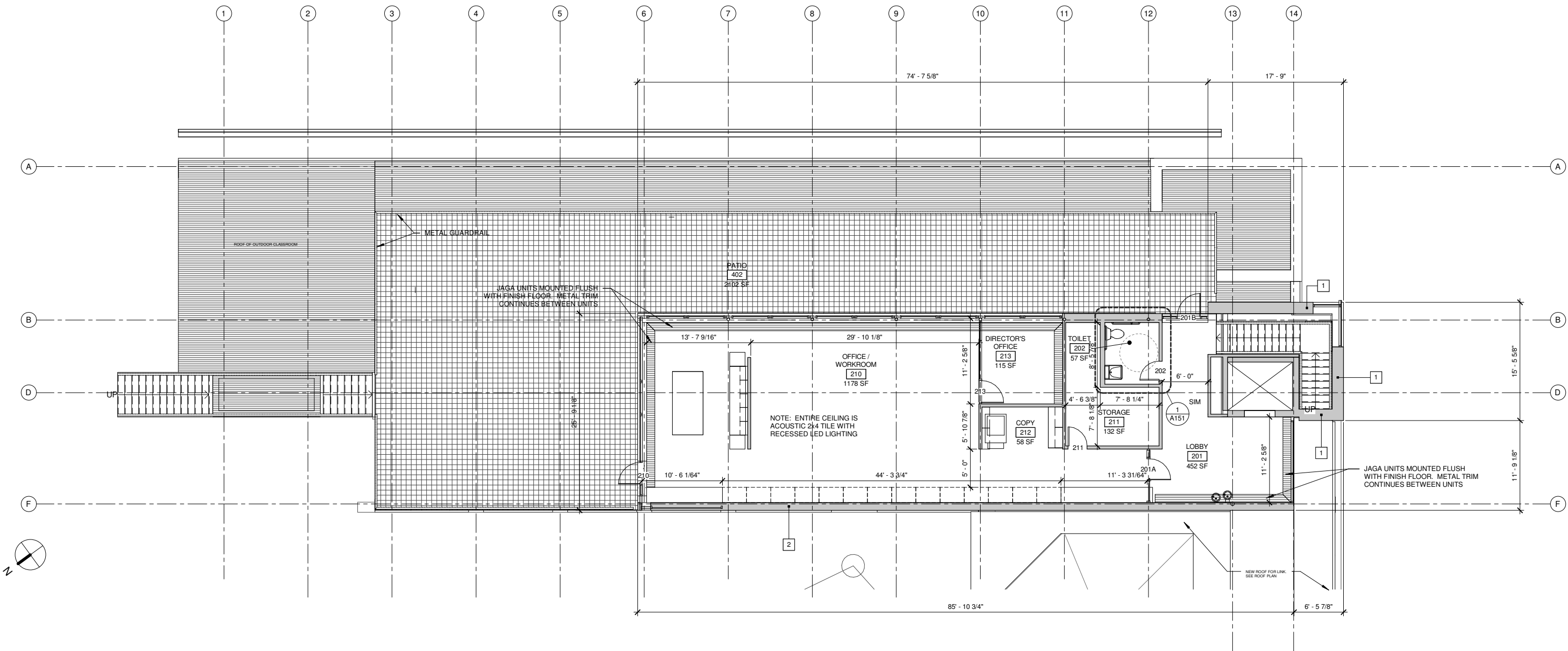
Rough Brothers, Inc., in their role as Greenhouse Design Consultant, took part in detailed discussions with Conservatory and Horticultural staff leadership to develop Options for the size and plan layout of the new Greenhouse for production, tropical plants, and orchids.



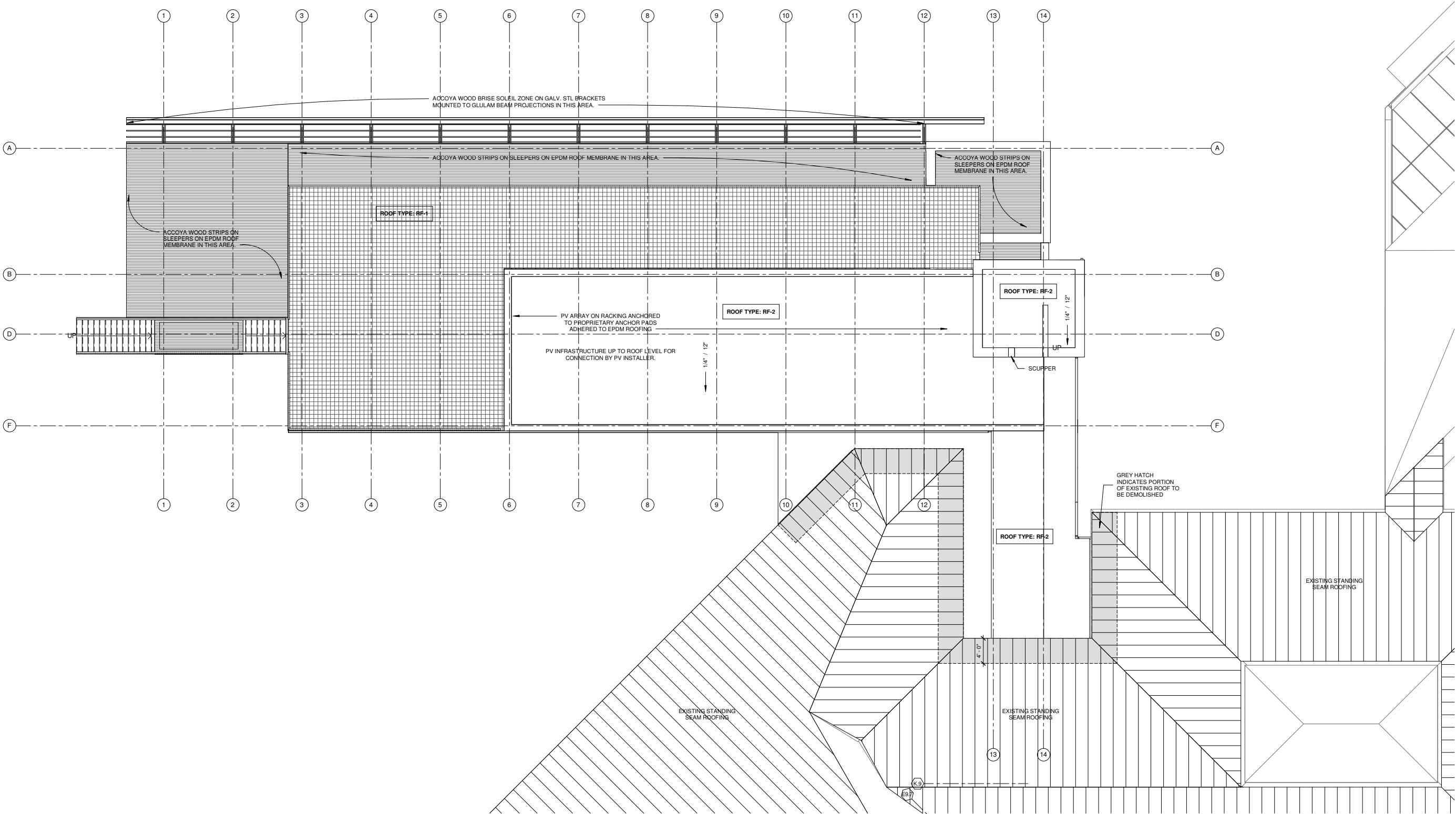
learning center: learning center rendered site plan



learning center: level 2 plan



learning center: roof plan



learning center: east elevation
refer to black and white elevations for material codes



learning center: west elevation
refer to black and white elevations for material codes



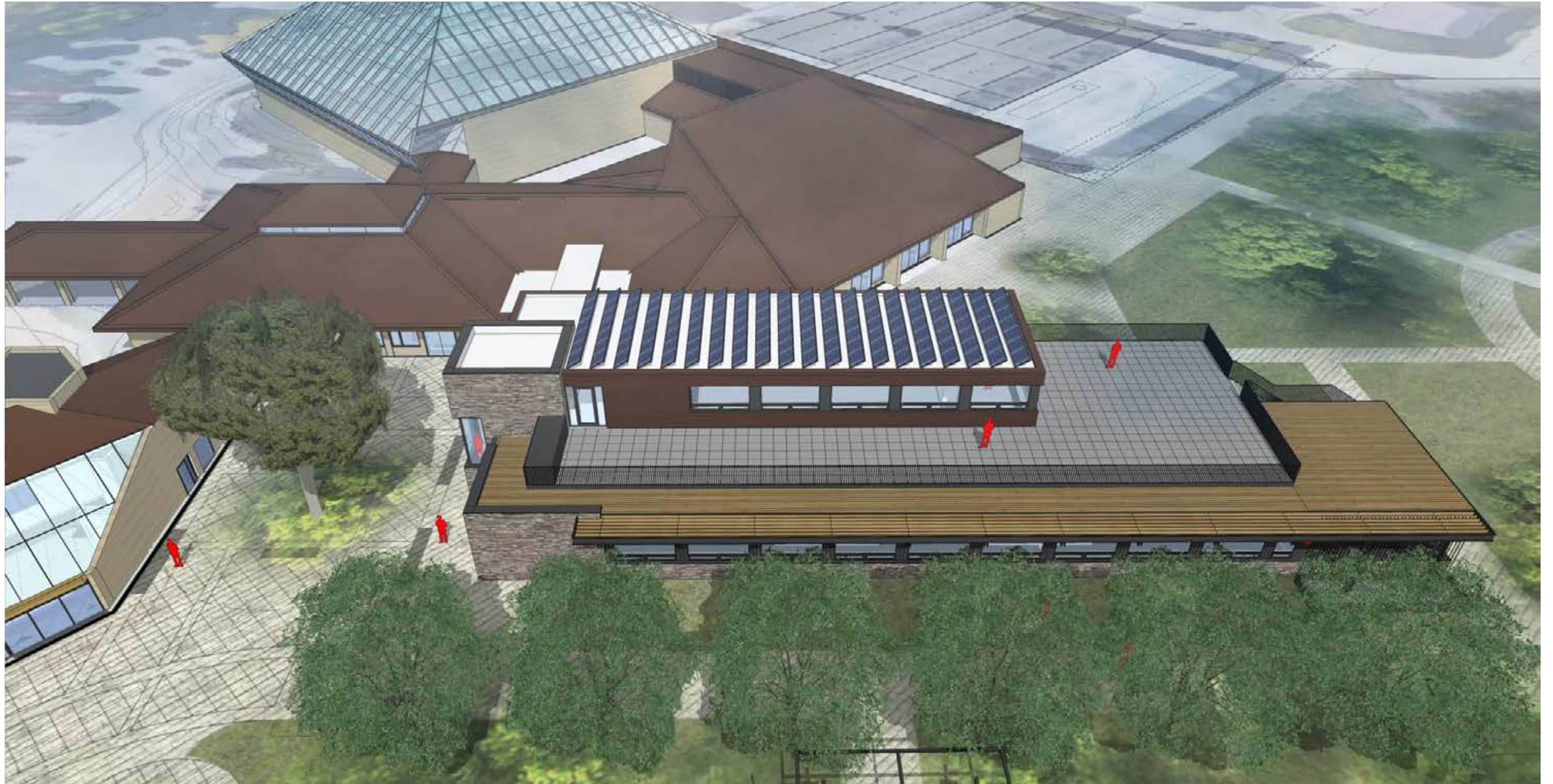
learning center: north elevation
refer to black and white elevations for material codes



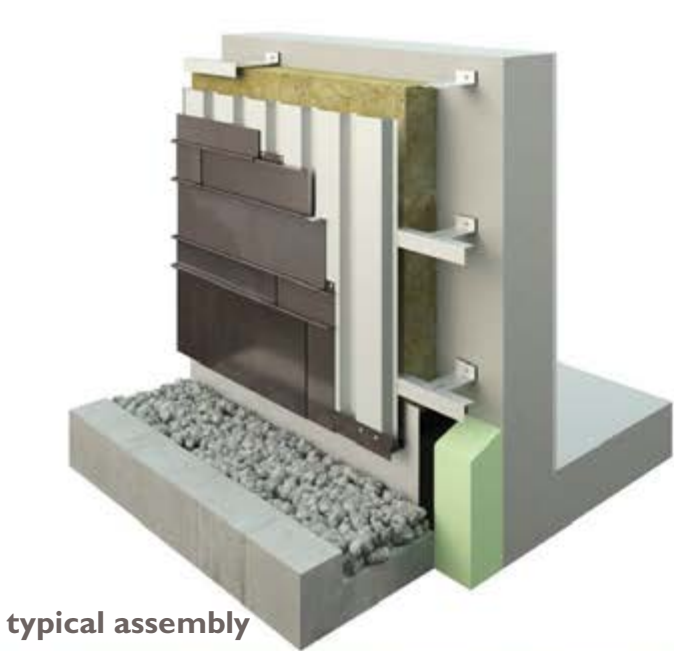
learning center: south elevation
refer to black and white elevations for material codes



learning center: aerial view from east



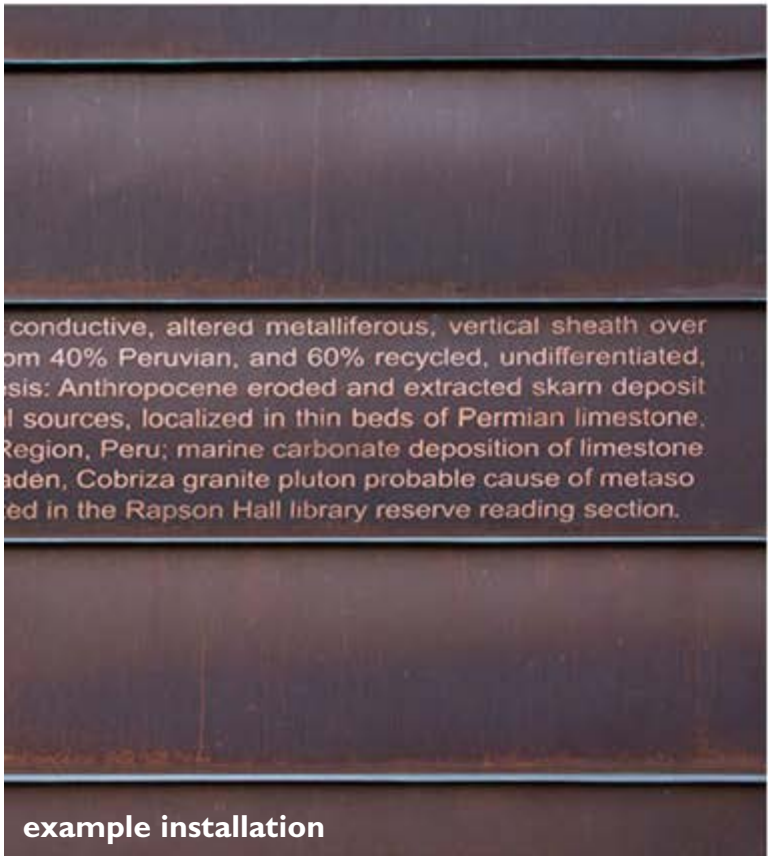
learning center: exterior materials: standing seam copper panels



typical assembly



example installation



example installation



west elevation excerpt

learning center: exterior materials: natural limestone



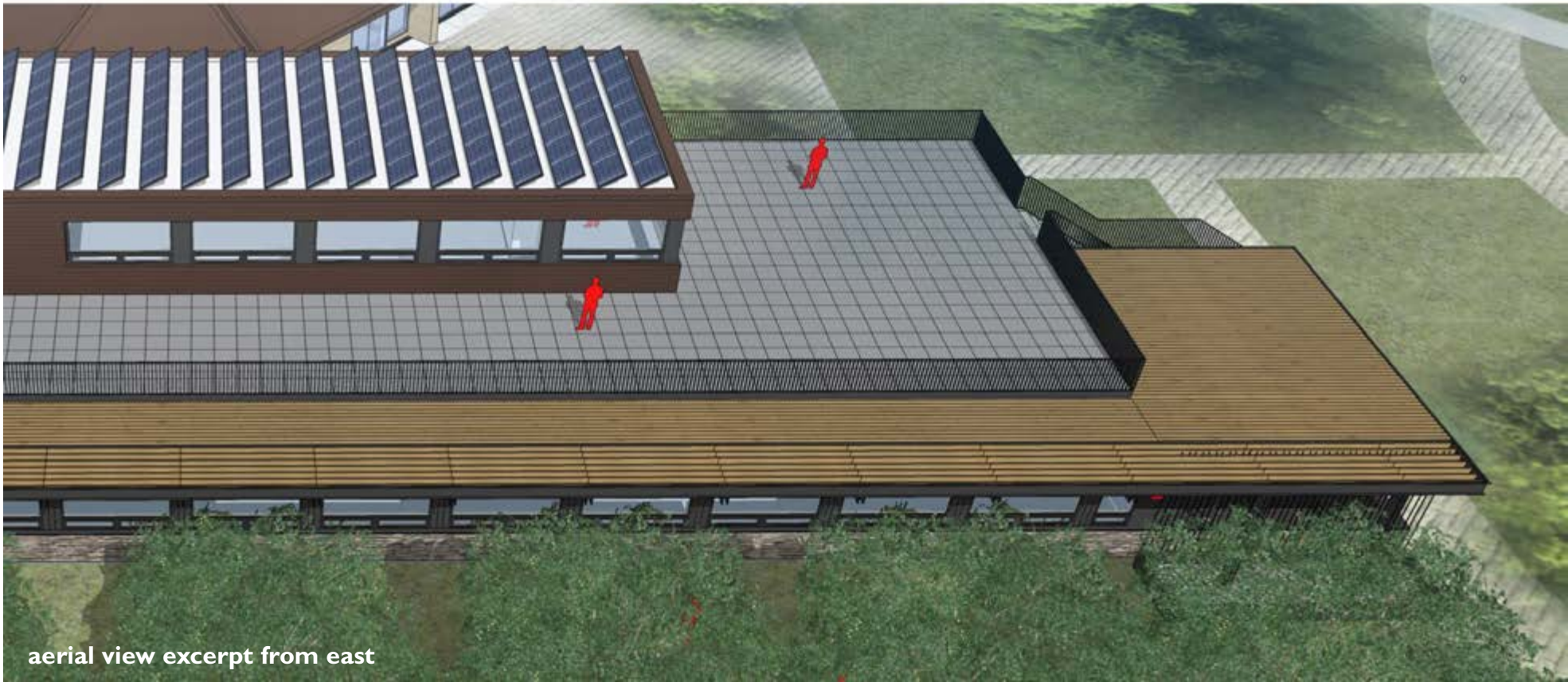
learning center: exterior materials: terrace finishes



concrete paver

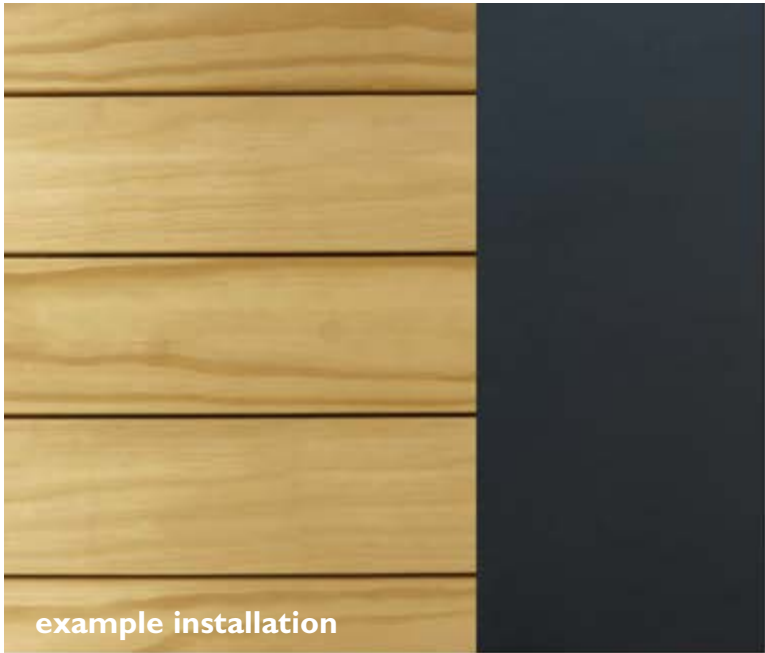


natural wood decking



aerial view excerpt from east

learning center: exterior materials: treated solid accoya wood ceiling to outdoor classroom and to roof edges



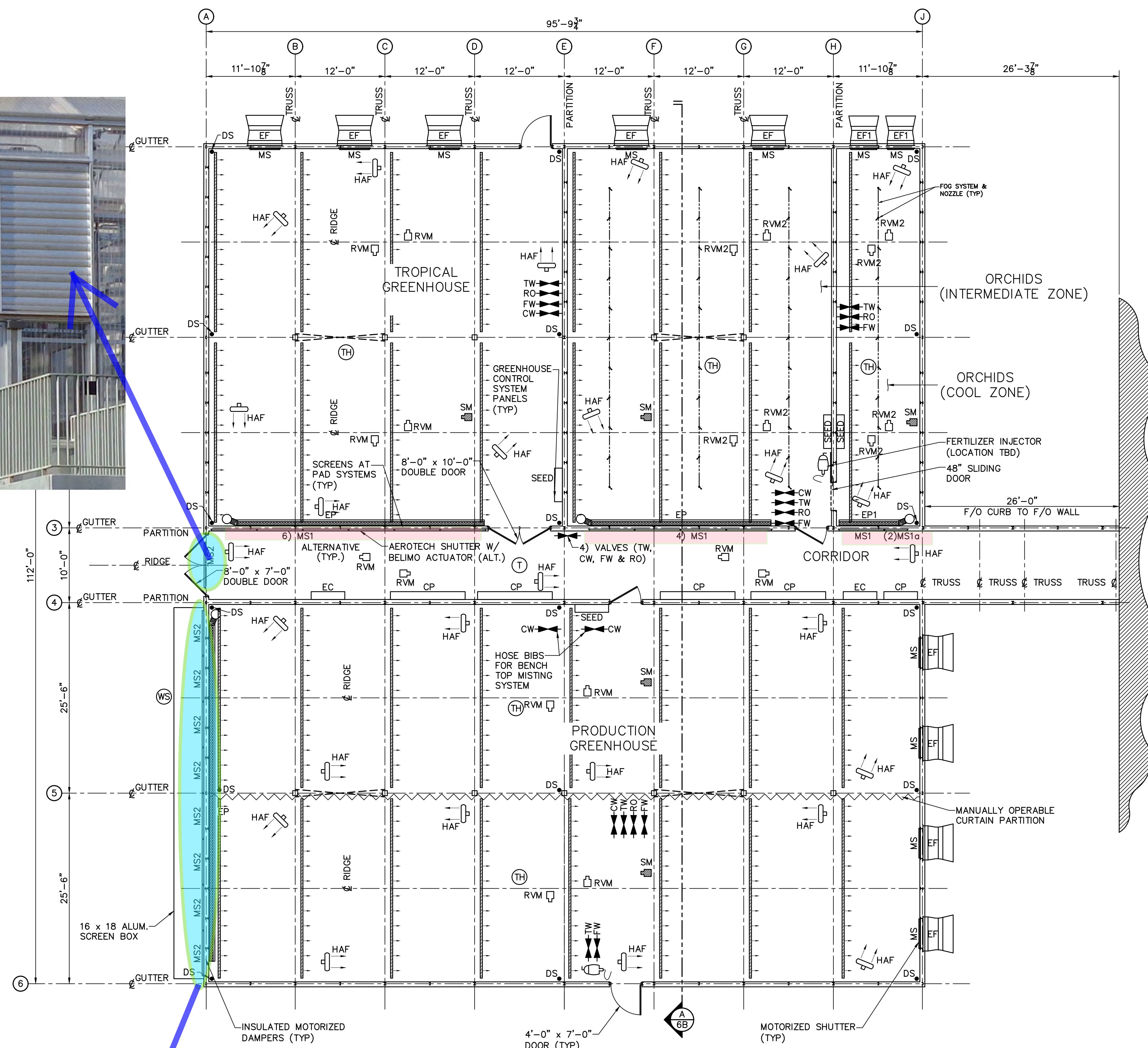
example installation



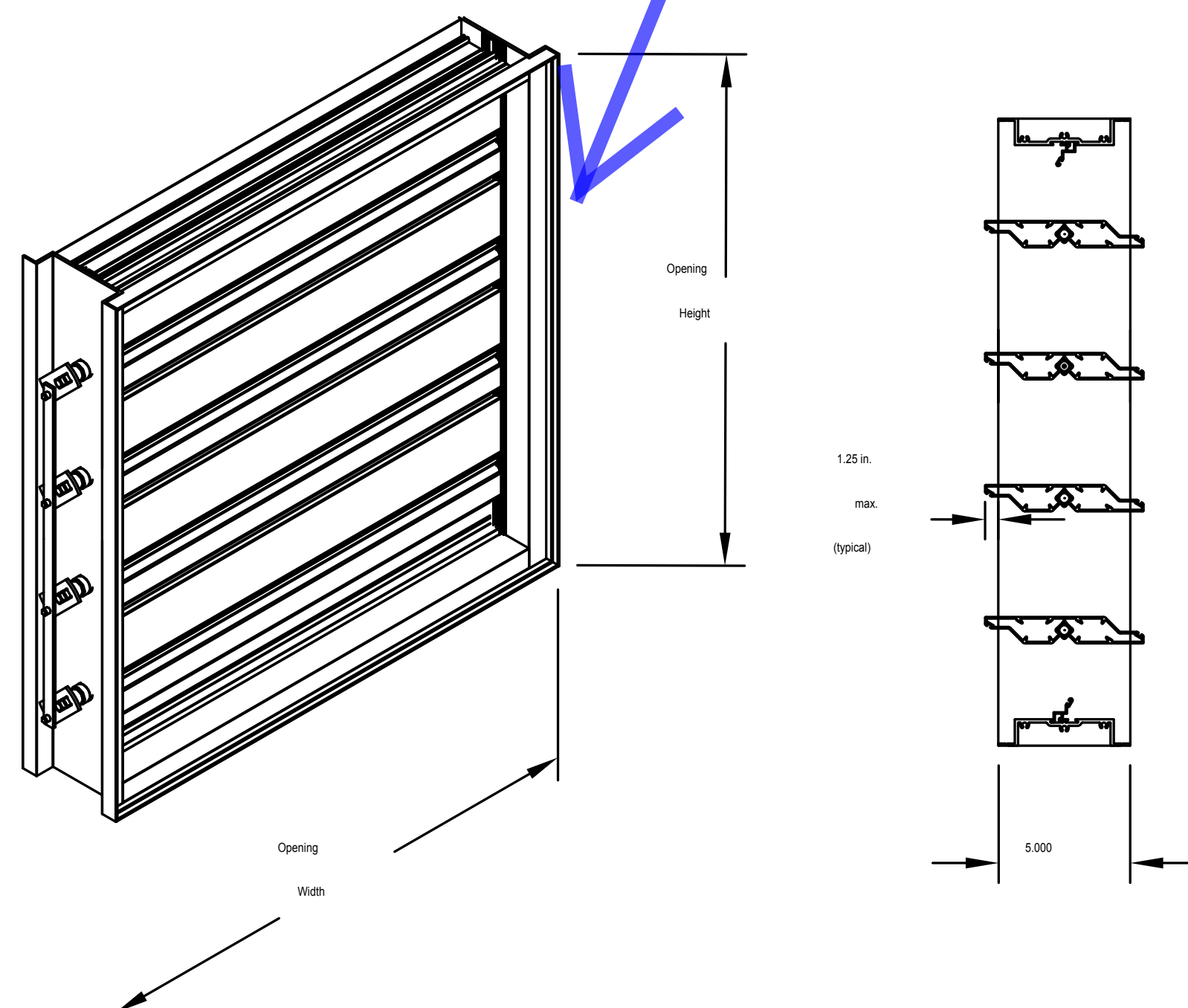
example installation



north elevation excerpt



TRUE PLAN



MS2	9	72" X 72" GREENHECK INSULATED MOTORIZED ALUMINUM SHUTTERS WITH BELIMO ACTUATORS FOR PRODUCTION EVAPORATIVE COOLING PAD SYSTEM AND OVER THE WEST GABLE DOOR
-----	---	--

EQUIPMENT ALTERNATES							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
	11	72" X 72" MOTORIZED ALUMINUM SHUTTERS EVAP PADS IN COORIDOR WITH BELIMO ACTUATORS	—	120	1	0.28	—
	2	36" X 36" MOTORIZED ALUMINUM SHUTTERS EVAP PADS IN COORIDOR WITH BELIMO ACTUATORS	—	120	1	0.28	—



5513 Vine Street
Cincinnati, OH 45217

513.242.0310 tel

3330 Atwood Avenue
Madison, WI 53704

hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the Laws of the State of Wisconsin.

Signature: _____

Site: _____ License No: _____

TUE	

[illegible]

PROJECT NO. 2017016

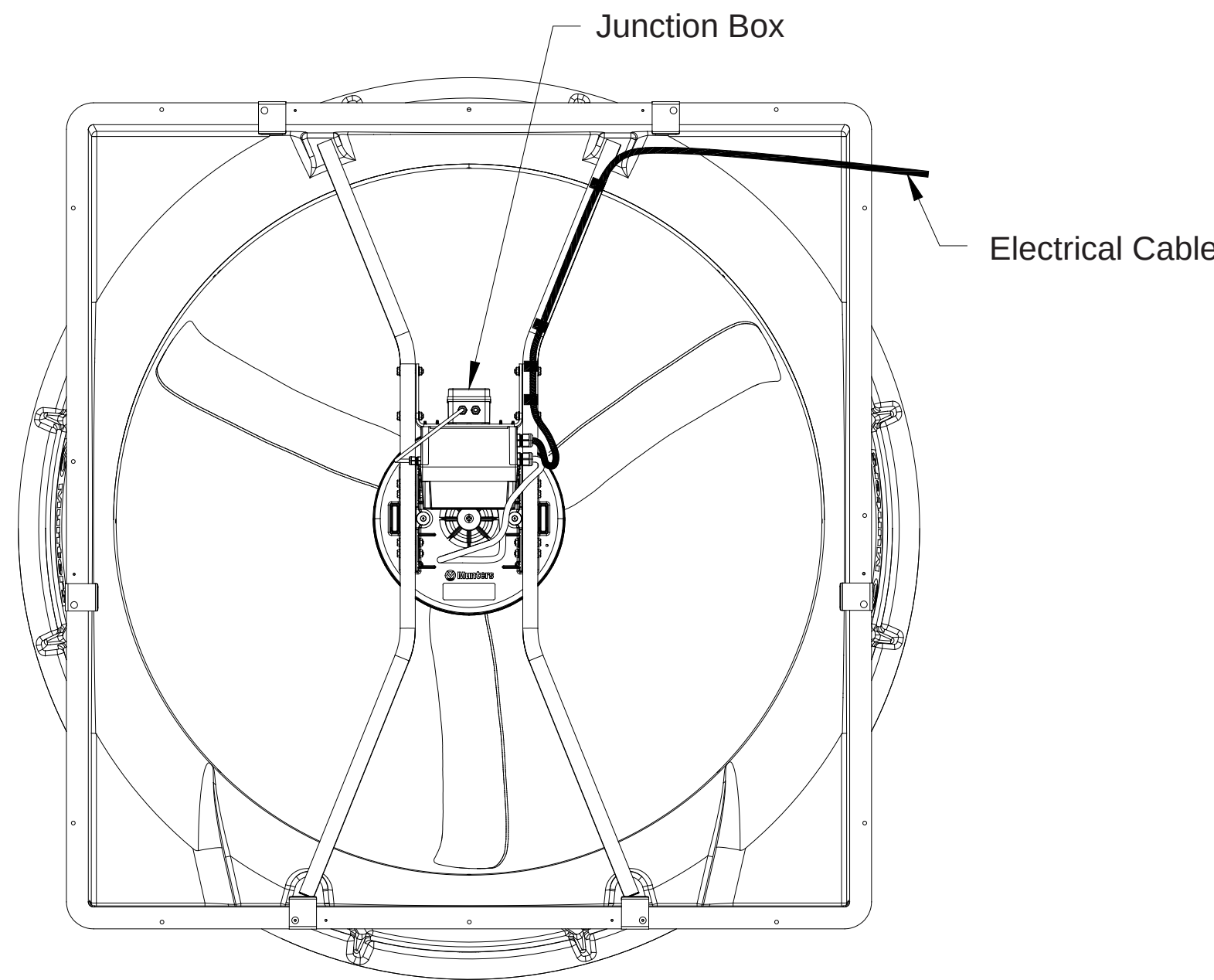
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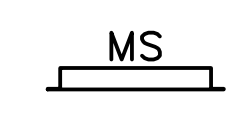
AWN BY: RPE
CHECKED BY: SW

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SCHEMATIC GREENHOUSE DESIGN

EXHAUST FANS & SHUTTERS



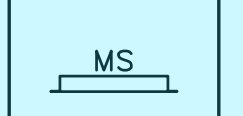
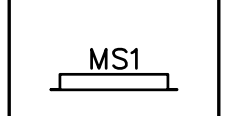
	9	48" MUNTERS DRIVE EXHAUST FAN WITH FIBERGLASS HOUSING, WITH MUNTERS MOTORIZED SHUTTERS, VX48DF21C-224-HR	1 1/2	120	1	0.28	649
	2	36" MUNTERS DRIVE EXHAUST FAN WITH FIBERGLASS HOUSING, WITH MUNTERS MOTORIZED SHUTTERS, VX36DF21C-224-HR	1/2	120	1	0.28	796
	11	AEROTECH MOTORIZED ALUMINUM SHUTTERS AT EXHAUST FANS, SEE EQUIPMENT ALTERNATES TABLE	-	120	1	0.28	-



HINGES FOR INSULATED SHUTTERS

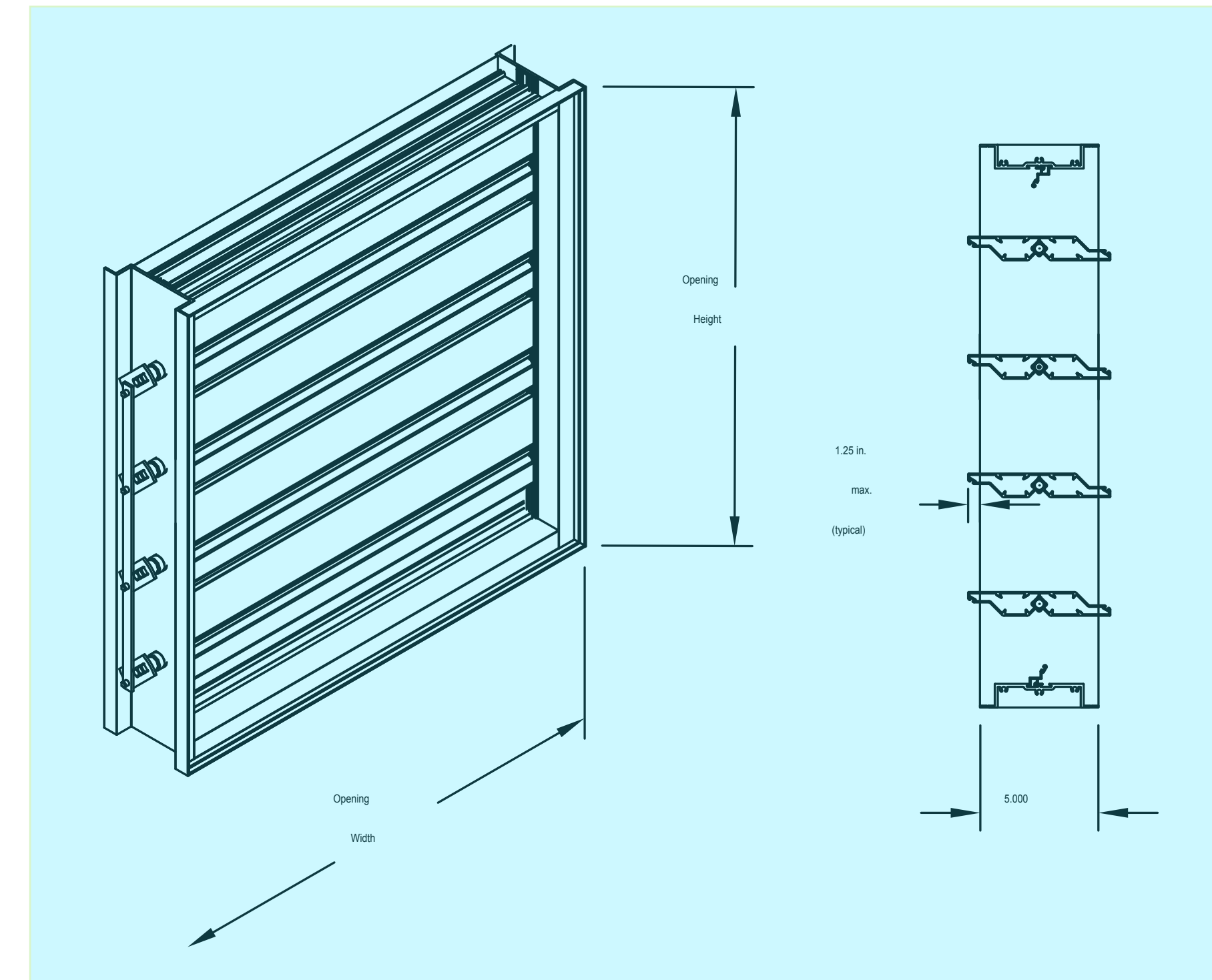


EQUIPMENT PLAN LAYOUT A
SCALE: 1/8"=1'-0"

EQUIPMENT ALTERNATES						
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP
	11	GREENHECK INSULATED MOTORIZED ALUMINUM SHUTTERS WITH HINGES AT EXHAUST FANS	-	120	1	0.28
	15	72" X 72" MOTORIZED ALUMINUM SHUTTERS EVAP PADS IN COORIDOR WITH BELIMO ACTUATORS	-	120	1	0.28



MUNTERS ALUMINUM SHUTTER



ALTERNATE GREENHECK INSULATED DAMPER

Civil Engineer
Vierbicher Associates, Inc.
999 Fournier Drive, Suite 201
Madison, WI 53717
608.826.0532 tel

Landscape Architect
Ken Saiki Design, Inc.
303 South Paterson Street, Suite 1
Madison, WI 53703
608.251.3600 tel

Structural Engineer, Technology and AV
IMEG Corp.
1800 Deming Way, Suite 200
Middleton, WI 53562
608.223.9600 tel

MEP Engineer
MEP Associates, LLC
880 Blue Gentian Road, Suite 175
Eagan, MN 55121
651.379.9120 tel

Fire Protection Engineer and Code Consultant
Summit Fire Consulting
575 Minnehaha Ave West
St. Paul, MN 55103
651.251.1880 tel

Greenhouse Design
Rough Brothers, Inc.
5513 Vine Street
Cincinnati, OH 45217
513.242.0310 tel

Olbrich Botanical Gardens
3330 Atwood Avenue
Madison, WI 53704

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Signature: _____
Print Names: _____
Date: _____ License No.: _____
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MARK DATE DESCRIPTION
PROJECT NO. 2017016
PROJECT PHASE SCHEMATIC DESIGN
DRAWN BY: RPE CHECKED BY: SW
Issued 01/16 Copyright Meyer, Scherer & Associates, LLC

SCHEMATIC GREENHOUSE DESIGN

SHADE SYSTEM

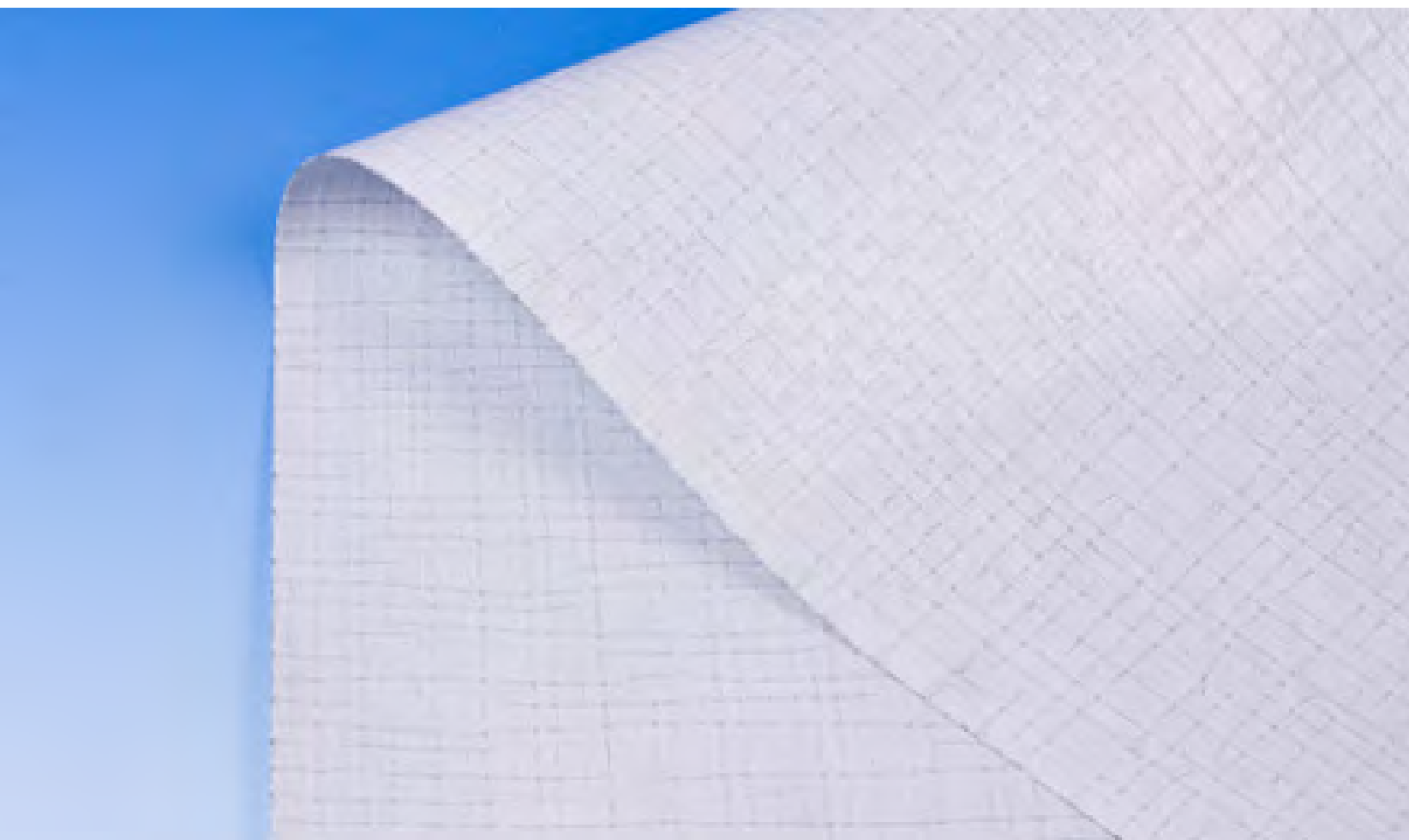
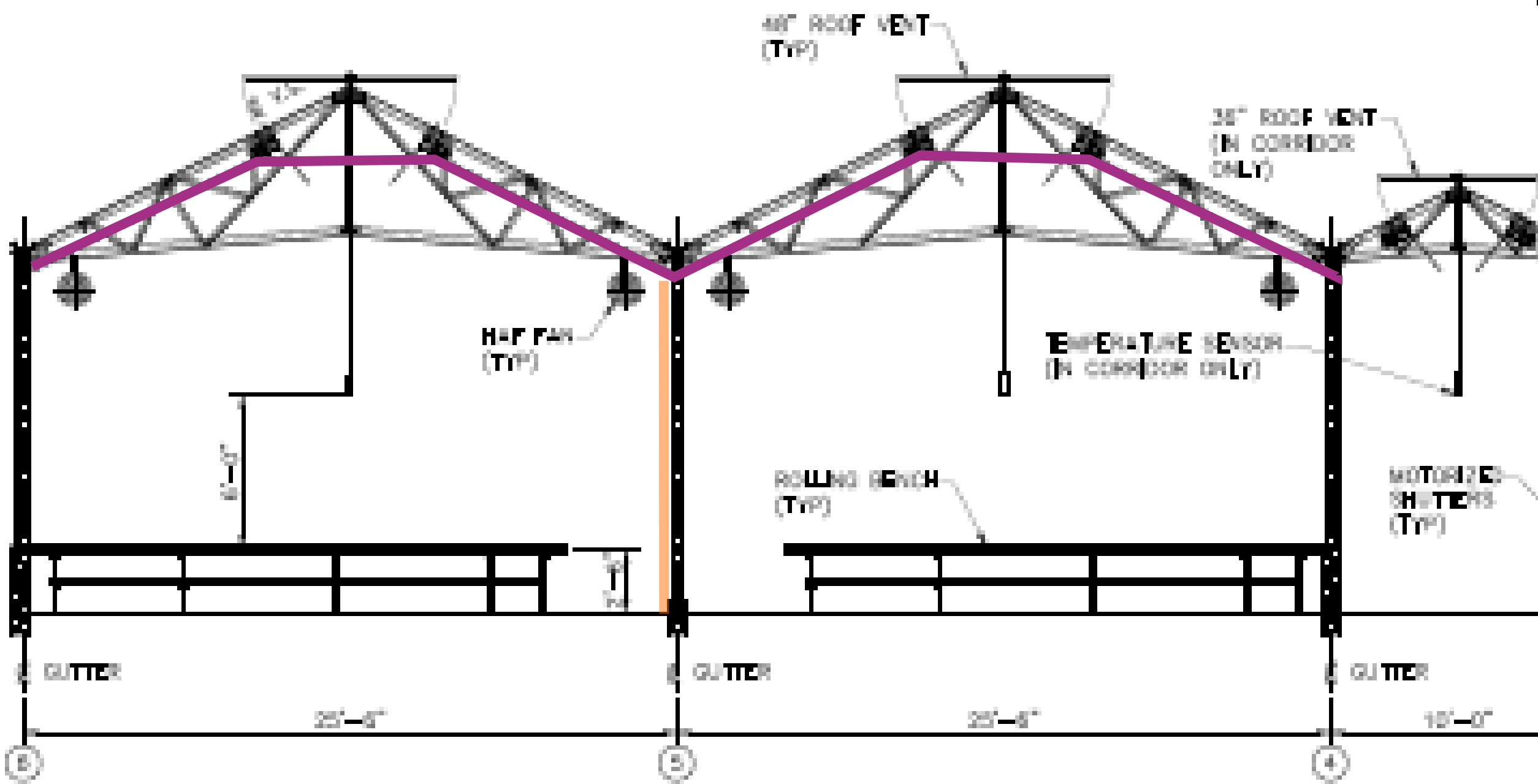
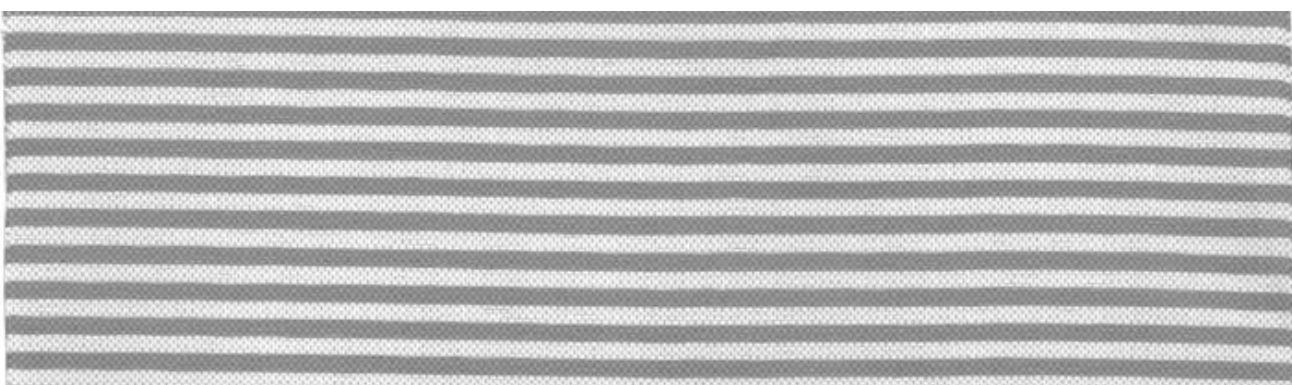
EWA 10
50-90 Nm



SM	5	ROOF SHADE MOTOR, LOCK EWA 10	0.15	120	1	2.4	4.6
↑	8	MOTORIZED SUSPENDED ROOF SHADE/HEAT RETENTION CURTAIN SYSTEM. FLAME RETARDANT SHADE FABRIC WITH 50%-60% LIGHT REDUCTION FACTOR.	-	-	-	-	-

FF/FR Trevira-CS

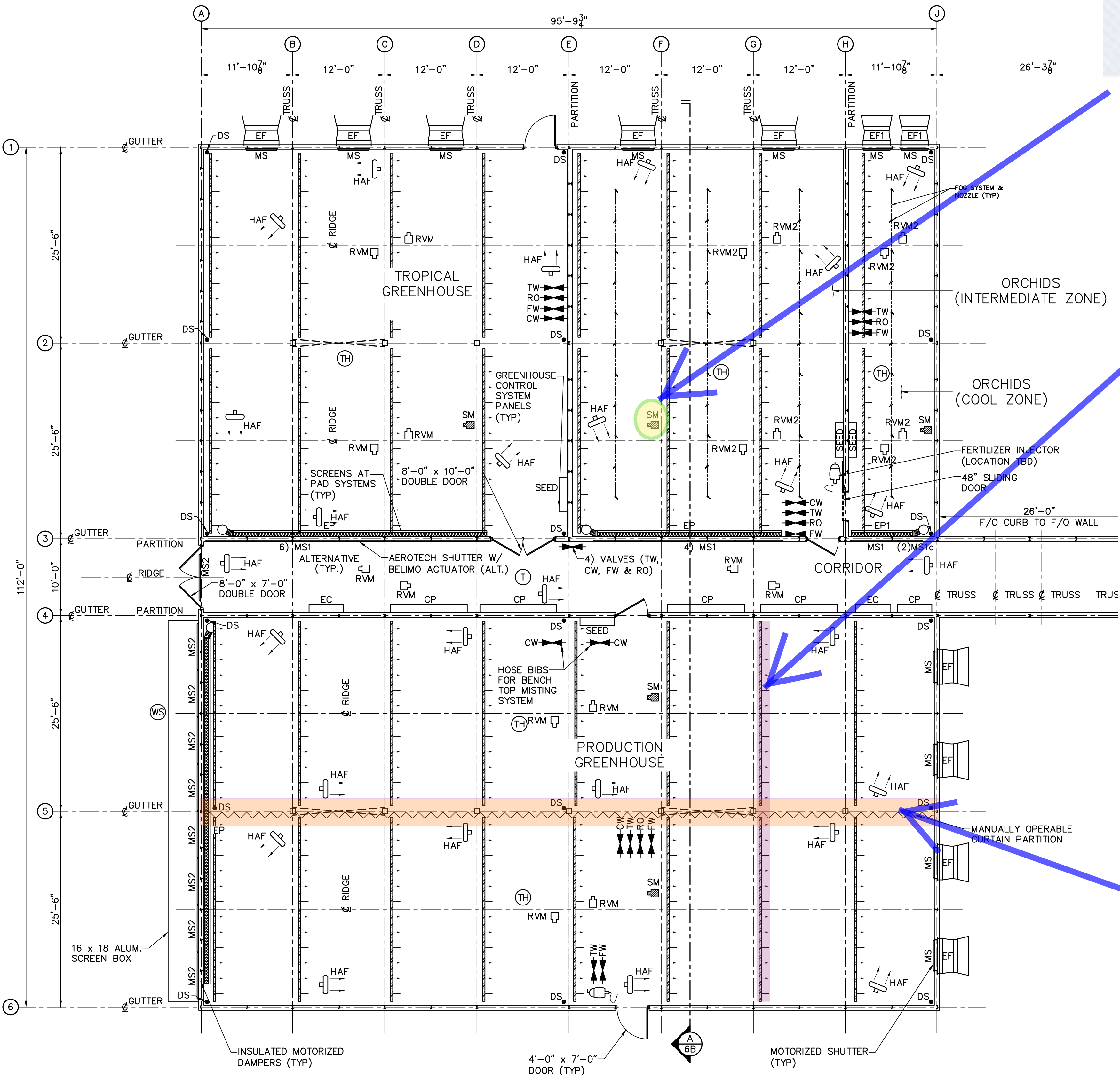
Type:	Shading-Rate	Energysaving-Rate
white-grey	approx. 60%	approx. 60%



OBSCURA 10070 R FR W

Product information

Main Function	From light restriction to total blackout
System	Rolling
Material composition	100% Polyolefin
Pattern	Laminated
Flame retardant	Yes
Warranty	Please contact your Svensson representative for warranty information.



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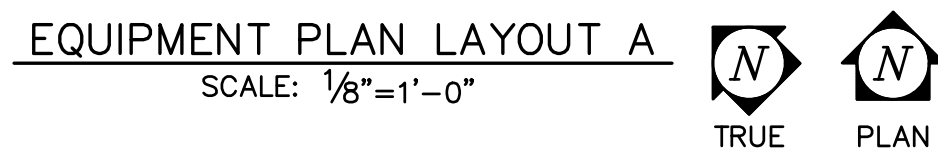
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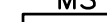
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Print Names: _____
Date: _____ License No: _____
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MARK DATE DESCRIPTION
PROJECT NO. 2017016
PROJECT PHASE SCHEMATIC DESIGN
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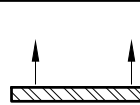
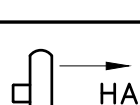
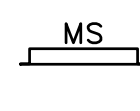
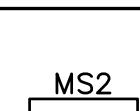
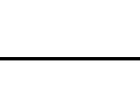
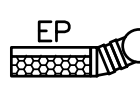
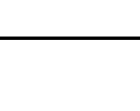
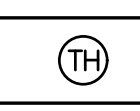
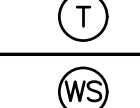
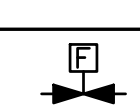
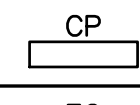
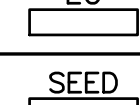
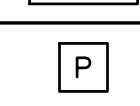
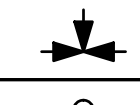
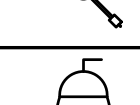
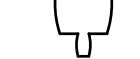
SCHEMATIC
GREENHOUSE
DESIGN

3330 Atwood Avenue
Madison, WI 53704

GH6



EQUIPMENT ALTERNATES							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
	11	Alt. #1, GREENHECK INSULATED MOTORIZED ALUMINUM SHUTTERS WITH HINGES AT EXHAUST FANS	—	120	1	0.28	—
	11	Alt. #2, 72" x 72" MOTORIZED ALUMINUM SHUTTERS EVAP PADS IN COORIDOR WITH BELIMO ACTUATORS	—	120	1	0.28	—
	2	Alt. #2, 36" x 36" MOTORIZED ALUMINUM SHUTTERS EVAP PADS IN COORIDOR WITH BELIMO ACTUATORS	—	120	1	0.28	—

EQUIPMENT SCHEDULE -- BASIS OF DESIGN							
SYMBOL	QTY.	DESCRIPTION	HP	VOLT	PH	AMP	RPM
	12	ROOF VENT MOTOR, LOCK EWA 12, WITH OPEN/CLOSE LIMIT SWITCH	0.3	120	1	8.1	3.8
	8	ROOF VENT MOTOR, LOCK EWA 10, 50 Nm, WITH OPEN/CLOSE LIMIT SWITCH	0.15	120	1	2.4	4.6
	5	ROOF SHADE MOTOR, LOCK EWA 10	0.15	120	1	2.4	4.6
	8	MOTORIZED SUSPENDED ROOF SHADE/HEAT RETENTION CURTAIN SYSTEM. FLAME RETARDANT SHADE FABRIC WITH 50%-60% LIGHT REDUCTION FACTOR.	-	-	-	-	-
	27	12" VK12 SCHAEFER HAF FAN	1/10	115	1	1.3	1725
	9	48" MUTTERS DRIVE EXHAUST FAN WITH FIBERGLASS HOUSING, WITH MUTTERS MOTORIZED SHUTTERS; VX48DF21C-224-HR	1 1/2	120	1	0.28	649
	2	36" MUTTERS DRIVE EXHAUST FAN WITH FIBERGLASS HOUSING, WITH MUTTERS MOTORIZED SHUTTERS, VX36DF21C-224-HR	1/2	120	1	0.28	796
	11	MOTORIZED ALUMINUM SHUTTERS AT EXHAUST FANS, SEE EQUIPMENT ALTERNATES TABLE (Alt. #1)	-	120	1	0.28	-
	9	72" x 72" GREENHECK INSULATED MOTORIZED ALUMINUM SHUTTERS WITH BELIMO ACTUATORS FOR PRODUCTION EVAPORATIVE COOLING PAD SYSTEM AND OVER THE WEST GABLE DOOR	-	120	1	0.28	-
	3	6'-0" TALL EVAPORATIVE COOLING PAD SYSTEM W/ PVC RETURN GUTTER, PLUMBING KIT, RESERVOIR TANK AND SUBMERSIBLE PUMP, TROPICAL AND PRODUCTION SYSTEMS EC:1122 PUMP, SUBMERS (LITTLE GIANT 509207)	4/10	115	1	13.0	-
	1	6'-0" TALL EVAPORATIVE COOLING PAD SYSTEM W/ PVC RETURN GUTTER, PLUMBING KIT, RESERVOIR TANK AND SUBMERSIBLE PUMP, ORCHID SYSTEMS: EC1319; PUMP, SUBMERS (LITTLE GIANT 506610/506801)	1/8	115	1	5.0	-
	5	ENVIRONMENTAL CONTROL SYSTEM -- ASPIRATED TEMPERATURE/HUMIDITY SENSOR	-	-	-	-	-
	1	ENVIRONMENTAL CONTROL SYSTEM -- TEMPERATURE SENSOR	-	-	-	-	-
	1	WEATHER STATION, W/ MAST	-	24	-	-	-
	18	4" DOWNSPOUT PIPING (BY GENERAL CONTRACTOR) ESTIMATED LOCATIONS SHOWN	-	-	-	-	-
	1	MANUALLY OPERABLE CURTAIN PARTITION	-	-	-	-	-
	5	IN SLAB HEATING SYSTEMS -- HEAT SUPPLY BY OTHERS. (NOT SHOWN FOR CLARITY)	-	-	-	-	-
	6	FIN TUBE HEATING SYSTEMS -- HEAT SUPPLY BY OTHERS. (NOT SHOWN FOR CLARITY)	-	-	-	-	-
	5	GREENHOUSE CONTROL PANELS	-	-	-	-	-
	2	ELECTRICAL PANEL (BY ELECTRICIAN)	-	-	-	-	-
	4	SEED INTERFACE PANEL ONLY FOR WADSWORTH SYSTEM	-	-	-	-	-
	1	FOG PUMP, 0.75 GPM, 1000 psi, LOCATION TBD	3/4	120	3	-	1725
	2	FOG ZONE VALVE WITH ZONE CONTROL PANEL, LOCATION TBD	-	24	-	-	-
	--	FOG SYSTEM LINES AND NOZZLES	-	-	-	-	-
	2	FERTILIZER INJECTOR WITH MONITOR SYSTEM	-	115	-	-	-

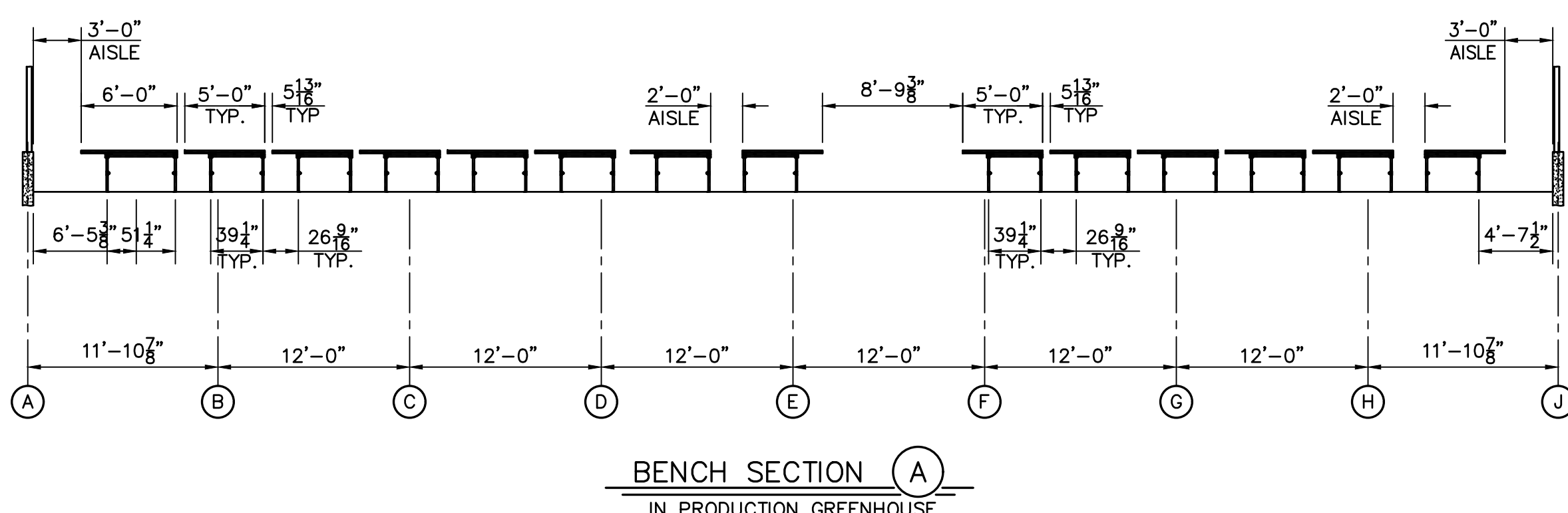
1. ALL ELECTRICAL WIRING (LINE & LOW VOLTAGE), CONDUIT, CIRCUIT PANELS, OUTLETS, LIGHTING (NON-HPS) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. CONDUIT & WIRING TO SUPPLEMENTAL LIGHTING TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ALL PLUMBING WORK SHALL BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR SUCH AS DOWNSPOUTS, FLOOR DRAINS, AND HOSE BIBS.
3. ALL FIRE PROTECTION SHALL BE PROVIDED AND INSTALLED BY OTHERS & ALLOW FOR RIGHT OF WAY FOR SHADE SYSTEM.
4. ROOF SHADE SYSTEM MUST HAVE TRAVEL RIGHT OF WAY. DO NOT MOUNT OR INSTALL LIGHTS, CONDUIT, PIPING, J-BOXES, DISCONNECT SWITCHES OR ANY PIECE OF EQUIPMENT IN ANY WAY THAT WILL INTERFERE WITH THE TRAVEL OF EACH SHADE CURTAIN SYSTEM.
5. SEE SHEET GH6.1 FOR BENCH PLAN.
6. SEED PANEL ONLY REQUIRED FOR WADSWORTH SYSTEM. ARGUS DOES NOT HAVE AN INTERFACE PANEL. SEED PANEL FOR PRODUCTION WILL BE IN CORRIDOR DUE TO HIGH TEMPERATURES DURING "COOKING" OF GREENHOUSE FOR PESTICIDE CONTROL.
7. HWR/HWS TEMP SENSORS AT MAIN CONNECTIONS IN COORIDOR.
8. PAR LIGHT SENSORS IN EACH ZONE (LED LIGHTS BY ELECTRICAL CONTRACTOR).
9. COMPUTER STATION FOR CONTROL SYSTEM SHALL BE PROVIDED BY OTHERS AND LOCATED IN HEAD HOUSE.
10. GREENHOUSE CONTROL SYSTEM SOFTWARE SHALL BE BY MANUFACTURER.
11. ARCHITECT/OWNER TO PROVIDE SEPARATE 115V OUTLETS AND PC & PHONE LINE FOR ALARM DIALER.
12. EVAPORATIVE COOLING SYSTEM REQUIRES SUPPLY LINE WITH MANUAL SHUT OFF VALVE AT EACH TANK AND FLOOR DRAIN BY PUMPING CONTRACTOR.
13. FOG SYSTEM SHALL PROVIDE 50 TO 80% HUMIDITY; 0.54 GPM. RO WATER LINE SHALL BE PROVIDED TO THE FOG PUMP BY PLUMBING CONTRACTOR, ALONG WITH A FLOOR DRAIN.
14. FERTILIZER INJECTOR REQUIRES TEMPERED WATER, BACKFLOW PREVENTER, SHUT OFF VALVE AND 115V OUTLET BY MEP CONTRACTOR.
15. FERTILIZER INJECTOR LINE SHALL BE PROVIDED FROM INJECTOR IN INTERMEDIATE ORCHID ZONE TO COOL ORCHID ZONE FOR HOSE ATTACHMENT BY PLUMBING CONTRACTOR.
16. SUPPLY & RETURN LINES FOR FIN TUBE HEATING SYSTEM SHALL BE BROUGHT INTO THE GREENHOUSE CORRIDOR BY PLUMBING CONTRACTOR WITH A FLANGED CONNECTION AND A BALL VALVE. BOILER BY MECHANICAL CONTRACTOR.
17. RADIANT HEAT SUPPLY SYSTEM TO PROVIDE 2,160,000 BTUH AND 200 GPM OF 160°F WATER TO THE SYSTEM AT -15°F, OUTDOOR TEMPERATURE WITH DELTA T OF 20°F. SYSTEM IS DESIGNED TO ACCOMMODATE 1:1 WATER TEMPERATURE TO OUTDOOR TEMPERATURE RESET RATIO TO 60°F OUTDOOR/90°F HWS.
18. THE DELTA FIN SF 125 FIN TUBE (ALUM. SCHEDULE 40 PIPE WITH 3.25 x 3.25 x 0.025 ALUM. FIN) SHALL SUPPLY APPROXIMATELY 93% OF THE CALCULATED HEAT LOAD. DESIGN FLOW RATE IS APPROXIMATELY 122 GPM.
19. IN-SLAB HEATING SYSTEM SHALL CONSIST OF ½" PEX CROSS LINK POLYETHYLENE TUBING WITH OXYGEN BARRIER INSTALLED ON 12 INCH SPACING 2 INCHES BELOW THE CONCRETE SURFACE. A THREE WAY MIXING VALVE AND PUMP STATION FOR EACH FLOOR HEAT ZONE WILL TEMPER THE WATER DOWN TO 130°F. TUBING SHALL BE ATTACHED TO A COPPER MANIFOLD USING A GRIMP RING. EACH MANIFOLD SHALL BE INSTALLED INTO A 2" DIA. HOLLOWED OUT CONCRETE SLAB AND COVERED WITH ALUMINUM DIAMOND PLATE COVER. DESIGN FLOW RATE IS APPROXIMATELY 48 GPM.

3330 Atwood Avenue
Madison, WI 53704

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TLB	SW
1	1
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G6.1



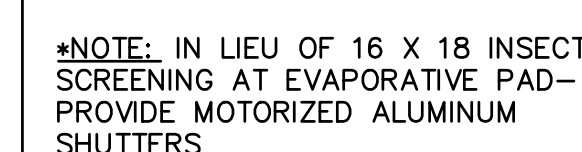
BENCH SCHEDULE					
I.D.	QTY.	DESCRIPTION	LENGTH	WIDTH	HEIGHT
(A)	6	RO-FLO ROLLING BENCH WITH CAST CORNERS	20'-0"	6'-0"	2'-6"
(B)	5	RO-FLO ROLLING BENCH WITH CAST CORNERS	22'-0"	6'-0"	2'-6"
(C)	1	RO-FLO ROLLING BENCH WITH CAST CORNERS ***THIS BENCH TO HAVE BENCH TOP HEATING SYSTEM	22'-0"	6'-0"	2'-6"
(D)	5	RO-FLO STATIONARY BENCH WITH CAST CORNERS	6'-0"	5'-3"	2'-6"
(E)	2	RO-FLO ROLLING BENCH WITH CAST CORNERS	21'-0"	6'-0"	2'-6"
(F)	26	RO-FLO ROLLING BENCH WITH CAST CORNERS	21'-0"	5'-0"	2'-6"
(G)	1	RO-FLO STATIONARY BENCH WITH CAST CORNERS	43'-6"	2'-6"	2'-6"

1. PROPAGATION MIST SYSTEM ESTIMATED FLOW RATE FOR EACH BENCH IS 14GPM.
2. BENCH TOP HEATING SYSTEM SHALL BE AN EPDM SYSTEM MOUNTED TO THE BOTTOM OF THE BENCH WITH HIGH QUALITY EPDM RUBBER TUBING AND RIGID PLASTIC SPACERS. ALL RUBBER TUBING SHALL CONNECT INTO AN ONE-INCH SCH 80 PVC PIPE MANIFOLDS.
3. HOT WATER SUPPLY TEMPERATURE TO BE 135°F WITH TOTAL 1.0 GPM FOR ALL THREE BENCHES.
4. HEAT LOAD FOR THE PRODUCTION ZONE BENCHES IS TO BE AT 15,750 BTUH AND 13,000 BTUH FOR INTERMEDIATE ORCHID ZONE BENCH.
5. HEAT SOURCE AND SUPPLY AND RETURN HEATING WITH $\frac{3}{4}$ " MTHD STUB OUTS WITH CAPS FOR CONNECTION TO EACH BENCH SHALL BE BY THE MECHANICAL CONTRACTOR.

PLANT ACCESSORIES SCHEDULE	
APPROX. LENGTH	DESCRIPTION
27'	WALL MESH - TROPICAL
65'	WALL MESH - ORCHID
96'	HANGING RAIL - TROPICAL
190'	HANGING RAIL - ORCHID

1. PLANT HANGING RAILS AT BENCH TO BE 50" ABOVE BENCHES.
2. PLANT HANGING RAILS ARE TO BE 60" ABOVE FF X 12" FROM THE WALL AND 92" ABOVE FF X 18" FROM THE WALL.
3. DOUBLE STACKED HANGING RAILS ARE TO BE AT 60" AND 92" ABOVE FF.
4. WALL MESH TO BE 4'-0" TO 5'-0" TALL FROM THE TOP OF KNEEWALL.

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ENGINEERING NOTE:
ENGINEER'S SEAL APPLIES TO DESIGN OF
STRUCTURAL COMPONENTS ONLY

Olbrich Botanical Gardens
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Madison, WI 53704

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Signature: _____

Names: _____

____ License No: _____

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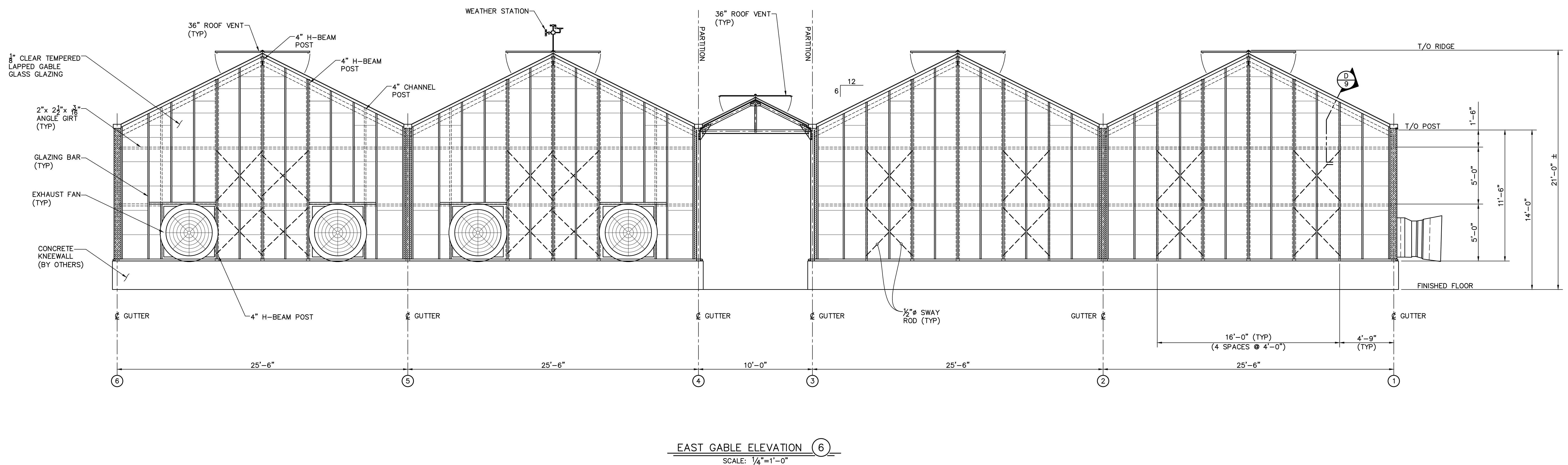
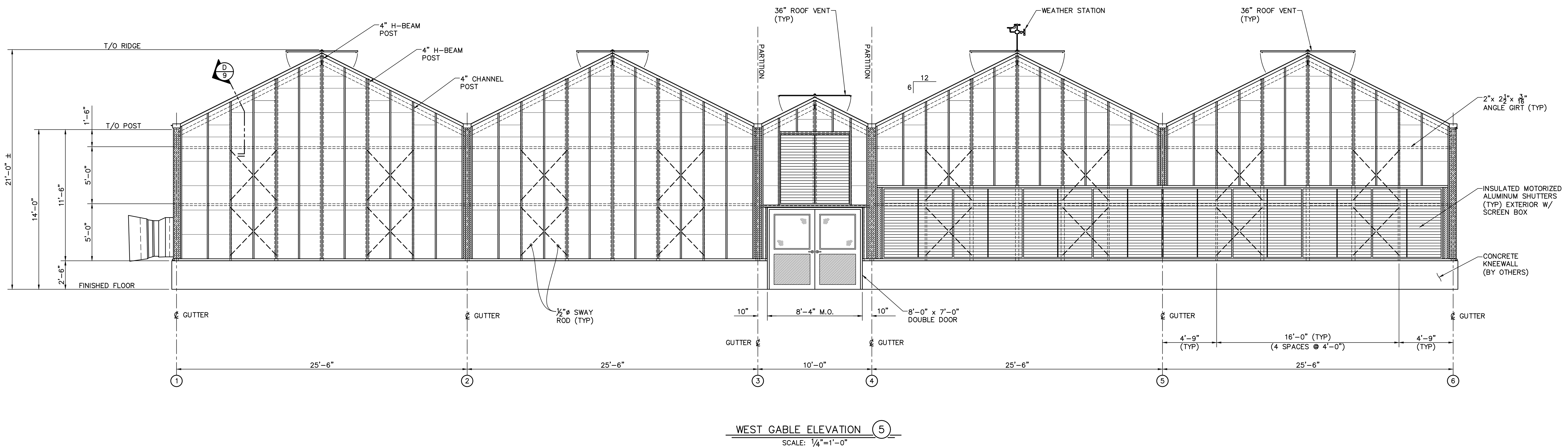
DESIGN DEVELOPMENT

DESIGN DEVELOPMENT

MSM	SW
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GREENHOUSE
GABLE ELEVATION

GH3



ENGINEERING NOTE:
ENGINEER'S SEAL APPLIES TO DESIGN OF
STRUCTURAL COMPONENTS ONLY

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- Black Body Dimming duplicates halogen dimming, offering a soft, natural, warm glow as light levels are reduced
- CCT "warms" from 2700K to 1800K, while staying on the Black Body Locus, when dimming
- Comparable light output to 26W, 32W, 42W and 2x26W CFL while consuming 11, 15, 26 and 34 watts.
- No harmful ultraviolet or infrared wavelengths
- No lead or mercury

PRODUCT SPECIFICATIONS

Optics

- **Trim:** Self-flanged, clear Alzak® satin (SASF) trim • Alzak® trim with low iridescent finish is standard • Others Alzak finishes are available; see trim options
- Computer-optimized reflector maximizes fixture efficiency • Deep regression of source produces a very low glare system • Lensed mixing chamber conceals the LEDs to produce uniform aperture luminance

Electrical

- **LED Light Engine:** Proprietary micro-processor controlled light engine duplicates dimming performance of halogen light source • Natural white light on the Planckian curve • 2700K color temperature at full lumen output • 90+ CRI
- **Driver:** Power factor >0.9 • Dimming down to 5% • Dimmable using 0-10V protocol (2000, 3000 lumen only) and Triac dimming (850, 1250 lumen, 120V only)
- **Life:** Rated for 50,000 hours at 70% lumen maintenance

Mechanical

- **Housing:** Heavy gauge cold rolled steel with black finish • Universal housing design installs in suspended grid, plaster or drywall • Integral cast aluminum heat sink conducts heat away from LED light engine • Light engine and driver are accessible from above and below ceiling and can be upgraded to accommodate future technology improvements.
- **Mounting Frame:** Heavy gauge steel lower housing ring with factory installed spring steel friction clips securely holds cones in ceiling • Accommodates ceilings up to 3/4" thick • For thicker ceilings; consult factory
- **Mounting Bracket:** Mounting brackets have 3" vertical adjustment and accept proprietary Tru-Lock bar hangers, 1-1/2" C-channel and flat linear bars (ordered as accessories) or 1/2" EMT, 3/4" and 1-1/2" lathing channel (by others) • One-piece Tru-Lock bar hangers have integral T-bar locking screws and alignment notches for locating and locking fixture in the center or 1/4 tile increments
- **Junction Box:** Junction box rated for eight No. 12 AWG 90° C branch circuit conductors (4-in, 4-out)

Labels and Listings

- UL listed for feed through and damp locations • I.B.E.W. Union made
- Wet Location listing available, see reflector ordering options.
- EMI complies with FCC 47, Part 15, Class A • UL and cUL, RoHS compliant
- Energy Star qualified, see page 2 for designated products
- ARRA compliant 

Warranty: 5 years when used in accordance with manufacturing guidelines.
Product specifications subject to change without notice.

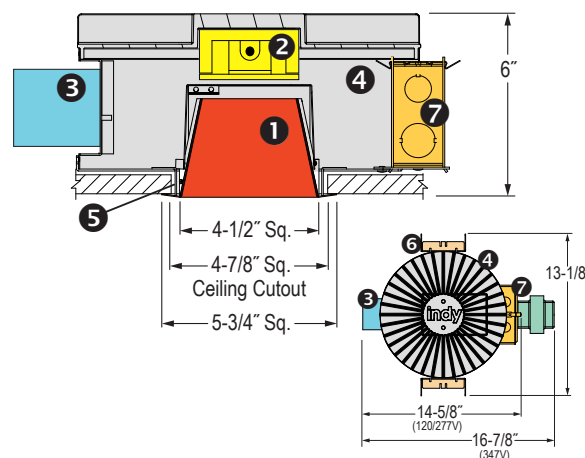
DESIGNER SERIES BLACK BODY DIMMING 4" 850 TO 3000 LUMEN LED SQUARE DOWNLIGHT OPEN APERTURE SDSQ4BBD SERIES



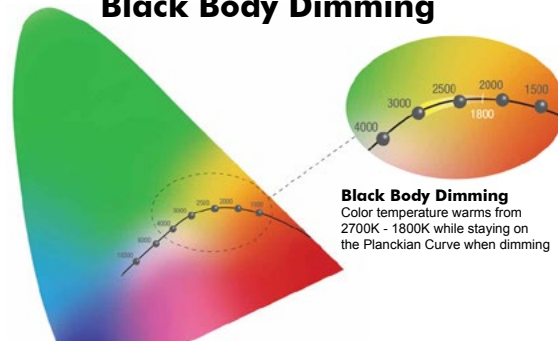
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Project:	OLBRICH GARDENS
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DIMENSIONS



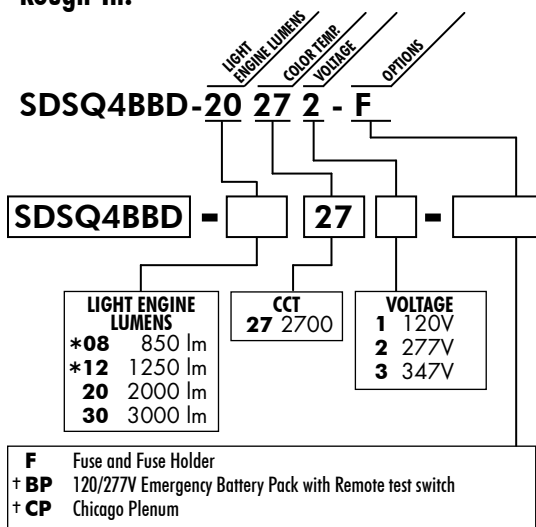
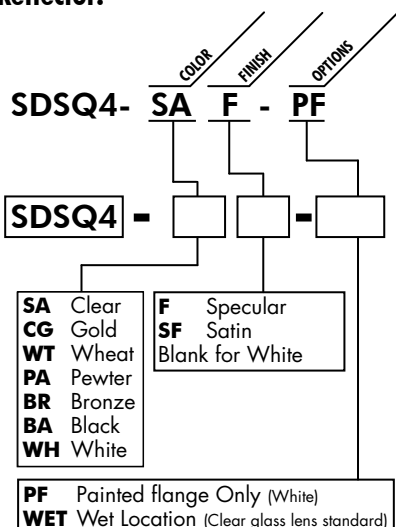
Black Body Dimming



Black body dimming fixtures perfectly emulate incandescent dimming, warming from 2700K to 1800CCT while staying on the Planckian Curve and maintaining high CRI and R9 values throughout dimming range.



1300 South Wolf Road • Des Plaines, Illinois 60018
PHONE 800-367-5866 • FAX 888-708-6578
www.junco-lightinggroup.com

Rough-In:

Reflector:

Accessories:
HB-52

HB-TL	25" Tru-Lock grid ceiling bar hangers, Pair
HB-52	52" C-Channel Bar Hangers, Pair
HB-28	28" C-Channel Bar Hangers, Pair

ENGINEERING DATA (347V available, consult factory)

	120V				277V			
	850	1250	2000	3000	850	1250	2000	3000
Voltage								
Fixture Lumens	850	1250	2000	3000	850	1250	2000	3000
CCT								
Current	0.093	0.129	0.216	0.285	-	-	0.101	0.128
Input Wattage	11.0	15.3	25.6	33.9	-	-	26.0	34.0
Input Frequency								
THD%	16.06	13.59	17.53	14.61	-	-	23.73	20.5
Power Factor	0.976	0.987	0.984	0.988	-	-	0.928	0.953

Energy Star Qualified: SDSQ4BBD

Product #

**SDSQ4BBD-(XX)27(Z); SDSQ4-SASF
 SDSQ4-SAF**

Fixture Configurations = Energy Star

**Lumen Package: 850 / 1250 / 2000 / 3000 (XX = 08, 12, 20, 30)
 Voltage: 120V / 277V (Z = 1, 2)**

2700K CCTCatalog Number: **SDSQ4BBD-30271; SDSQ4-SAF****PHOTOMETRIC REPORT**

Test Number: PR02142491

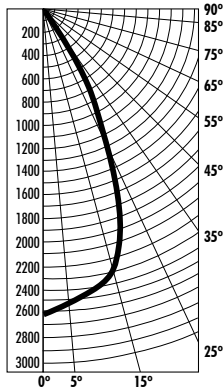
Total Lumen Output: 1866 Lumens

Luminaire Efficacy: 53.9 lm/w (2700K)

Luminaire Spacing Criteria: 0.80

Luminaire: Clear semi-specular Alzak® reflector. Open bottom.

CIE-Type: Direct

**Candlepower Distribution**
(Candelas)

Angle	Candela	Lumens
0°	2631	
5°	2553	244
15°	2302	652
25°	1390	643
35°	369	232
45°	84	65
55°	23	20
65°	4	4
75°	3	3
85°	2	2

Lumen Multiplier: 2000 x .67
1250 x .42
850 x .28

Initial Footcandles

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	73.1	26.9	5.7'
7'	53.7	19.8	6.7'
8'	41.1	15.1	7.6'
9'	32.5	11.9	8.6'
10'	26.3	9.7	9.5'
11'	21.7	8.0	10.5'
12'	18.3	6.7	11.4'
13'	15.6	5.7	12.4'
14'	13.4	4.9	13.4'
15'	11.7	4.3	14.3'

Luminance Data

Angle in Degrees	Candela/M ²
45°	9,084
55°	3,020
65°	700
75°	798
85°	1896

Zonal Lumen Summary

Zone	Lumens%	%Fixture
0-30°	1540	82.5
0-40°	1771	94.9
0-60°	1857	99.5
0-90°	1866	100.0
90-180°	0	0.0
0-180°	1866	100.0

AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 30% Floors

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR4	RCR8
5' x 5'	83	69	55
6' x 6'	58	48	38
7' x 7'	42	35	28
8' x 8'	32	27	22
9' x 9'	26	21	17
10' x 10'	21	17	14
11' x 11'	17	14	11
12' x 12'	14	12	10

COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

PCC	80				70				50				30				10				0
PW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94	94	94	94
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88	88	88	88
3	104	98	93	89	102	96	92	88	94	90	87	91	88	86	89	87	84	83	83	83	83
4	99	92	87	83	97	91	86	82	89	84	81	87	83	80	85	82	79	78	78	78	78
5	94	86	81	77	93	86	80	77	84	79	76	82	78	75	81	77	75	73	73	73	73
6	90	82	76	72	89	81	76	72	79	75	71	78	74	71	77	73	70	69	69	69	69
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	67	65	65	65	65
8	82	73	68	64	81	73	67	64	72	67	64	71	66	63	70	66	63	62	62	62	62
9	79	70	64	60	78	69	64	60	68	63	60	67	63	60	67	63	60	58	58	58	58
10	75	66	61	57	74	66	61	57	65	60	57	64	60	57	64	60	57	56	56	56	56

AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 30% Floors

Luminaire Spacing	Room Cavity Ratio		
	RCR1	RCR4	RCR8
5' x 5'	70	57	45
6' x 6'	49	40	31
7' x 7'	36	29	23
8' x 8'	28	22	18
9' x 9'	22	18	14
10' x 10'	18	14	11
11' x 11'	15	12	9
12' x 12'	12	10	8

COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

PCC	80				70				50				30				10				0
PW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	113	110	108	105	110	108	106	104	104	102	100	100	99	97	97	96	95	93	93	93	93
2	107	102	98	94	105	100	97	93	97	94	91	94	92	89	91	89	87	86	86	86	86
3	102	95	90	86	100	94	89	85	91	87	84	88	85	82	86	83	81	80	80	80	80
4	96	89	83	79	94	87	82	78	85	81	77	83	79	76	81	78	75	74	74	74	74
5	91	83	77	73	90	82	76	72	80	75	72	78	74	71	77	73	70	69	69	69	69
6	87	78	72	67	85	77	71	67	75	70	67	74	70	66	73	69	66	64	64	64	64
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60	60	60	60
8	79	69	63	59	77	69	63	59	67	62	59	66	62	58	65	61	58	57	57	57	57
9	75	65	59	55	74	65	59	55	64	59	55	63	58	55	62	58	55	53	53	53	53
10	72	62	56	52	71	62	56	52	61	56	52	60	55	52	59	55	52	50	50	50	50

2700K CCTCatalog Number: **SDSQ4BBD-30271; SDSQ4-SASF****PHOTOMETRIC REPORT**

Test Number: PR02142091

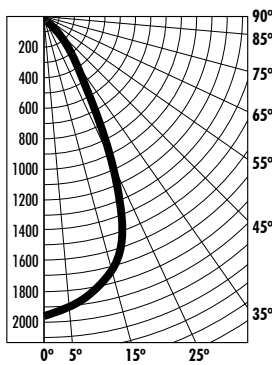
Total Lumen Output: 1602 Lumens

Luminaire Efficacy: 46.1 lm/w (2700K)

Luminaire Spacing Criteria: 0.82

Luminaire: Clear satin Alzak® reflector. Open bottom.

CIE-Type: Direct

**Candlepower Distribution**
(Candelas)

Angle	Candela	Lumens
0°	1969	
5°	1920	183
15°	1720	487
25°	1095	507
35°	351	220
45°	144	111
55°	63	57
65°	26	26
75°	9	9
85°	0	0

Lumen Multiplier: 2000 x 1.50
1250 x .75
850 x .55

Initial Footcandles

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Footcandles Beam Edge	Beam Diameter
6'	54.7	19.8	5.9'
7'	40.2	14.6	6.9'
8'	30.8	11.1	7.8'
9'	24.3	8.8	8.8'
10'	19.7	7.1	9.8'
11'	16.3	5.9	10.8'
12'	13.7	5.0	11.8'
13'	11.6	4.2	12.7'
14'	10.0	3.6	13.7'
15'	8.7	3.2	14.7'

Luminance Data

Angle in Degrees	Candela/M ²
45°	15,563
55°	8441
65°	4759
75°	2592
85°	0

Zonal Lumen Summary

Zone	Lumens%	%Fixture
0-30°	1177	73.5
0-40°	1398	87.3
0-60°	1566	97.8
0-90°	1601	100.0
90-180°	0	0.0
0-180°	1601	100.0

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

Wall luminaires with directed light

Housing: One piece die-cast aluminum supplied with universal mounting bracket for direct attachment to 3½" or 4" octagonal wiring box. Die castings are marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum cover frame secured by captive socket head, stainless steel screws threaded into stainless steel inserts. Semi-specular, anodized aluminum internal reflector. Stippled tempered clear glass. Fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket.

Electrical: 17.9W LED luminaire, 22.9 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 3000K with an 90 CRI. Available in 4000K (90 CRI); add suffix K4 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

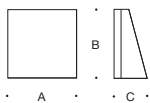
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: lbs.

Luminaire Lumens: 1893

Type: J
 BEGA Product: 33 242
 Project: OLBRICH GARDENS
 Voltage: 120
 Color: BLACK
 Options:
 Modified:



	Lamp	A	B	C
33 242	ADA 17.9W LED	8	8	3¾



Wall luminaires with directed light

Housing: One piece die-cast aluminum for direct attachment to wall over 3½" or 4" octagonal wiring box. Die castings are marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum guard, secured by two (2) captive socket head, stainless steel screws threaded into stainless steel inserts. Tempered etched glass with matte finish. Pure anodized aluminum reflector. Fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket.

Electrical: 12W LED luminaire, 14.3 total system watts, -20°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. The LED module and driver are mounted on a removable inner assembly for easy replacement. Standard LED color temperature is 3000K with an 85 CRI. Available in 4000K (85 CRI); add suffix K4 to order.

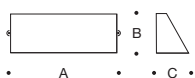
Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

UL listed for US and Canadian Standards, suitable for wet locations. Protection class: IP64

Luminaire Lumens: 465

Tested in accordance with LM-79-08.

Type: J
 BEGA Product: 33 242
 Project: OLBRICH GARDENS
 Voltage: 120
 Color: BLACK
 Options:
 Modified:



		Lamp	A	B	C
22380	ADA	12W LED	11 ¾	4 ⅞	3 ⅞



Recessed wall luminaires with directed light

Housing: Constructed of die-cast aluminum with integral wiring compartment. Mounting tabs provided. Die castings are marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy.

Enclosure: One piece die-cast aluminum faceplate. Clear tempered glass; .125" thick, machined flush to faceplate surface. Faceplate is secured by two (2) flush, socket head, stainless steel captive screws threaded into stainless steel inserts in the housing casting. Continuous high temperature, molded silicone rubber gasket for weather tight operation.

Electrical: 5.6W LED luminaire, 7.5 total system watts, -25° C start temperature. Integral 120V through 277V electronic LED driver, 0 -10V dimming. The LED and driver are mounted on a removable plate for easy replacement. Standard LED color temperature is 3000K (available in 4000K; add suffix K4).

Note: Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

UL listed for US and Canadian Standards, suitable for wet locations and for installation within 3 feet of ground. IC rated. Protection class: IP65.

Luminaire Lumens: 155

Tested in accordance with LM-79-08

Type: J
BEGA Product: 33 242
Project: OLBRICH GARDENS
Voltage: 120
Color: BLACK
Options:
Modified:



		Lamp	A	B	C
22382	ADA	5.6W LED 6%	2 3/4	3 1/4	



LED garden and pathway bollard

Post construction: One piece extruded aluminum. All aluminum in the construction is marine grade and copper free.

Lamp Enclosure: One piece die cast aluminum housing attached to post by two (2) stainless steel set screws. Matte safety glass lens. Fully gasketed using a one piece molded silicone gasket.

Electrical: 2.1W LED luminaire, 3.4 total system watts, -30°C start temperature. Integral 12V AC driver provided must be operated using remote magnetic transformer. Standard LED color temperature is 3000K with a >90 CRI.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Anchor base: Anchor post provided made of galvanized steel. Bollards are secured to post using two (2) stainless steel set screws.

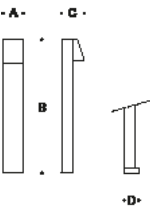
Finish: Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

Please note: BEGA's approach to product design is to innovate, not follow. With a steadfast commitment to quality, each product is conceived to satisfy a general or specific lighting task as defined by its architectural or exterior surroundings. The Home and Garden Collection is designed specifically for use in Residential and Light Commercial applications. Please reference our standard BEGA portfolio when mounting provisions for the rigorous demands of high-use commercial and/or vandal prone settings are required.

CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 6.3 lbs.

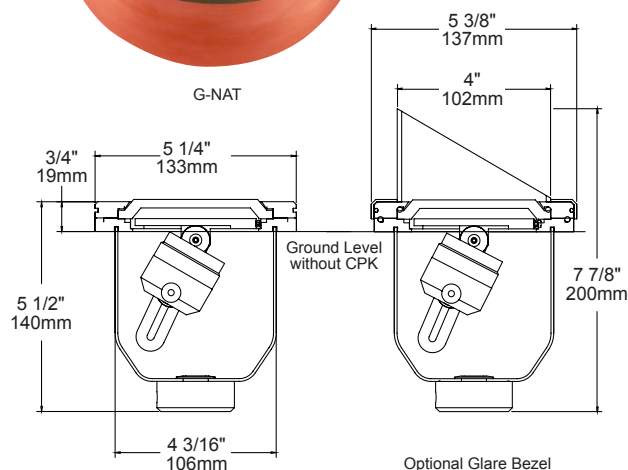
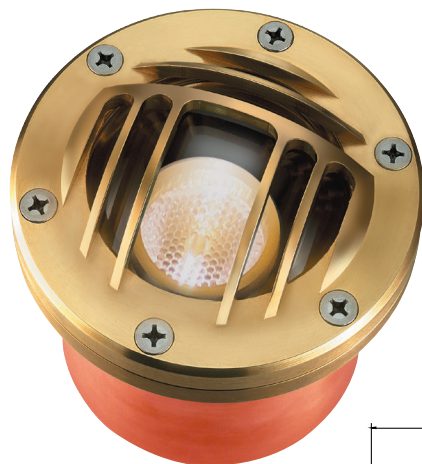
Type: J
BEGA Product: 33 242
Project: OLBRICH GARDENS
Voltage: 120
Color: BLACK
Options:
Modified:



		Lamp	A	B	C	D
77 238	with hardscape base	2.1 W LED	3 1/2	27 1/2	4 1/8	2 1/2



HWL11 LIGHTHAUS



The compact new **HWL11** is engineered around Auroralight's interchangeable LED module to deliver brilliant LED performance in a small package. Featuring significantly increased aiming capability allowing a full 45° of tilt onto the horizon with 360° of rotation. It has the ability to regress the light source 2" below the lens.

Features include:

- Interchangeable LED Module in 2, 4 or 6 Watts
- Cree XLAMP® High Intensity (XP-L) LED
- 2700, 3000 or 4000K (CRI 80 typ.)
- Thermally Integrated™ and Field Serviceable LED Module
- TRIAC Dimming to <10% typ.
- 12 VAC Electronic or Magnetic Source Compatible
- Drive-over Rated up to 6,000 lbs.
- Solid Copper Body and Brass Faceplate

Powered by
CREE
LEDs

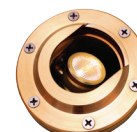
LED
hybrid
HALOGEN

12V

FACEPLATE OPTIONS



Flush



Slotted

ORDERING GUIDE HWL11: H (HYBRID) WL (WELL LIGHT) 11 (MR11)

RED INDICATES REQUIRED FIELD

FACEPLATE	LIGHT SOURCE (LED or Halogen)	ACCESSORIES	MOUNT	FINISH
[G] Grill [FC] Flush w/ Convex Glass [FF] Flush w/ Flat Glass [S] Slotted	Leave blank for NO LAMP LED WATTAGE [2] 2W [4] 4W [6] 6W OPTIC [W] 40° Wide [WF] 50° Wide Flood [A] All Optics LED COLOR [27D] 2700K [30D] 3000K [40D] 4000K [D] = Dimmable	SELECT UP TO TWO: [GB] Glare Bezel [H] Hex Baffle [L] Linear Spread [P] Prismatic Lens [MP] Micro Prismatic [F] Frost (Diffusion)	[CPK] Concrete Pour Kit*	[NAT] Natural [BLP] Bronze Living Patina [BLP-XD] BLP Extra Dark [NI] Nickel PVD [PC] Powder Coat- Specify Color
HALOGEN (MR11) [05] 5W 30° (2,000hr) [10] 10W 30° (2,000hr) [11] 12W 10° (2,000hr) [15] 15W 30° (2,000hr) [21] 20W 10° (2,000hr) [22] 20W 20° (2,000hr) [23] 20W 30° (8,000hr)				



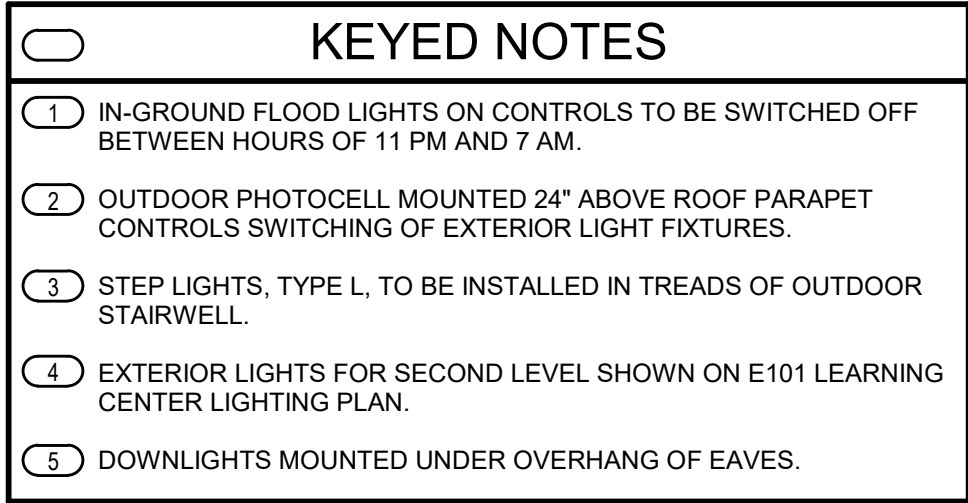
CPK



GB

*Use for installation into concrete, stone, tile or any time grout will be in contact with the fixture





CENTERLINE OF 10FT WIDE MG&E ELEC
ESMT (LOCATED ON LINE AS-BUILT, FROM
— SUGAR AVE TO 5 FT PAST TRANSFORMER,
RECORDED OCT 20 1989 DOC 2168158

5513 Vine Street
Cincinnati, OH 45217

513.242.0310 tel

**Olbrich Botanical Gardens
Expansion Phase 1**
3330 Atwood Avenue
Madison, WI 53704

**NOT FOR
CONSTRUCTION**

[illegible]

PROJECT NO. 2017016

PROJECT PHASE **Design Development**

DRAWN BY: Author
CHECKED BY: Checker

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SITE LIGHTING PLAN

E001