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James M. Wolfe, P.E., City Engineer

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Principal Engineer 1
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Financial Manager
Steven B. Danner-Rivers

March 7, 2025

ADDENDUM NO. 1
City of Madison, Engineering Division

CONTRACT NO. 9610
IMAGINATION CENTER AT REINDAHL PARK

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as **Imagination Center at Reindahl Park, Contract #9610, as issued on February 13, 2025** and is hereby made a part of the contract documents.

Please acknowledge this addendum on page E-1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

Electronic version of these documents can be found on Bid Express at https://www.bidexpress.com/ and the City of Madison web site at http://www.cityofmadison.com/business/PW/contracts/openforBid.cfm

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at (608) 266-4751 to receive the material by another method.

For questions regarding this bid, contact:
Brent Pauba
PH: (608) 266-4092
Email: BPauba@CityofMadison.com
210 Martin Luther King Jr. Blvd
Room 115
Madison, WI 53703

Sincerely,

James M. Wolfe, P.E.
City Engineer

This addendum modifies the following documents:

1. 9610 Exhibit-A_drawings.pdf
2. 9610 Exhibit-B_specifications.pdf
3. 9610 reference-6_form_BidSubmittalChecklist.pdf

Please attach these Addendum documents to the Drawings and Project manual in your possession.

1. GENERAL

A. See attached Bid Talk attendee list

B. See attached Site Tour attendee list

2. BIDDER QUESTIONS AND ANSWERS

A. *Are prevailing wages required? It's unclear if there are required rates, as there is a reference in the contract closeout requirements but nowhere else.*

i. Prevailing Wage is not required for this Contract.

B. Are there any areas of the project site that need to be substantially completed earlier than the final substantial completion date? Example: will we need to have asphalt mobilize two times to complete paving a portion at a time? I don't see any referenced but want to make sure what areas we can fence off for the duration of the project.

i. Yes. See Exhibit-D: Construction Sequence Requirements plan (9610 Exhibit-D_ConstructionSequenceRequirements.pdf) for construction sequencing requirements and the Contract (9610 Contract.pdf), SECTION D-3, ARTICLE 109.7 TIME OF COMPLETION for an interim construction completion date.

C. Specification page 01 43 50 - 5 is a partial duplicate of 01 43 50 - 4. Is it required?

i. See updated Specification section 01 43 50 Air Barrier Systems.

D. Does any portion or all of the parking lot need be available to the public during any point during the construction timeline?

i. See Exhibit-C: Lands For Work plan (9610 Exhibit-C_drawing_landsForWork.pdf). Any parking lot within the PROJECT LIMITS will not be available for public use. Please note that parking lots outside of the PROJECT LIMITS are subject to requirements set forth in Exhibit-C.

E. The specifications and 9610 Contract documents have different construction start and completion dates. Which should we follow?

i. Refer to the Contract (9610 Contract.pdf) for Construction Start and Completion dates. Specification section 00 01 02 PROJECT INFORMATION is now revised, removing Start and Completion dates.

F. The specifications and 9610 Contract documents have different alternates as well. Which are we to include?

i. Refer to the Contract (9610 Contract.pdf) for Bid Alternates. Specification section 01 23 00 ALTERNATES has been removed fully.

G. Are there any additional requirements for the Inflation Reduction Act eligibility than what is discussed on pages 21 and 22 of the 9610 Contract document?

i. ARTICLE 110.2 PARTIAL PAYMENT TO CONTRACTORS AND PROMPT PAYMENT TO SUBCONTRACTORS of the Contract (9610 Contract.pdf) includes the extent of Inflation Reduction Act requirements for the Contractor.

H. Drawings show aluminum posts and aluminum panels for the trash enclosure. The specifications list Plankwall PVC. Please verify what is required.

i. Plans are revised to show the proper enclosure materials, per specifications manual.

I. Is the solar tree in the GC scope. The drawings list it as future in some locations and by GC in others. The specs also say future, but the requirements are written more in line with a GC requirement. Please verify. If this is a future item and should be excluded from the GC scope, please confirm what shop drawing requirements, if any, are to be

included, including engineering requirements. If we are not installing the unit, why would we be required to provide sealed engineered drawings?

i. **The solar tree is in the project scope. See updated drawings and specifications for clarification.**

J. MDC Interior Solutions 3390AL Allegrai Lyric appears to be discontinued. https://www.mdcwall.com/product/type-ii-wall/3390al Please verify desired wall covering for folding panel.

i. **See updated drawings for revised wall covering selection.**

K. Is the solar Tree to be included in Alternate #1?

i. **No, the solar Tree is to be included in the Base Bid (Item 90000)**

L. Is the pitch for the solar PV modules called out? Based on the inter-row spacing specified, it appears the pitch to be 8-10 degrees. Would designs to maximize kWh/kW be acceptable?

i. **Panel orientation and pitch may be modified through the submittal process, provided that system capacity meets or exceeds the minimum performative requirements established in the drawings and specifications. All layouts shall comply with ROOF EDGE SAFETY AND WORKING CLEARANCE parameters as delineated in the electrical drawings. Any modifications to panel layouts must be fully coordinated with other building systems that interface with the roof assembly.**

M. Can you clarify the LEED Goal? Spec is Silver

i. **This project requires a minimum of LEED silver. See SECTION 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS – LEED FOR NEW CONSTRUCTION V4.0 for relevant information.**

N. Can an Isometric view of the facility be provided?

i. **There are two structural isometrics and an isometric showing the MEP systems in the drawing set. There will not be any additional isometrics added.**

O. Does the existing shelter provide electricity to any other Park buildings or site improvements?

i. **The existing shelter does not provide electrical service to any other property buildings. Site improvements currently powered by the shelter's electrical system will not require temporary power provisions during construction activities. Refer to Civil drawings for complete documentation of existing electrical demolition requirements.**

P. Please confirm Lutron Shade connections are to be provided by Division 28 – AV Contractor?

i. **Division 27 and 28 specifications have been updated to remove shade connections. See Division 26 for Lutron Shade scope of work.**

Q. What is the preferred Mohawk Series Cable(s) for Structured Cabling?

i. **The Mohawk cable part numbers are currently included under Section 27 00 05.**

R. Is there a specification for book shelving and general shelving?

i. **Library Stack shelving is not in this contract's scope of work, see A141 for clarification of shelving scope. See section 10 56 17 WALL MOUNTED STANDARDS AND SHELVING for storage shelving requirements.**

3. ACCEPTABLE EQUIVALENTS

A. Specification section 08 80 00 – Glazing, Vitro Solarban 65

i. **In review – response to be communicated in future addendum.**

4. 9610 Contract

A. No change

5. 9610 Exhibit-A_drawings

A. L104 - "LANDSCAPE PLAN"

i. Removed "future" from the solar tree.

B. L402 - "LANDSCAPE PLAN ENLARGEMENT"
- **i.** Removed "future" from the solar tree.

C. ASP200 - "SITE PLANS AND DETAILS"
- **i.** Revised all plans, elevations, and details to clarify trash enclosure materials.

D. AI103 - "WALL FINISH PLAN"
- **i.** Revised First Floor Wall Finish Plan, folding partition panel material as shown.

E. E001 - "ELECTRICAL SYMBOLS & ABBREVIATIONS"
- **i.** Added sheet E507

F. E101 - "FIRST FLOOR PLAN – POWER & FIRE ALARM"
- **i.** Detail C3 – Moved telecom ground bar to the technology set.
- **ii.** Added special purpose outlets HL1C, MCB, and S1C.

G. E501 - "ELECTRICAL DETAILS"
- **i.** Detail A5 – Added notes #3 and #4.

H. E507 - "ELECTRICAL DETAILS"
- **i.** Moved sheet T505 to E507.
- **ii.** Added wiring information.
- **iii.** Revised general sheet notes.

I. E602 - "ELECTRICAL SCHEDULES"
- **i.** Special Purpose Outlet Schedule
  - **(1)** Added special purpose outlets HL1C, MCB and S1C.

J. E610 - "PANEL SCHEDULES"
- **i.** Panel A
  - **(1)** Revised description for circuit #12.
- **ii.** Panel B
  - **(1)** Revised description for circuit #36
  - **(2)** Added circuit #59.

K. E610 - "PANEL SCHEDULES"
- **i.** Panel D
  - **(1)** Added circuit #69.

L. T001 - "TECHNOLOGY SYMBOLS & ABBREVIATIONS"
- **i.** Removed sheet T505.
- **ii.** Revised sheet name for T601.

M. T101 - "FIRST FLOOR PLAN - TECHNOLOGY"
- **i.** Revised keyed note #67.
- **ii.** Added keyed note #86.
- **iii.** C1 – Revised detail.
- **iv.** C5 – Showed the telecom ground bar.
- **v.** Revised telecom outlets in Community Room 107, Pavillion #1 151 and Pavillion #2 152.
- **vi.** Added telecom ground bars in Storage 107A and 156.
- **vii.** Added TE1 and TE2.
- **viii.** Moved AV MCBs to be mounted on a shelf in Storage 107A and 156.
- **ix.** Revised AV equipment listed inside the telecom rack in Storage 107A.
- **x.** Removed camera HL1 and replaced with camera S1 in Classroom 109.
- **xi.** Added AV WAP-WM in Classroom 109.
- **xii.** Add AV RT to Meeting – Large 120, Meeting – Small 121, and Meeting – Small 122.
- **xiii.** Removed telecom outlet in Family Hub 117.

N. T502 - "TECHNOLOGY DETAILS"
- **i.** Revised details A2, A5, and C2.
- **ii.** Added details D4 and D6

O. T601 - "TECHNOLOGY SCHEDULES"
- **i.** Revised sheet name.
- **ii.** Audio / Visual Connection Schedule
  - **(1)** Revised note #1.
  - **(2)** Added camera S1.

(3) Revised WAP-WM conduit route.

P. T701 - "AV FLOW DIAGRAMS"
- **i.** Added general notes.
- **ii.** Flow diagram
  - **(1)** Moved note to general notes.
  - **(2)** Removed (1) AV HL1.
  - **(3)** Revised UC BRACKET to AV-CF UC BRACKET.
- **iii.** Schedule
  - **(1)** See sheet for revisions.

Q. T702 - "AV FLOW DIAGRAMS"
- **i.** Added general notes.
- **ii.** Flow diagram
  - **(1)** Moved note to general notes.
  - **(2)** Added AV WAP-WM and body pack mike.
  - **(3)** Revised (1) AV HL1 to AV S1.
  - **(4)** Revised UC BRACKET to AV-CF UC BRACKET.
- **iii.** Schedule
  - **(1)** See sheet for revisions.

R. T703 - "AV FLOW DIAGRAMS"
- **i.** Added general notes.
- **ii.** Flow diagram
  - **(1)** Moved note to general notes.
  - **(2)** See sheet for revisions.

S. T704 - "AV FLOW DIAGRAMS"
- **i.** Schedule
  - **(1)** See sheet for revisions.

6. 9610 Exhibit-B_specifications

A. 00 01 10 TABLE OF CONTENTS
- **i.** Sections revised or omitted are noted in the Table of Contents with (A1) after section title.

B. 00 01 02 PROJECT INFORMATION
- **i.** Removed Paragraph 1.04 PROCUREMENT TIMETABLE.

C. 01 23 00 ALTERNATES
- **i.** Omitted entire section from specification.

D. SECTION 01 29 76 PROGRESS PAYMENT PROCEDURES
- **i.** Paragraph 1.04.E Progress Payment Milestone Schedule – Two (2) rows added to encourage early coordination of the electrical equipment prior to Partial Payment 2 and Partial Payment 3:
  - **(1)** Electrical Gear Submittal and Approval Milestone
  - **(2)** Electrical Gear Supplier Confirmation Milestone

E. 01 43 50 AIR BARRIER SYSTEMS
- **i.** Removed duplicate page 5 from pdf.

F. 08 80 00 - GLAZING
- **i.** Paragraph 1.02.A - Omitted reference to Section 01 23 00 – ALTERNATES.
- **ii.** Paragraph 2.01.A.2 - Added "Or Approved Equal".
- **iii.** Paragraph 2.01.A.3 - Substitutions – Omitted reference to Section 01 60 00 and replaced with reference to Section 01 25 13 – Product Substitution Procedures.
- **iv.** Paragraph 2.01.B.2 - Added "Or Approved Equal".
- **v.** Paragraph 2.01.B.3 - Substitutions – Omitted reference to Section 01 60 00 and replaced with reference to Section 01 25 13 – Product Substitution Procedures.
- **vi.** Paragraph 2.01.C.2 - Added "Or Approved Equal".
- **vii.** Paragraph 2.01.C.3 - Substitutions – Omitted reference to Section 01 60 00 and replaced with reference to Section 01 25 13 – Product Substitution Procedures.
- **viii.** Paragraph 2.04.G - Omitted reference to Section 01 23 00 – ALTERNATES.

G. 10 22 39 FOLDING PANEL PARTITIONS

- **i.** Paragraph 2.02.A.1 - spelling correction.
- **ii.** Paragraph 2.02.C.1 - Revised panel finish selection.

H. 13 34 16 PRE-ENGINEEERED STRUCTURES – SOLAR FORMA
- **i.** Paragraph 1.01.A - omitted the word "future" in reference to the Solar Tree. The solar tree is part of the project scope.

I. 27 41 16 – PARK PAVILION AUDIO VISUAL SYSTEM
- **i.** Paragraph 1.03.B - omitted "video displays".
- **ii.** Paragraph 1.03.D - added "screen will lower".

J. 27 51 16 – LIBRARY AUDIO VISUAL SYSTEM
- **i.** Paragraph 1.02.B-G – additional sections added to Related Requirements.
- **ii.** Paragraph 1.04.A -multiple edits for AV system in Community Room 107.
- **iii.** Paragraph 1.04.B - multiple edits for AV system in Classroom 109.
- **iv.** Paragraph 1.04.C - multiple edits for input components in Community Room 107 and Classroom 109.
- **v.** Paragraph 1.06.A - added full name of Section 27 41 00.
- **vi.** Paragraph 1.07.A - added full name of Section 27 41 00.

K. 27 11 23 – FLAT SCREENS
- **i.** Paragraph 1.01.E - replaced "Install a City furnished" with "At each display provide a".
- **ii.** Paragraph 2.01.A.8 - Omit entire line regarding substitutions.

L. 32 33 00 – SITE FURNISHNGS
- **i.** Paragraph 1.02.C - omitted the word "future" in reference to the Solar Tree. The solar tree is Part of the project scope.

7. 9610 Exhibit-C_drawing_landsForWork
- **A.** No change

8. 9610 Exhibit-D_ConstructionSequenceRequirements
- **A.** No change

9. 9610 Reference-1_survey_topographic
- **A.** No change

10. 9610 Reference-2_survey_ALTA
- **A.** No change

11. 9610 Reference-3_report_AsbestosLead
- **A.** No change

12. 9610 Reference-4_report_GeotechExploration
- **A.** No change

13. 9610 reference-5_drawings_existingConditions
- **A.** No change

14. 9610 reference-6_form_BidSubmittalChecklist
- **A.** Added (4) SECTION H items to checklist
- **B.** Added (1) SECTION I item to checklist

15. 9610 Proposal Page
- **A.** No change

ADDENDUM-1
BID TALK AND SITE VISIT ATTENDEE LIST

Attendee Report		
Date/Time	2025-FEB-27	
Topic	Bid Talk: Imagination Center at Reindahl Park	
Webinar ID	844 7950 6407	
Attendee Details		
First Name	**Last Name**	**Email**
Sabrina	Madison	district17@cityofmadison.com
Harlan	Ward	harlan@archsolar.com
Mitchell	Hayes	Mitchell.Hayes@miron-construction.com
Lou	Olson	lolson@findorff.com
Isaac	Siegmann	isiegmann@bachmannconstruction.com
Erin	Woodard	ewoodard@mplfoundation.org
J	Humphries	j@bachmannconstruction.com

Imagination Center at Reindahl Park
Contract 9610
Pre-Bid Site
Monday, March 03, 2025, 12:00p.m.

ATTENDEES
PLEASE SIGN-IN

NAME	COMPANY	EMAIL	PHONE
Mitchell Hayes	Miron Construction	Mitchell.Hayes@Miron-Construction.com	920-574-8575
Ariana Tader	CJ & Associates	atjader@cjassociatesinc.com	920.517.3286
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Lou Olson	FINDORFF	madisonbids@findorff.com lolson@findorff.com	608-442-7368
Isaac Siegmann	Bachmann Const.	isiegmann@bachmannconstruction.com	608-358-6668
Steve Esling	CCI	bids@cciwi.com	262-758-0083

ADDENDUM-1
DRAWINGS

ABBREVIATIONS

A
A/C air condition
A/E Architect/Engineer
ACT acoustical ceiling tile
ADDL additional
ADDM addendum
AFC above finished counter
AFF above finished floor
AFG above finished grade
AFS above finished slab
ALT alternate
ALUM aluminum
APPD approved
APT apartment
ASC above suspended ceiling

B
BB baseboard
BB bulletin board
BLDG building
BL blinds (window)
BLT borrowed light
BLW below
BPL base plate
BO bottom of
BOS bottom of steel

C
CB catch basin
CB construction bulletin
CF/CI contractor furnished, contractor installed
CF/OI contractor furnished, owner installed
CF/VI contractor furnished, vendor installed
CG corner guard
CH BD chalkboard
CIP cast-in-place
CJ control joint
CJ construction joint
CL centerline
CLG ceiling
CLR clear
CM construction management
CMU concrete masonry unit
CO cleanout
COL column
CONC concrete
CORR corridor
CONT continuous
CPT carpet
CSWK casework
CT ceramic tile
CTB ceramic tile base

D
DEMO demolition
DEPT department
DF drinking fountain
DFS Door and Frame Schedule
DH double hung
DIA diameter
DR door
DR FR door frame
DTL detail
DW dishwasher
DWG drawing

E
E east
EIFS exterior insulation & finish system
EL elevation
ELEC electric, electrical
ELEV elevator
EP epoxy
EPB epoxy base
EPS expanded polystyrene board
EQ equal
EXIST existing
EXP expand, expansion
EXT exterior

F
F female
F filler
FA fire alarm
FAB fabric
FAX facsimile
FC file cabinet
FD floor drain
FEC fire extinguisher cabinet
FHC fire hose cabinet
FG foot grille
FLR floor
FM factory mutual
FM floor mat
FP fire protection
FP fireproof
FPL fire place
FRP fiber reinforced panel
FT feet
FTG footing
FWP fabric wrapped panel

G
GA gage
GALV galvanized
GB grab bar
GC general contractor
GL glass
GLT glass tile

G (continued)
GLULAM glued laminated wood
GR grade, grading
GRAN granite
GT grout
GWB glazed wall tile
GYP BD gypsum board

H
HB hose bibb
HC hollow core
HCP handicapped
HM hollow metal
HORIZ horizontal
HSKPG housekeeping
HT height
HVAC heating, ventilating & air conditioning
HW hot water
HWF hardwood floor
HWY highway

I
ID inside diameter
INSUL insulation
INT interior

J
JS janitor sink

K

L
LAM laminate
LAV lavatory
LL live load

M
MAX maximum
MC modular carpet tile
MECH mechanical
MFR manufacturer
MIN minimum
MIN minute
MISC miscellaneous
MO masonry opening
MS mop sink
MRB marble base
MRF marble floor
MTL metal

N
N north
N/A not applicable

N (continued)
NIC not in contract
NO number
NOM nominal
NS no scale
NTS not to scale

O
OC on center
OD outside diameter
OF/CI owner furnished, contractor installed
OF/OI owner furnished, owner installed
OF/VI owner furnished, vendor installed
OH DR overhead (coiling) door
OPH opposite hand
OPNG opening

P
PLAM plastic laminate
PLYWD plywood
PREFAB prefabricated
PREFIN prefinished
PSI pounds per square inch
PT paint, painted
PTN partition

Q
QT quarry tile
QTB quarry tile base

R
RB resilient base
RCP reflected ceiling plan
RD roof drain
REBAR reinforcing steel bars
RF resilient flooring
RFS room finish schedule
RO rough opening

S
S south
SAN sanitary
SC sealed concrete
SC solid core
SF square foot
SH shades
SIM similar
SS stainless steel
SSF solid surface
ST stain
ST stair
STN stone

S (continued)
STNB stone base
STRUCT structure
SV sheet vinyl

T
T&M time & materials
TEMP temperature
TER terrazzo
TERB terrazzo base
TFF top of finish floor
TK BD tackboard
TO top of ____
TOB top of beam
TOC top of concrete
TOJ top of joist
TOPO topography
TOS top of slab
TOS top of steel
TV television
TYP typical

U
UNO unless noted otherwise
UON unless otherwise noted

V
VCT vinyl composition tile
VF/CI vendor furnished, contractor installed
VF/OI vendor furnished, owner installed
VF/VI vendor furnished, vendor installed
VNR veneer
VIF verify in field
VWC vinyl wall covering

W
W west
W/ with
W/O without
WC water closet
WC wall covering
WD wood
WDB wood base
WDV wood veneer
WH water heater
WP wall protection
WP workpoint

X
XPS extruded polystyrene board (insul)

Y Z

SYMBOL LEGEND

VIEW NUMBER / VIEW NAME / VIEW SCALE — 19 TITLE 1/2" = 1'-0"

00 SIM / A000 — DETAIL CALLOUT

SECTION CALLOUT

2 / 1 A000 3 / 4 — ELEVATION CALLOUT

Level 0' - 0" — ELEVATION DATUM

NORTH ARROW

EXISTING CONSTRUCTION

DEMOLITION

NEW CONSTRUCTION

XX — WALL TAG

000 — DOOR TAG

000.000 — KEYNOTE TAG

0 — REVISION TAG

000 — FURNITURE TAG

000 — EQUIPMENT TAG

XX — WINDOW TAG

000 W"x H" x D" — CASEWORK TAG (PLAN OR ELEVATION)

FLOOR / BASE / WALL / REMARKS — FINISH PLAN TAG

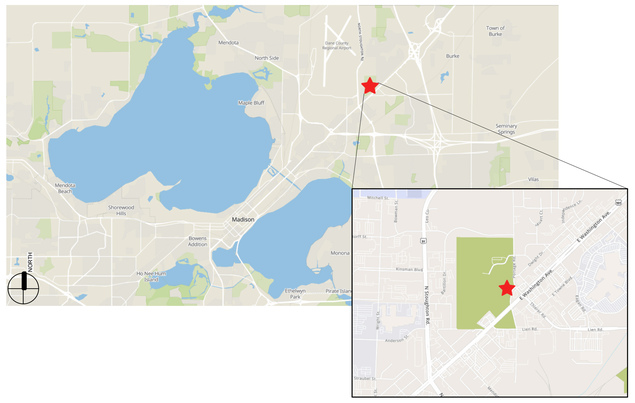
TYPE / HEIGHT — CEILING TAG

NAME / 0000 — ROOM TAG

A A / 1 / 2 — NEW GRID AND IDENTIFICATION

A A / B / 1 / 2 — EXISTING GRID AND IDENTIFICATION

VICINITY MAP



SHEET ORGANIZATION

EACH DRAWING SHEET IS BASED UPON A 30 SQUARE GRID SYSTEM, STARTING WITH '1' IN THE TOP LEFT HAND CORNER AND WORKING LEFT-TO-RIGHT AND TOP-TO-BOTTOM TO '30' IN THE BOTTOM RIGHT HAND CORNER, EXAMPLE BELOW:

1	2	3	4	5	6	TITLEBLOCK
7	8	9	10	11	12	
13	14	15	16	17	18	
19	20	21	22	23	24	
25	26	27	28	29	30	

3/7/2025 11:40:17 AM

PROJECT ADDRESS

IMAGINATION CENTER AT REINDAHL PARK

LIBRARY: 1814 PARKSIDE DR.
MADISON, WI 53704

PAVILION: 1818 PARKSIDE DR.
MADISON, WI 53704

CONTRACT No: 9610

MUNIS No: 17085

OWNER INFORMATION

CITY OF MADISON
210 MARTIN LUTHER KING, JR. BLVD.
MADISON, WI 53703-3342

CONTACT: Brent Pauba - Department of Public Works, Engineering Division
EMAIL: bpauba@cityofmadison.com
MAIN: 608.266.4092

PROJECT TEAM

ARCHITECTURAL

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800 WEST BROADWAY, SUITE 200
MONONA, WISCONSIN 53713
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MAIN: 608.241.9500
GENERAL AND ARCHITECTURAL SHEETS:
G000–G300, ASP-200, A101–A811

CIVIL ENGINEERING

GRAEF, INC.
1010 EAST WASHINGTON AVENUE, SUITE 202
MADISON, WI 53703
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CIVIL SHEETS:
C100–C904

LANDSCAPING

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1110 SOUTH PARK STREET
MADISON, WI 53715
CONTACT: Abbie Mollien, PLA, ASLA
EMAIL: amollien@saiki.design
MAIN: 608.405.8149
LANDSCAPE SHEETS:
L101–L601

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STRUCTURAL SHEETS:
S001–S603

PLUMBING & FIRE PROTECTION

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MILWAUKEE, WI 53203
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EMAIL: jessica.culver@graef-usa.com
MAIN: 414.266.9008
FIRE PROTECTION SHEETS: F001–F101
PLUMBING SHEETS: P001–P911

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MADISON, WI 53703
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MAIN: 414.266.9232
MECHANICAL SHEETS:
M001–M806

ELECTRICAL & TECHNOLOGY

GRAEF, INC.
275 WEST WISCONSIN AVENUE, SUITE 300
MILWAUKEE, WI 53203
CONTACT: Beth Ann Bruss, DES
EMAIL: beth.bruss@graef-usa.com
MAIN: 414.266.9252
ELECTRICAL SHEETS: ES001–E620
TECHNOLOGY SHEETS: T001–T704

INTERIOR DESIGN

INTERIOR LOGIC
1201 SOUTH STOUGHTON ROAD, SUITE 150
MADISON, WI 53716
CONTACT: Robin Strobel, ASID, RID, LEED AP ID +C, WELL AP
EMAIL: rstroebel@intlogic.com
MAIN: 608.316.3870
INTERIORS SHEETS:
AI102–AI413

SET ISSUE

BID DOCUMENTS

JANUARY 6, 2025

SHEET INDEX

SHEET DISCIPLINE AND NUMBER	SHEET INDEX	REVISIONS Mark	Date
GENERAL			
G000	COVER		
G001	INDEX SHEET	A1	03/07/2025
G100	CODE INFORMATION		
G101	CODE INFORMATION		
G300	ACCESSIBILITY DIAGRAMS		
CIVIL			
C100	EXISTING CONDITIONS		
C101	EXISTING CONDITIONS - SURVEY		
C200	DEMOLITION AND EROSION CONTROL PLAN		
C300	SITE LAYOUT PLAN		
C401	SITE GRADING PLAN		
C402	SITE GRADING PLAN		
C403	SITE GRADING PLAN		
C500	SITE UTILITY PLAN		
C600	FIRE ACCESS PLAN		
C900	CONSTRUCTION NOTES		
C901	CONSTRUCTION DETAILS		
C902	CONSTRUCTION DETAILS		
C903	CONSTRUCTION DETAILS		
C904	CONSTRUCTION DETAILS		
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L403	SITE FURNISHINGS PLAN		
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S101	ROOF FRAMING PLAN		
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P001	PLUMBING SYMBOLS & ABBREVIATIONS		
P100	BELOW SLAB PLUMBING PLAN		
P101	GROUND LEVEL PLUMBING PLAN - DRAINAGE		
P102	ROOF PLUMBING PLAN		
P103	PLUMBING SITE PLAN		
P111	GROUND LEVEL PLUMBING PLAN - DOMESTIC WATER		
P601	PLUMBING SCHEDULES & DETAILS		
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M401	ENLARGED MECHANICAL PLANS		
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M801	MECHANICAL SYSTEM CONTROL DIAGRAMS		
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E101	FIRST FLOOR PLAN - POWER & FIRE ALARM	A1	03/07/2025
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A1

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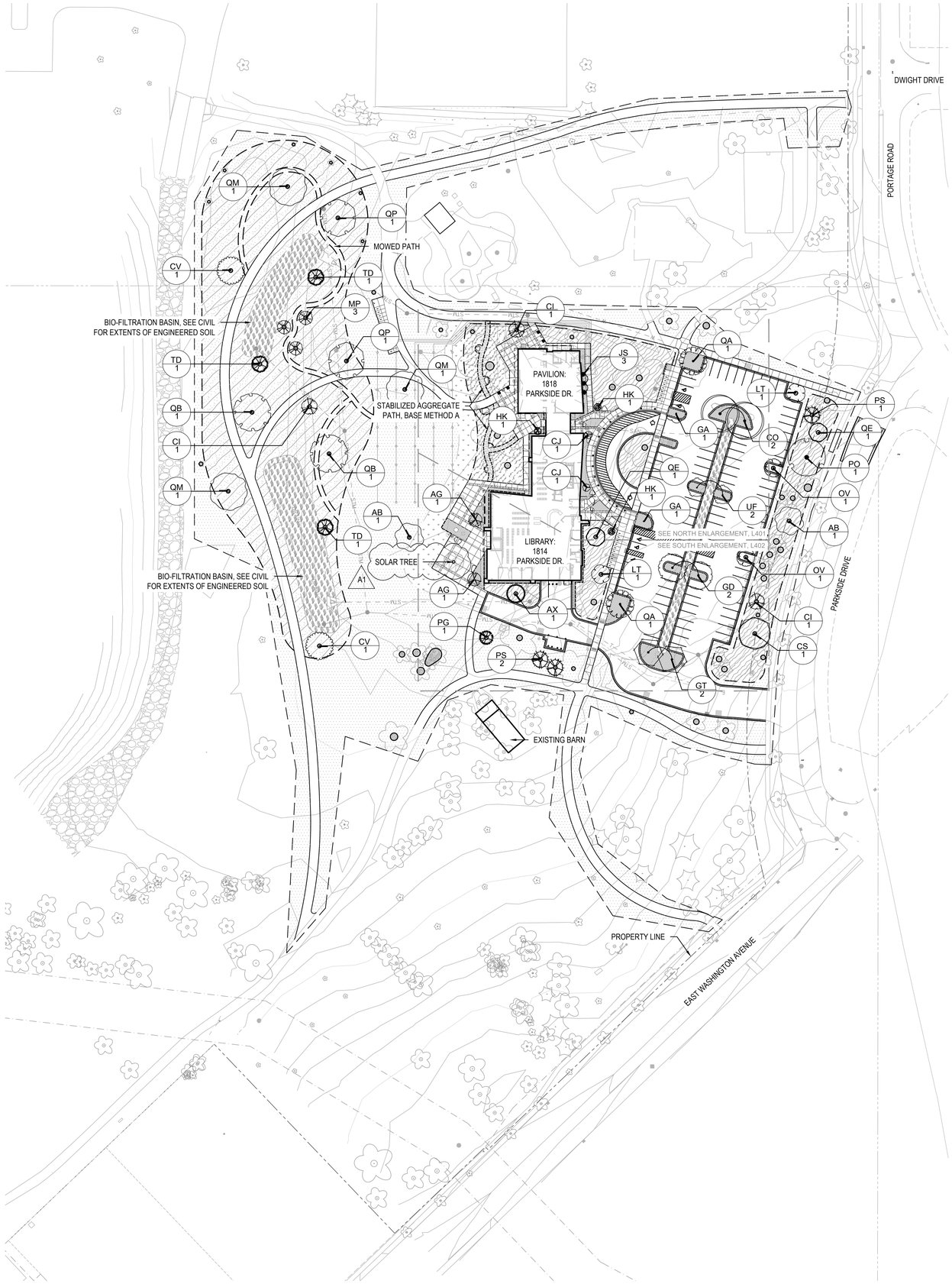
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

INDEX SHEET

SHEET NUMBER

G001



1 Landscape Plan - Trees and Groundcovers
SCALE: 1"=50'-0"

0 50' 100'
1" = 50'-0"

NORTH

LEGEND

- SHREDDED HARDWOOD MULCH
- STONE MULCH
- DECORATIVE CONCRETE
- STABILIZED AGGREGATE PATH, SEE 10/L501
- METAL BED EDGING, SEE 7/L501
- SPADED BED EDGING, SEE 6/L501
- STONE MAINTENANCE EDGE SEE 8/L501
- PROJECT LIMITS
- EXISTING SITE FEATURES
- PROPERTY LINE
- MULCH TREE RING
- FUTURE PUBLIC ART LOCATION
- EXISTING EVERGREEN TREE
- EXISTING DECIDUOUS TREE

PLAN NOTES

1. FIELD VERIFY SURVEY INFORMATION AND SITE CONDITIONS PRIOR TO START OF CONSTRUCTION AND REPORT ANY DISCREPANCIES TO LANDSCAPE ARCHITECT. CONTACT DIGGER'S HOTLINE TO LOCATE ALL PUBLIC AND PRIVATE UTILITIES PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING UTILITIES, EITHER SHOWN OR NOT, SHALL BE REPAIRED AND PAID FOR AT THE CONTRACTOR'S EXPENSE.
2. PROTECT ALL BENCHMARKS. INCLUDE ANY RELOCATED BENCHMARKS IN AS-BUILT DRAWINGS.
3. ALL EXISTING PLANT MATERIAL IS SHOWN AT EXISTING, APPROXIMATED SIZE PER CITY OF MADISON STANDARDS.
4. 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 WHOSE DISTRICT IS AFFECTED BY THE STREET TREE REMOVAL(S) PRIOR TO A TREE REMOVAL PERMIT BEING ISSUED.
3. ALL WRAPPINGS, WIRE BASKETS, BURLAP, AND OTHER MISCELLANEOUS MATERIAL SHALL BE COMPLETELY REMOVED FROM ALL SHRUB AND TREE ROOT BALLS PRIOR TO INSTALLATION.
4. VISUALLY INSPECT AND VERIFY SPECIFIED TOPSOIL AND PLANTING SOIL DEPTHS ARE PRESENT PRIOR TO PLANTING AS OUTLINED IN SPECIFICATIONS.
5. ANY LAWN OR LANDSCAPED AREAS WITHIN OR OUTSIDE OF THE CONSTRUCTION BOUNDARY THAT ARE DISTURBED SHALL BE RE-SEEDED AND/OR REPAIRED WITH ORIGINAL MATERIALS AND TO PRE-DISTURBANCE STANDARDS AT NO COST TO THE OWNER OR CITY.
6. SEE SECTIONS 32 92 19 "SEEDING" AND 32 93 00 "PLANTS" FOR NATIVE SEED AREA AND BIO-FILTRATION AREA EROSION CONTROL MATERIALS.
7. CONTRACTOR IS RESPONSIBLE FOR WATERING AND MAINTENANCE OF PLANT MATERIAL, SEE SPECIFICATIONS FOR MORE INFORMATION.
8. CONTACT CITY OF MADISON PRIOR TO PERFORMING ANY WORK WITHIN THE CITY RIGHT OF WAY TO CONFIRM RESTORATION.
9. THE RIGHT OF WAY IS THE SOLE JURISDICTION OF THE CITY OF MADISON AND IS SUBJECT TO CHANGE AT ANY TIME PER THE RECOMMENDATION OF TRAFFIC ENGINEERING AND ENGINEERING DIVISIONS. FORWARD ANY CHANGES PROPOSED BY CITY OFFICIALS TO LANDSCAPE ARCHITECT FOR CONSIDERATION AND DIRECTION BEFORE PROCEEDING.

PLANT SCHEDULE - TREES

SYMBOL	CODE	BOTANICAL / COMMON NAME	CONT.	SIZE
DECIDUOUS TREES				
	AB	Acer saccharum 'Ballsta' / Fall Fiesta® Sugar Maple	B & B	3"Cal
	AX	Aesculus x bushii 'Aaronl' / Mystic Ruby± Buckeye	B & B	2.5"Cal
	CV	Carya ovata / Shagbark Hickory	B & B	2.5"Cal
	CS	Catalpa speciosa / Northern Catalpa	B & B	2.5"Cal
	CO	Celtis occidentalis 'Chicagoland' / Chicagoland Hackberry	B & B	3"Cal
	GA	Ginkgo biloba 'Autumn Gold' TM / Autumn Gold Maidenhair Tree	B & B	2" Cal
	GT	Gleditsia triacanthos inermis 'Shademaster' / Shademaster Locust	B & B	2.5"Cal
	GD	Gymnocladus dioica 'Espresso' / Espresso Kentucky Coffeetree	B & B	2.5"Cal
	LT	Liriodendron tulipifera / Tulip Tree	B & B	2.5"Cal
	OV	Ostrya virginiana / American Hophornbeam	B & B	2.5"Cal
	PO	Platanus occidentalis 'Morton Circle' / Exclamation! American Sycamore	B & B	2.5"Cal
	QA	Quercus alba / White Oak	B & B	3"Cal
	QB	Quercus bicolor / Swamp White Oak	B & B	3"Cal
	QE	Quercus ellipsoidalis / Northern Pin Oak	B & B	3"Cal
	QP	Quercus macrocarpa / Burr Oak	B & B	3" Cal
	QM	Quercus muehlenbergii / Chinkapin Oak	B & B	3" Cal
	TD	Taxodium distichum / Bald Cypress	B & B	6' HT (MIN.)
	UF	Ulmus x 'Frontier' / Frontier Elm	B & B	3"Cal
EVERGREEN TREES				
	JS	Juniperus scopulorum 'Wichita Blue' / Wichita Blue Juniper	B & B	5' HT. (MIN)
	PG	Picea glauca densata / Black Hills Spruce	B & B	6' HT (MIN.)
	PS	Pinus strobus / White Pine	B & B	6' HT (MIN.)
ORNAMENTAL TREES				
	AS	Amelanchier x grandiflora 'Autumn Brilliance' / Autumn Brilliance Serviceberry	B & B	6'HT (MIN.),
	CJ	Carpinus caroliniana 'J.N. Upright' / Firespire American Hornbeam	B & B	2" Cal
	CI	Crataegus crus-galli inermis / Thornless Cockspur Hawthorn	B & B	6'HT (MIN.),
	HK	Hamamelis vernalis 'Kohankie Red' / Kohankie Red Ozark Witchazel	B & B	5' HT. (MIN.)
	MP	Malus x 'Prairifire' / Prairifire Crabapple	B & B	2" Cal

GROUNDCOVERS SCHEDULE

NATIVE SEED - 01 Low-Growing Meadow for Dry Soils	21,628 sf	
NATIVE SEED - 02 Diverse Prairie for Dry Soils	52,864 sf	
NATIVE SEED - 03 Woodland Edge - Savanna for Medium Soils	5,804 sf	
BLUEGRASS LAWN SOD	8,611 sf	
BLUEGRASS LAWN SEED Madison Parks Blend	111,488 sf	

NOTES
- VERIFY SQUARE FOOTAGE OF ALL GROUNDCOVER AREAS. IF PLAN CONFLICTS WITH SCHEDULE, PLAN SHALL GOVERN.
- FOR BIO-FILTRATION BASIN PLANTINGS, DISTRIBUTE PLANT SPECIES RANDOMLY AND EVENLY.

BIO-FILTRATION BASIN PLUG MIX	14,305 sf		
Allium cernuum / Nodding Onion	132	4" Plug	2% @ 18" oc
Andropogon gerardii / Big Bluestem	199	4" Plug	3% @ 18" oc
Asclepias incarnata / Swamp Milkweed	330	4" Plug	5% @ 18" oc
Baptisia alba / White Wild Indigo	330	4" Plug	5% @ 18" oc
Carex albicans / Whitetinge Sedge	199	4" Plug	3% @ 18" oc
Carex eburnea / Bristleleaf Sedge	330	4" Plug	5% @ 18" oc
Carex muskingumensis / Palm Sedge	330	4" Plug	5% @ 18" oc
Carex praegracilis / California Field Sedge	330	4" Plug	5% @ 18" oc
Dalea purpurea / Purple Prairie Clover	199	4" Plug	3% @ 18" oc
Elymus canadensis / Canada Wild Rye	132	4" Plug	2% @ 18" oc
Iris versicolor / Blue Flag	199	4" Plug	3% @ 18" oc
Liatris spicata / Spike Gayfeather	330	4" Plug	5% @ 18" oc
Lobelia siphilitica / Great Lobelia	330	4" Plug	5% @ 18" oc
Monarda fistulosa / Bergamot	330	4" Plug	5% @ 18" oc
Panicum virgatum / Switch Grass	330	4" Plug	5% @ 18" oc
Pycnanthemum tenuifolium / Slender Mountain Mint	199	4" Plug	3% @ 18" oc
Ratibida pinnata / Yellow Coneflower	199	4" Plug	3% @ 18" oc
Rudbeckia subtomentosa / Sweet Black-eyed Susan	199	4" Plug	3% @ 18" oc
Senna hebecarpa / Wild Senna	199	4" Plug	3% @ 18" oc
Silphium perfoliatum / Cup Plant	199	4" Plug	3% @ 18" oc
Silphium terebinthinaceum / Prairie Dock	199	4" Plug	3% @ 18" oc
Sorghastrum nutans / Indian Grass	132	4" Plug	2% @ 18" oc
Sporobolus heterolepis / Prairie Dropseed	199	4" Plug	3% @ 18" oc
Symphyotrichum novae-angliae / New England Aster	330	4" Plug	5% @ 18" oc
Verbena hastata / Blue Vervain	199	4" Plug	3% @ 18" oc
Vernonia fasciculata / Ironweed	330	4" Plug	5% @ 18" oc
Zizia aurea / Golden Alexander	199	4" Plug	3% @ 18" oc

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A1	ADDENDUM #1	03/07/25

SHEET TITLE
LANDSCAPE PLAN

SHEET NUMBER
L104

LEGEND

- SHREDDED HARDWOOD MULCH
- STONE MULCH
- DECORATIVE CONCRETE
- STABILIZED AGGREGATE PATH, SEE 10/L501
- METAL BED EDGING, SEE 7/L501
- SPADED BED EDGING, SEE 6/L501
- STONE MAINTENANCE EDGE, SEE 8/L501
- PROJECT LIMITS
- MULCH TREE RING
- FUTURE PUBLIC ART LOCATION
- EXISTING EVERGREEN TREE
- EXISTING DECIDUOUS TREE

NOTES
- SEE L601 FOR PLANT SCHEDULES
- SEE L104 FOR LANDSCAPE PLAN NOTES

LIBRARY:
1814 PARKSIDE DR.

SEE NORTH ENLARGEMENT, L401
SEE SOUTH ENLARGEMENT, L402

PEDESTRIAN CROSSING

SOLAR TREE

A1

ALIGN MAINT. STRIP WITH BUILDING PROTRUSIONS

1 Landscape Plan Enlargement - South
SCALE: 1"=10'-0"

0 10' 20'
1" = 10'-0"

NORTH

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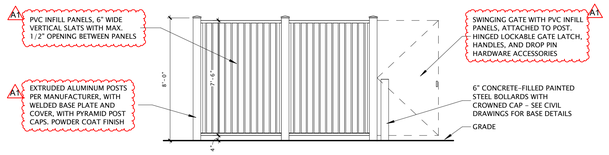
SHEET TITLE

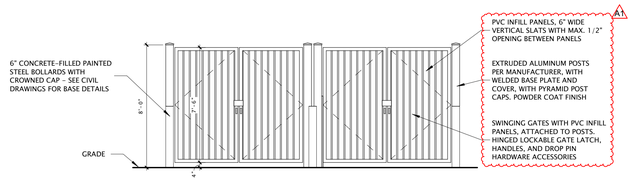
LANDSCAPE PLAN ENLARGEMENT

SHEET NUMBER

L402



2 TRASH ENCLOSURE - EAST ELEVATION
1/4" = 1'-0"



3 TRASH ENCLOSURE - NORTH ELEVATION
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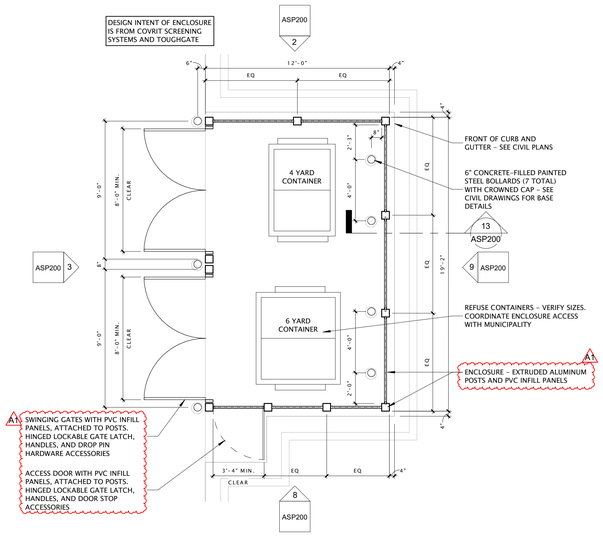
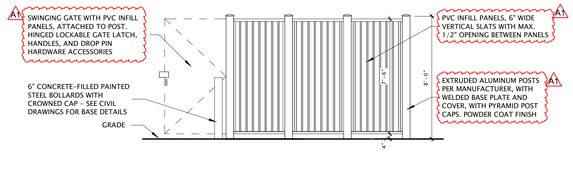


11 TRASH ENCLOSURE ENLARGED PLAN
1/4" = 1'-0"



8 TRASH ENCLOSURE - WEST ELEVATION
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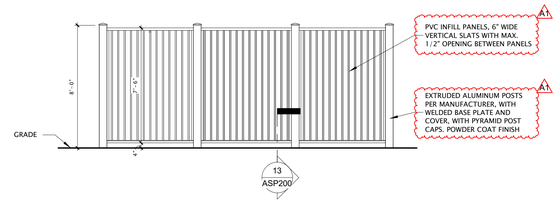

9 TRASH ENCLOSURE - SOUTH ELEVATION
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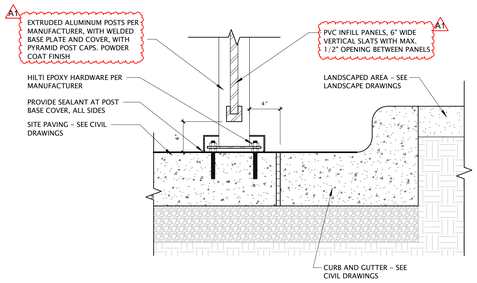
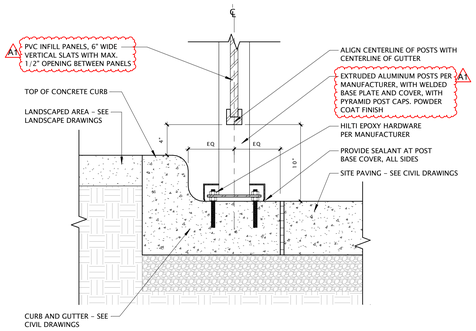
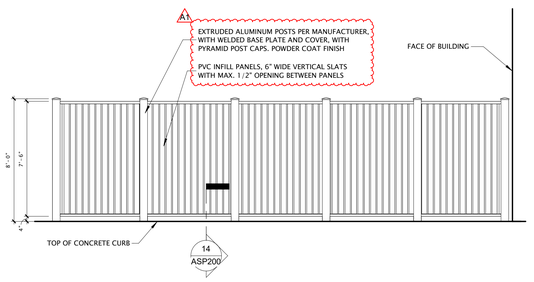


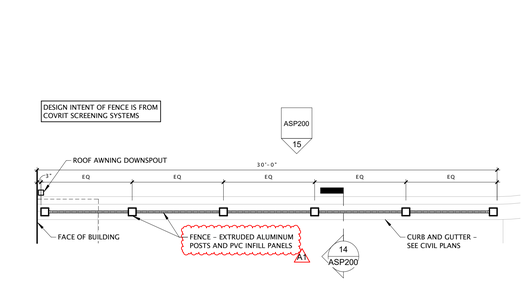
13 POST BASE DETAIL - ENCLOSURE
1 1/2" = 1'-0"



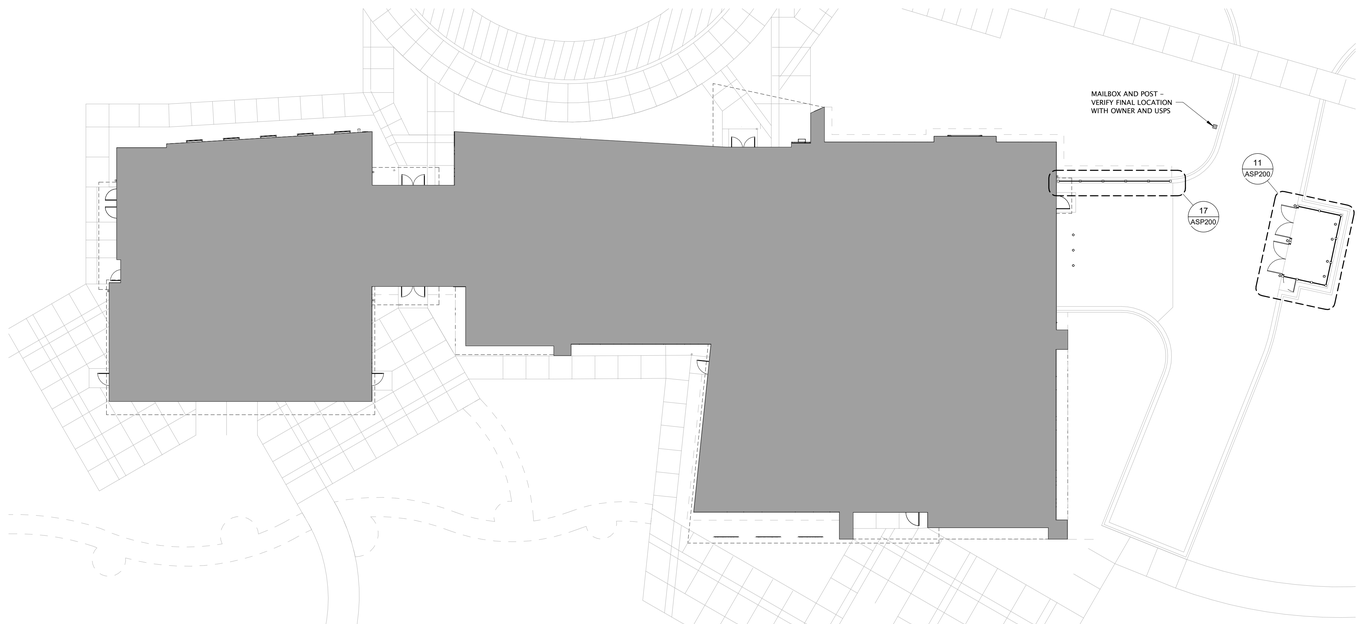
14 POST BASE DETAIL - FENCE
1 1/2" = 1'-0"



15 EXTERIOR FENCE - EAST ELEVATION
1/4" = 1'-0"



17 EXTERIOR FENCE ENLARGED PLAN
1/4" = 1'-0"



27 FIRST FLOOR PLAN - SITE
1/16" = 1'-0"

3/4/2025 3:38:47 PM

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SHEET TITLE

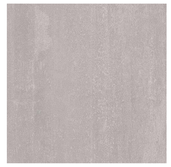
SITE PLANS AND DETAILS

SHEET NUMBER

ASP200

CWT-01: CERAMIC TILEWORKS SYMMETRY, MORNING MIST LINEN, 12X24, HORIZONTAL STACK INSTALLATION

CWT-02: CROSSVILLE NATIVE METAL NICKEL PLATE, 12X24, VERTICAL STACK INSTALLATION



CWT-03: VIRGINIA TILE WOW USA - DUO WHITE 6X6, RANDOM INSTALLATION

CWT-04: VIRGINIA TILE 6TH AVENUE JADE 8X9 CURVE CHEVRON MOSAIC, GLOSSY

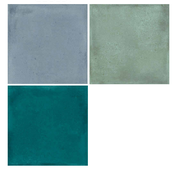
CWT-05: CERAMIC TILEWORKS CRAFT STERLING, 3X12, GLOSSY, SUBWAY INSTALLATION

CWT-06: CERAMIC TILEWORKS EQUIPE VILLAGE SILVER MIST, 2.5X5, GLOSSY, SUBWAY INSTALLATION

CWT-07: CERAMIC TILEWORKS SYMMETRY, SUNRISE LINEN, 12X24, HORIZONTAL STACK INSTALLATION

CWT-08: CERAMIC TILEWORKS:
A. UP AVANA 4X4 GLOSSY
B. SMALL PRUNE 4X4 GLOSSY
C. SMALL FLAMINGO 4X4 GLOSSY

CWT-09: CERAMIC TILEWORKS:
A. SMALL LIGHT BLUE 4X4 GLOSSY
B. SMALL SAGE 4X4 GLOSSY
C. SMALL PRUSSIAN 4X4 GLOSSY



PT-01 & SRPT-01: SW 9166 DRIFT OF MIST

PT-02: OMIT

PT-03: SW 7018 DOVETAIL (HOLLOW METAL FRAMES)

PT-04: SW 2812 ROOKWOOD JADE

PT-05: SW 2854 CARIBBEAN CORAL

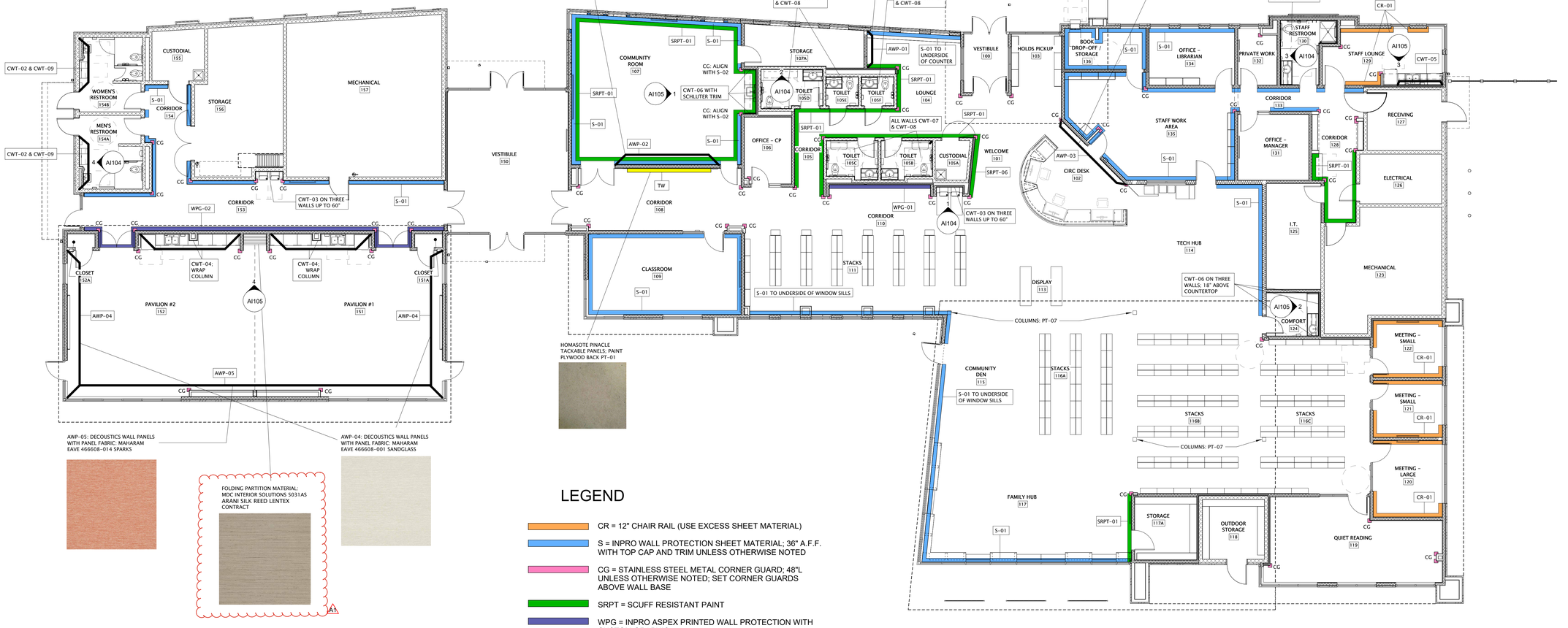
PT-06 & SRPT-06: SW 7601 DOCKSIDE BLUE

PT-07: SW 6247 KRYPTON

WALL PROTECTION / FINISH NOTES:
- ALL WALLS PAINTED PT-01 UNLESS OTHERWISE NOTED.
- NO CORNER GUARDS ON EXPOSED STEEL COLUMNS.
- ALL EXPOSED METAL COLUMNS TO BE PAINTED PT-03, UNLESS OTHERWISE NOTED.
- WALL PROTECTION TO INCLUDE TOP CAP AND CORNER TRIM.
- WALL PROTECTION REQUIRES SMOOTH, DUST-FREE FINISH.
- WALL PROTECTION GRAPHICS: INCLUDE CLEAR WALL PROTECTION WITH BACK PRINTED GRAPHIC. IMAGES TBD.
- PAINT GYPSUM BULKHEADS PT-01 UNLESS OTHERWISE NOTED; REFER TO SHEET AI113 REFLECTED CEILING PLAN FOR CEILING FINISHES.
- CHAIR RAILS: INCLUDE TOP CAP AND TRIM
  1. 42" A.F.F. TO TOP IN MEETING ROOMS 120, 121 & 122
  2. 34" A.F.F. TO TOP IN STAFF LOUNGE 129

TILE ACCESSORIES NOTES:
- INCLUDE SCHLUTER SYSTEMS DILEX-AHKA OR EQUAL COVE AT CERAMIC WALL TILE TO EPOXY FLOOR TRANSITIONS
- INCLUDE SCHLUTER SYSTEMS DILEX-EHK OR EQUAL AT CERAMIC WALL/FLOOR TILE TRANSITIONS
- INCLUDE SCHLUTER SYSTEMS JOLLY OR EQUAL AT EDGE/CORNER PROTECTION

CASEWORK NOTES:
- CASEWORK ELEVATIONS AND DETAILS BY JLA.
- CASEWORK: WILSONART LAMINATE PALISADES OAK 7987-38 FINE VELVET FINISH
- CIRC DESK AND BENCHES: WILSONART HIGH IMPACT LAMINATE PALISADES OAK 7987-38 FINE VELVET FINISH
- SOLID SURFACE TOPS: WILSONART SOLID SURFACE MORNING ICE 9204CE
- WINDOW SILLS: WILSONART SOLID SURFACE MORNING ICE 9204CE
- STAFF RESTROOM SINK APRON: FORMICA LAMINATE WEATHERED ASH 8842-WR WOODBRUSH FINISH
- STAFF RESTROOM TOP: WILSONART SOLID SURFACE ARCTIC DUNE 9253CM
- MAIN RESTROOMS SINK APRON: NEVAMAR LAMINATE GALAO WX0075-A8 AGED BARK
- MAIN RESTROOM TOPS: AVONITE SURFACES ALASKAN STONE 4312



LEGEND

- CR = 12" CHAIR RAIL (USE EXCESS SHEET MATERIAL)
- S = INPRO WALL PROTECTION SHEET MATERIAL; 36" A.F.F. WITH TOP CAP AND TRIM UNLESS OTHERWISE NOTED
- CG = STAINLESS STEEL METAL CORNER GUARD; 48"L UNLESS OTHERWISE NOTED; SET CORNER GUARDS ABOVE WALL BASE
- SRPT = SCUFF RESISTANT PAINT
- WPG = INPRO ASPEX PRINTED WALL PROTECTION WITH CUSTOM GRAPHIC
- TW = TACKABLE WALL
- PT = PAINT
- AWP = ACOUSTIC WALL PANEL

1 FIRST FLOOR WALL FINISH PLAN
1/8" = 1'-0"

NORTH

12/19/2024 12:29:46 PM

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InteriorLOGIC workplace strategy
1201 S. STOUGHTON RD.
MADISON, WI 53716

JLA PROJECT NUMBER: 20-0928

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BID DOCUMENTS

PROGRESS DOCUMENTS

These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and should not be used for final bidding or construction-related purposes.

DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

WALL FINISH PLAN

SHEET NUMBER

AI103

FIRE ALARM

- FIRE ALARM PANEL - SEMI-FLUSH MOUNTED - (X) INDICATES DESIGNATION (FAAP) ANNUNCIATOR PANEL (FACU) CONTROL UNIT (NAC) NAC PANEL (FSS) FIRE SUPPRESSION CONTROL PANEL
- FIRE ALARM PANEL - SURFACE MOUNTED - (X) INDICATES DESIGNATION (FAAP) ANNUNCIATOR PANEL (FACU) CONTROL UNIT (NAC) NAC PANEL (FSS) FIRE SUPPRESSION CONTROL PANEL
- FIRE FIGHTER'S TELEPHONE JACK - MOUNTED 3'-8" AFF UOI
- FIRE FIGHTER'S HAND SET - MOUNTED 3'-8" AFF UOI
- PULL STATION - MOUNTED 3'-8" AFF UOI
- HEAT DETECTOR
- BEAM SMOKE DETECTOR - CEILING MOUNTED - (X) INDICATES TYPE: (PRI) PRISM REFLECTOR (RE) RECEIVER (TR) TRANSMITTER (TR/RE) TRANSMITTER / RECEIVER IN ONE
- BEAM SMOKE DETECTOR - WALL MOUNTED - (X) INDICATES TYPE: (CTL) CONTROLLER (PRI) PRISM REFLECTOR (RE) RECEIVER (TR) TRANSMITTER (TR/RE) TRANSMITTER / RECEIVER IN ONE
- PHOTO - ELECTRIC SMOKE DETECTOR - CEILING MOUNTED - (X) INDICATES TYPE: (NONE) STANDARD (CO) CARBON MONOXIDE (ER) ELEVATOR RECALL (MS) MULTIPLE STATION (SB) SOUNDER BASE (SS) SINGLE STATION
- PHOTO - ELECTRIC SMOKE DETECTOR - WALL MOUNTED 1'-0" BFC UOI - (X) INDICATES TYPE: (NONE) STANDARD (CO) CARBON MONOXIDE (ER) ELEVATOR RECALL (MS) MULTIPLE STATION (SB) SOUNDER BASE (SS) SINGLE STATION
- CARBON MONOXIDE DETECTOR - CEILING MOUNTED - (X) INDICATES TYPE: (NONE) STANDARD (MS) MULTIPLE STATION (SB) SOUNDER BASE (SS) SINGLE STATION
- CARBON MONOXIDE DETECTOR - WALL MOUNTED 1'-0" BFC UOI - (X) INDICATES TYPE: (NONE) STANDARD (MS) MULTIPLE STATION (SB) SOUNDER BASE (SS) SINGLE STATION
- DUCT SMOKE DETECTOR
- REMOTE TEST SWITCH AND / OR INDICATOR
- FAN SHUTDOWN RELAY
- SMOKE DAMPER
- MAGNETIC DOOR HOLDER
- CONTROL MODULE
- MONITOR MODULE
- FLOW SWITCH
- TAMPER SWITCH
- PRESSURE SWITCH
- END OF LINE RESISTOR
- FIRE ALARM STROBE NOTIFICATION APPLIANCE - WALL MOUNTED 6'-8" AFF OR 6" BFC, WHICHEVER IS LOWER
- FIRE ALARM STROBE NOTIFICATION APPLIANCE - CEILING MOUNTED - (X) INDICATES STROBE CANDELA RATING
- FIRE ALARM HORN / STROBE NOTIFICATION APPLIANCE - WALL MOUNTED 6'-8" AFF OR 6" BFC, WHICHEVER IS LOWER - (X) INDICATES STROBE CANDELA RATING
- FIRE ALARM HORN / STROBE NOTIFICATION APPLIANCE - CEILING MOUNTED - (X) INDICATES STROBE CANDELA RATING
- FIRE ALARM HORN NOTIFICATION APPLIANCE - WALL MOUNTED 6'-8" AFF OR 6" BFC, WHICHEVER IS LOWER
- FIRE ALARM HORN NOTIFICATION APPLIANCE - CEILING
- FIRE ALARM MINI HORN NOTIFICATION APPLIANCE - WALL MOUNTED 6'-8" AFF OR 6" BFC, WHICHEVER IS LOWER
- FIRE ALARM BELL - WALL MOUNTED 6'-8" AFG UOI

GENERAL SYMBOLS

- NORTH INDICATOR
- ELEVATION VIEW INDICATOR
- SECTION VIEW INDICATOR
- VIEW CALLOUT
- 1 / E-XXX VIEW INDICATOR
- PICTURE LOCATION REFERENCE
- KEYNOTE INDICATOR
- REVISION CLOUD
- REVISION INDICATOR

VIEW LOCATION LEGEND

D1	D2	D3	D4	D5	D6
C1	C2	C3	C4	C5	C6
B1	B2	B3	B4	B5	B6
A1	A2	A3	A4	A5	A6

ELECTRICAL SHEET INDEX

LIGHTING CONTROL

SWITCH / SENSOR TYPE ABBREVIATIONS:
- (2) TWO POLE
- (3) THREE WAY
- (4) FOUR WAY
- (A) ADDED TO ANY CEILING SENSOR IS FOR AUXILIARY RELAY FOR HVAC CONNECTION
- (50) OCCUPANCY SENSOR (AUTO OFF / 50% ON)
- (D) DAYLIGHT SENSOR
- (DSO) DAYLIGHT / OCCUPANCY SENSOR (AUTO OFF / 50% ON)
- (DLS) DUAL LEVEL SWITCH
- (DO) DAYLIGHT / OCCUPANCY SENSOR
- (DV) DAYLIGHT / VACANCY SENSOR
- (K) KEY OPERATED
- (O) OCCUPANCY SENSOR (AUTO OFF / AUTO FULL ON)
- (P) WITH PILOT LIGHT
- (T) TIMER
- (V) VACANCY SENSOR (AUTO OFF / MANUAL ON)

- MANUAL WALL SWITCH - MOUNTED 3'-8" AFF UOI - SINGLE POLE UON - ON / OFF - (a) INDICATES SWITCH DESIGNATION - (X) INDICATES SWITCH TYPE
- MANUAL WALL DIMMER - MOUNT AT 3'-8" AFF UOI - (a) INDICATES SWITCH DESIGNATION - (X) INDICATES SWITCH TYPE
- MOMENTARY CONTACT SWITCH - MOUNTED 3'-8" AFF UOI - (Y) INDICATES MOMENTARY CONTACT SWITCH DESIGNATION (SEE FACEPLATE DETAIL AND SCHEDULE)
- TOUCH SCREEN CONTROL STATION - MOUNTED 3'-8" AFF UOI - ASSOCIATED WITH A NETWORKED LIGHTING CONTROLS SYSTEM - DIGITAL TOUCH SCREEN CONTROL - ACUITY FRESCO OR NLIGHT UNITOUCH - (Y) INDICATES CONTROL STATION DESIGNATION (SEE FACEPLATE DETAIL AND SCHEDULE)
- LOW VOLTAGE SWITCH STATION - MOUNTED 3'-8" AFF UOI - ASSOCIATED WITH A PACKAGED DIMMING SYSTEM ***EDIT EXAMPLES FOR YOUR PROJECT*** - SWITCHES AND DIMMER SWITCHES WITH OR WITHOUT SENSORS AND PUSH BUTTON SCENE CONTROLLERS WITH OUR WITHOUT DIMMING - (Y) INDICATES LOW VOLTAGE SWITCH STATION DESIGNATION (SEE FACEPLATE DETAIL AND SCHEDULE)
- CEILING SENSOR - (X) INDICATES SENSOR TYPE
- PHOTOCELL
- CONTACTOR - (X) INDICATES CONTACTOR DESIGNATION (SEE SCHEDULE)
- TIME CLOCK - (X) INDICATES TIME CLOCK DESIGNATION (SEE SCHEDULE)
- LUTRON CONTROLS CABINET - TOP (X) INDICATES TYPE BB - BACKBONE - BOTTOM (X) INDICATES DESIGNATION EM - EMERGENCY LIGHTING (QSN2-4T20-S) INT-E - INTERFACE (QSE-CI-NWK-E) WITHIN ENCLOSURE (LUT-5X10-ENC) INT-I - INTERFACE (QSE-IO) WITHIN ENCLOSURE (LUT-5X10-ENC) N - NORMAL LIGHTING (QSN2-4T20-S) N-L - NORMAL LIGHTING - LINE VOLTAGE DIMMING (QSN-4A5-S) PROC - ATHENA PROCESSOR PANEL (QP5-ZL-POE)

LIGHTING FIXTURE DESIGNATIONS

- SHADING INDICATES FIXTURE WIRED TO EMERGENCY OR UNSWITCHED NIGHT LIGHTING CIRCUIT
- AA-1b LIGHT FIXTURE DESIGNATION - (AA) INDICATES FIXTURE TYPE - (1) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (b) INDICATES CONTROL DESIGNATION (IF NOT INDICATED, CONTROLLED VIA SWITCH AT ROOM ENTRY) - (NL) INDICATES UNSWITCHED NIGHT LIGHTING
- ca CONTACTOR DESIGNATION - CONTROLLED VIA CONTACTOR
- dal DIMMER CHANNEL CABINET DESIGNATION - CONTROLLED VIA ELECTRONIC DIMMING SYSTEM
- oa SPECIFIC DEVICE DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT - OCCUPANCY SENSOR CONTROLLED
- ra RELAY DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT - LOW VOLTAGE RELAY CONTROLLED VIA RELAY CABINET
- ta TIME CLOCK DESIGNATION - TIME CLOCK CONTROLLED

TYPICAL AT EACH FIXTURE LOCATION

LIGHTING FIXTURES

- SURFACE OR PENDANT MOUNTED
- RECESS MOUNTED
- WALL SURFACE MOUNTED
- WALL RECESS MOUNTED
- STRIP LIGHT OR UNDER CABINET LIGHT
- LIGHTING TRACK - LENGTH AS INDICATED ON DRAWINGS - NUMBER AND DIRECTION OF FIXTURES AS INDICATED ON DRAWINGS AND / OR SCHEDULE
- SURFACE MOUNTED ACCENT - ARROW INDICATES DIRECTION OF ILLUMINATION
- RECESS MOUNTED ACCENT - ARROW INDICATES DIRECTION OF ILLUMINATION
- POLE MOUNTED WITH ARM
- POST TOP POLE
- BOLLARD
- FLOOD LIGHT
- EMERGENCY BATTERY UNIT - WALL MOUNT AT 8'-0" AFF UOI
- EMERGENCY BATTERY UNIT CEILING
- EMERGENCY BATTERY SINGLE REMOTE HEAD - WALL MOUNT AT 8'-0" AFF UOI
- EMERGENCY BATTERY DUAL REMOTE HEAD - WALL MOUNT AT 8'-0" AFF UOI
- WALL MOUNTED EXIT LIGHT FIXTURE WITH EMERGENCY HEADS - MOUNT AT 8'-0" AFF UOI - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS
- CEILING MOUNTED EXIT LIGHT FIXTURE WITH EMERGENCY HEADS - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS
- CEILING MOUNTED EXIT LIGHT FIXTURE - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS
- WALL MOUNTED EXIT LIGHT FIXTURE - MOUNT AT 8'-0" AFF UOI - SHADING INDICATES FACE(S) - ARROW(S) AND FACE(S) AS INDICATED ON DRAWINGS

ELECTRICAL ABBREVIATIONS

1P	-	ONE POLE
2P	-	TWO POLE
3P	-	THREE POLE
4P	-	FOUR POLE
1P, 1W	-	ONE POLE, ONE WIRE
1P, 2W	-	ONE POLE, TWO WIRE
2P, 2W	-	TWO POLE, TWO WIRE
2P, 3W	-	TWO POLE, THREE WIRE
3P, 2W	-	THREE POLE, TWO WIRE
3P, 3W	-	THREE POLE, THREE WIRE
3P, 4W	-	THREE POLE, FOUR WIRE
4P, 4W	-	FOUR POLE, FOUR WIRE
A	-	AMPERE
AC	-	ALTERNATING CURRENT
AF	-	AMPERE FRAME
AFF	-	ABOVE FINISHED FLOOR
AFG	-	ABOVE FINISHED GRADE
AIC	-	AMPERE INTERRUPTING CAPACITY
ANSI	-	AMERICAN NATIONAL STANDARDS INSTITUTE
AL	-	ALUMINUM
AS	-	AMP SWITCH
AT	-	AMP TRIP
ARCH	-	ARCHITECT
ATS	-	AUTOMATIC TRANSFER SWITCH
A / V	-	AUDIO VISUAL
AWG	-	AMERICAN WIRE GRADE
B	-	PEDESTAL MOUNTED ON BENCH TOP
BF	-	BELOW FLOOR
BFC	-	BELOW FINISHED CEILING
BFF	-	BELOW FINISHED FLOOR
BFG	-	BELOW FINISHED GRADE
BLDG	-	BUILDING
C	-	CONDUIT
CAM	-	CAMERA
CAT	-	CATALOG
CATV	-	CABLE TELEVISION
CB	-	CIRCUIT BREAKER
CKT	-	CIRCUIT
CLG	-	CEILING MOUNTED
CO	-	COPPER
CT	-	CURRENT TRANSFORMER
CU	-	COPPER
CL	-	CENTERLINE
DC	-	DIRECT CURRENT
DR	-	DRYER
Δ	-	DELTA
DISC	-	DISCONNECT
DWG	-	DRAWING
E	-	EMERGENCY
EC	-	ELECTRICAL CONTRACTOR
EMT	-	ELECTRIC METALLIC TUBING
ER	-	EQUIPMENT ROOM
EWC	-	ELECTRIC WATER COOLER
EX	-	EXISTING
F/UTP	-	FOILED/UNSHIELDED TWISTED PAIR
FA	-	FIRE ALARM
FLA	-	FULL LOAD AMPS
FO	-	FIBER OPTIC
FPC	-	FIRE PROTECTION CONTRACTOR
GC	-	GENERAL CONTRACTOR
GDS	-	GENERATOR DOCKING STATION
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	-	GROUND FAULT PROTECTION EQUIPMENT
GND	-	GROUND
GRC	-	GALVANIZED RIGID CONDUIT
HH	-	HANDHOLE
HP	-	HORSEPOWER
HVAC	-	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	-	HERTZ (CYCLE) PER SECOND
ISP	-	INSIDE PLANT
IT	-	INFORMATION TECHNOLOGY
JB	-	JUNCTION BOX
KVA	-	KILOVOLT AMPERE
KVAR	-	KILOVOLT AMPERE REACTIVE
KW	-	KILOWATT
LP	-	LIGHTING PANEL
LS	-	LIMIT SWITCH
LTG	-	LIGHTING
LV	-	LOW VOLTAGE
MC	-	MECHANICAL CONTRACTOR
MCA	-	MINIMUM CIRCUIT AMPS
MCC	-	MOTOR CONTROL CENTER
MDP	-	MAIN DISTRIBUTION PANEL
MISC	-	MISCELLANEOUS
MH	-	MANHOLE
MLO	-	MAIN LUGS ONLY
MTD	-	MOUNTED
MTG	-	MOUNTING
MTS	-	MANUAL TRANSFER SWITCH
MW	-	MICROWAVE
MV	-	MEDIUM VOLTAGE
N / A	-	NOT APPLICABLE
NC	-	NORMALLY CLOSED
NEC	-	NATIONAL ELECTRIC CODE
NIC	-	NOT IN CONTRACT
NO	-	NORMALLY OPEN
#	-	NUMBER
NTS	-	NOT TO SCALE
OSP	-	OUTSIDE PLANT
P	-	POLE
PB	-	PULL BOX
PC	-	PLUMBING SYSTEM CONTRACTOR
PH	-	PHASE
PNL	-	PANEL OR PANELBOARD
PP	-	POWER PANEL
PR	-	PAIR
PRI	-	PRIMARY
PROJ	-	PROJECTOR
PVC	-	POLYVINYL CHLORIDE
REC	-	RECESSED
REF	-	REFRIGERATOR
RSC	-	RIGID STEEL CONDUIT
SC	-	SECURITY CONTRACTORUNDING
SEC	-	SECONDARY
SN	-	SOLID NEUTRAL
SP	-	SPARE
SS	-	STAINLESS STEEL
ST	-	SHUNT TRIP
STP	-	SHIELDED TWISTED PAIR
SUSP	-	SUSPENDED
SW	-	SWITCH
SWBD	-	SWITCHBOARD
T	-	TAMPER RESISTANT SAFETY RECEPTACLE
TBB	-	TELECOMMUNICATIONS BONDING BACKBONE
TC	-	TELEPHONE CABINET
TCI	-	TELECOMMUNICATIONS CABLING INSTALLER
TELE / DATA	-	TELEPHONE / DATA
TEL	-	TELEPHONE
TELECOM	-	TELECOMMUNICATIONS
TGP	-	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	-	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TP	-	TWISTED PAIR
TYP	-	TYPICAL
UG	-	UNDERGROUND
UTP	-	UNSHIELDED TWISTED PAIR
UOI	-	UNLESS OTHERWISE INDICATED
V	-	VOLT
W	-	WATT
WA	-	WASHER
WAP	-	WIRELESS ACCESS POINT
WP	-	WEATHERPROOF
XFMR	-	TRANSFORMER
Y	-	WYE
ZAM	-	ZONE ADAPTER MODULE

MOTOR STARTERS AND DISCONNECTS

- MANUAL MOTOR STARTER
- MAGNETIC MOTOR STARTER
- MAGNETIC MOTOR STARTER AND DISCONNECT COMBINATION
- DISCONNECT SWITCH SIZE AS INDICATED ON DRAWINGS - (X) INDICATES TYPE: (CB) CIRCUIT BREAKER (F) FUSED (NF) NON-FUSED
- VFD VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER

EQUIPMENT AND PANELBOARDS

- TRANSFORMER - (X) INDICATES DESIGNATION
- CT CURRENT TRANSFORMER CABINET
- METER
- MGB MAIN GROUND BAR
- DISTRIBUTION CIRCUIT PANELBOARD - SURFACE MOUNTED - (X) INDICATES DESIGNATION
- BRANCH CIRCUIT PANELBOARD - RECESSED MOUNTED - (X) INDICATES DESIGNATION
- BRANCH CIRCUIT PANELBOARD - SURFACE MOUNTED - (X) INDICATES DESIGNATION

WIRING DEVICES

TYPE ABBREVIATIONS:
(AF) ARC-FAULT CIRCUIT INTERRUPTER
(GF) GROUND FAULT CIRCUIT INTERRUPTING
(TR) TAMPER RESISTANT
(USB) RECEPTACLE WITH ONE TYPE A AND ONE TYPE C USB CHARGING PORTS. 2 AMP CHARGING MINIMUM.
(WP-D) DAMP LOCATION WITH WEATHERPROOF COVER
(WP-W) WET LOCATION WITH WEATHERPROOF IN-USE COVER
(WR) WEATHER RESISTANT

- DUPLEX RECEPTACLE - MOUNTED 1'-6" AFF UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE - (IH) INDICATES HORIZONTAL MOUNT
- QUADPLEX RECEPTACLE - MOUNTED 1'-6" AFF UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER BACKSPLASH, UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- QUADPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER BACKSPLASH, UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- DUPLEX RECEPTACLE - TOP HALF SWITCHED - MOUNTED 1'-6" AFF UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- DUPLEX RECEPTACLE - MOUNTED FLUSH IN COUNTERTOP - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- DUPLEX RECEPTACLE - MOUNTED FLUSH IN CEILING - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- QUADPLEX RECEPTACLE - MOUNTED FLUSH IN CEILING - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDARY AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE
- SIMPLEX OUTLET - MOUNT 1'-6" AFF UOI - (Y) INDICATES TYPE
- SPECIAL PURPOSE OUTLET (SPO) - (X) INDICATES SPO DESIGNATION
- MOTOR CONNECTION - (X) INDICATES MOTOR DESIGNATION
- TV / POWER OUTLET BOX 6'-8" AFF UOI.
- PUSHBUTTON - MOUNTED 3'-8" AFF UOI

RACEWAYS AND BOXES

- BUSWAY - RATING AND TYPE AS INDICATED ON DRAWINGS
- MULTI-OUTLET RACEWAY ASSEMBLY - WALL MOUNTED 1'-6" AFF, UOI
- MANHOLE
- HH HANDHOLE
- PB PULL BOX
- JUNCTION BOX
- CTB CABLE TAP BOX
- X F FLOOR BOX - FLUSH - (X) INDICATES OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS. SEE FLOOR BOX & POKE THRU SCHEDULE FOR MORE INFORMATION.
- X P POKE THRU - FLOOR MOUNTED - (X) INDICATES OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS. SEE FLOOR BOX & POKE THRU SCHEDULE FOR MORE INFORMATION.
- PP POWER POLE - OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS.

GENERAL PROJECT NOTES

A. ALL RECEPTACLES WITHIN THE FOLLOWING ROOMS SHALL BE TAMPER RESISTANT.
- a. CIRC DESK
- b. CLASSROOM
- c. COMFORT
- d. COMMUNITY DEN
- e. COMMUNITY ROOM
- f. CORRIDORS
- g. DISPLAY AREA
- h. FAMILY HUB
- i. HOLDS PICKUP
- j. LOUNGE
- k. MEETING ROOMS
- l. PAVILIONS
- m. QUIET READING
- n. RESTROOMS / TOILET ROOMS
- o. STACKS
- p. TECH HUB
- q. VESTIBULES
- r. WELCOME

JLA ARCHITECTS
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JLA PROJECT NUMBER: 20-0928

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BID DOCUMENTS

DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

ELECTRICAL SYMBOLS & ABBREVIATIONS

SHEET NUMBER

E001

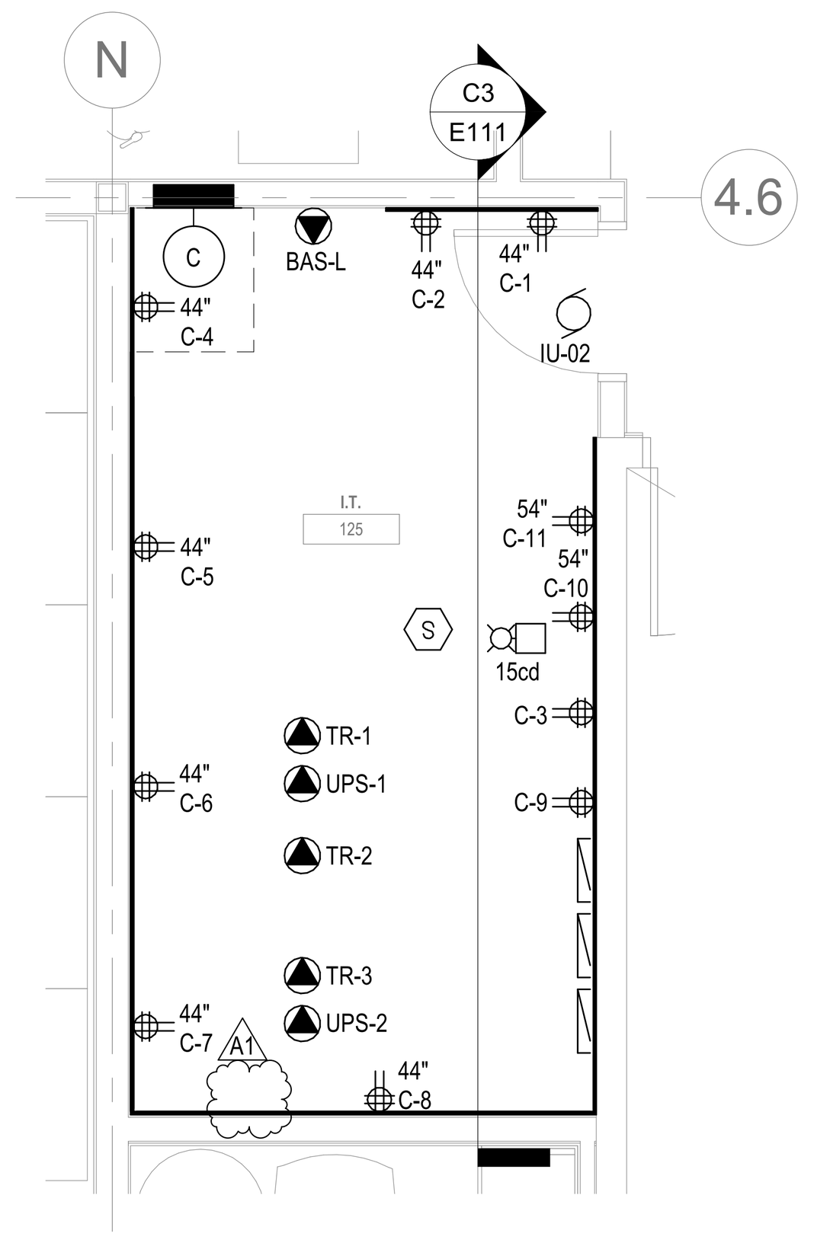
3/7/2025 11:02:16 AM

GENERAL SHEET NOTES

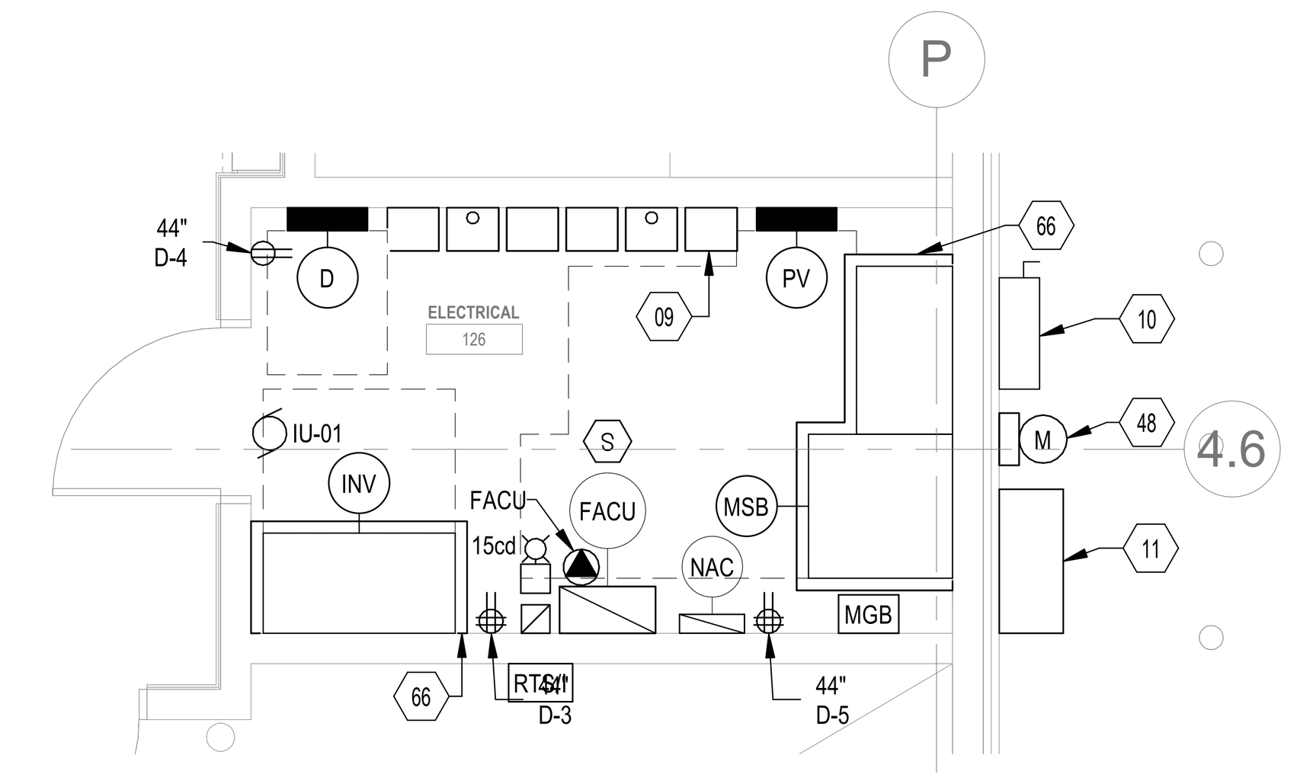
A. ALL EXTERIOR DUPLEX RECEPTACLES SHALL BE CONTROLLED VIA LUTRON ATHENA LIGHTING CONTROLS SYSTEM. SET TIME CLOCK OPERATION FROM 7:00 AM UNTIL 10:00 PM. SEE SHEET E506 FOR ADDITIONAL INFORMATION.
B. SEE TECHNOLOGY SET FOR ADDITIONAL COORDINATION AS REQUIRED.

SHEET KEYNOTES

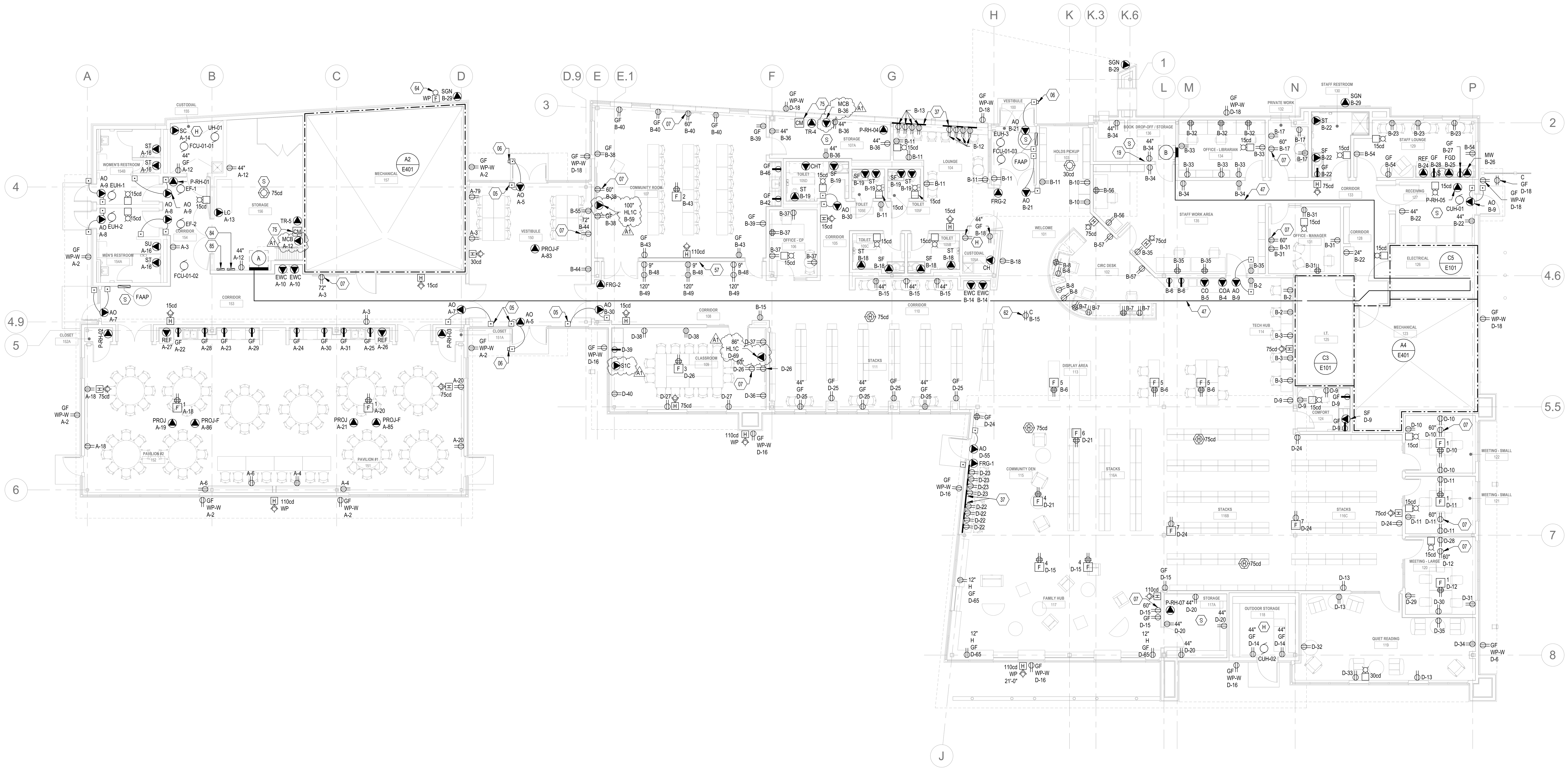
05	MULLION MOUNTED
06	PEDESTAL STYLE PUSH PLATE BEA LPR36.
07	PROVIDE HUBBELL TV WALL BOX CATALOG NUMBER NSAV62M. VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION. SENSOR CONTROLS CANOPY FIXTURES.
09	PV INVERTER. (3) SYNERGY UNITS PLUS (1) SYNERGY MANAGER PER 50 KW 208V, 3-PHASE INVERTER. ONLY SYNERGY UNITS ARE SHOWN, SYNERGY MANAGER TO BE MOUNTED BELOW UNITS.
10	PV DISCONNECT SWITCH
11	ELECTRICAL CONTRACTOR TO PROVIDE MG&E APPROVED AMP MANUFACTURING AND SUPPLY CT CABINET, CATALOG NUMBER MGECT12-4TMB.
19	AV RACK FOR COMMUNITY ROOM 107 AND CLASSROOM 109.
37	PROVIDE TASK LIGHTING MULTI-OUTLET ASSEMBLY CATALOG NUMBER TR72-4WD-P-WT. MULTI-OUTLET ASSEMBLY HAS AN ANGLED FACE. MOUNT IN A MANNER THAT THE ANGLED FACE IS UP. MOUNT CENTERED BETWEEN THE BOTTOM OF THE WINDOW TRIM AND THE TOP OF THE COUNTERTOP.
47	POTENTIAL CONDUIT ROUTING PATH FOR PANELBOARD FEEDER.
48	ELECTRIC METER, METER TEST SWITCH, AND WIRING TO TEST SWITCH TO BE FURNISHED BY MG&E.
57	DO NOT MOUNT ANY LIGHTING OR FIRE ALARM DEVICES ON THIS WALL. WALL SPACE RESERVED FOR ARTWORK.
62	FOR FUTURE TV.
64	LOCATE NEAR FIRE DEPARTMENT CONNECTION.
66	EQUIPMENT PAD BY GC.
75	PROVIDE CONNECTION TO FIRE ALARM CONTROL MODULE AT AV RACK TO SILENCE PROGRAMMING IF A FIRE ALARM IS IN PROGRESS.
84	NORMAL LIGHTING DIMMING PANEL #3 WITH MAIN PROCESSOR
85	EMERGENCY LIGHTING DIMMING PANEL #2 WITH A/V INTERFACE



C3 ENLARGED PLAN - IT ROOM 125 - POWER & FIRE ALARM
1/4" = 1'-0"



C5 ENLARGED PLAN - ELECTRICAL ROOM 126 - POWER & FIRE ALARM
1/4" = 1'-0"



A1 FIRST FLOOR PLAN - POWER & FIRE ALARM
1/8" = 1'-0"

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JLA PROJECT NUMBER: 20-0928

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DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE
FIRST FLOOR PLAN - POWER & FIRE ALARM

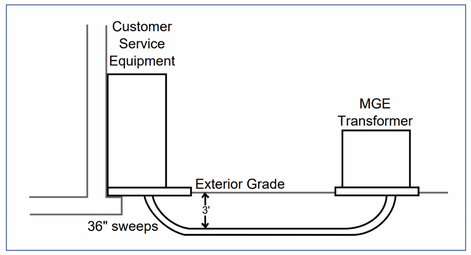
SHEET NUMBER
E101

3/7/2025 11:02:17 AM

SER-1

EXTERIOR SERVICE AT GRADE

PREFERRED FOR ALL METERING INSTALLATIONS



NOTES:

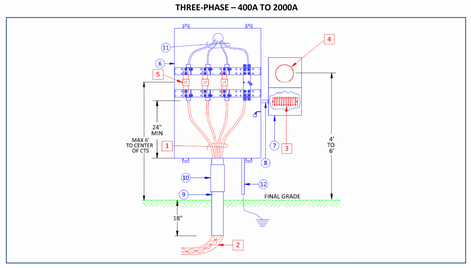
- Electric service to be at exterior grade located on an exterior wall. Meter shields required if overhang is less than 24".
- MGE connects onto customer provided conduit stubs, which are provided at 18" into ground with expansion fittings, or horizontally at 3' below grade from concrete pad. Use 36" radius sweeps.
- MGE pulls service conductors into service equipment and terminates on customer main disconnect or main lugs.
  - For a service 1600A or less, MGE requires at least 24" of pull space from bottom of conduits to termination lugs.
  - For a service larger than 1600A, MGE requires a separate pull section with termination lugs only.

COM-3

COMMERCIAL SINGLE-METER WALL-MOUNT UNDERGROUND SERVICE

SINGLE-PHASE – 400A TO 600A

THREE-PHASE – 400A TO 2000A



MGE WILL FURNISH:

1. Underground service conductors.
2. Conduit(s), including 36-inch 90 degree sweep(s), up to the customer's stubbed conduit(s).
3. Meter test switch, installed by MGE.
4. Electric meter and wiring to test switch.
5. Bar-type current transformers (CTs), installed by customer.

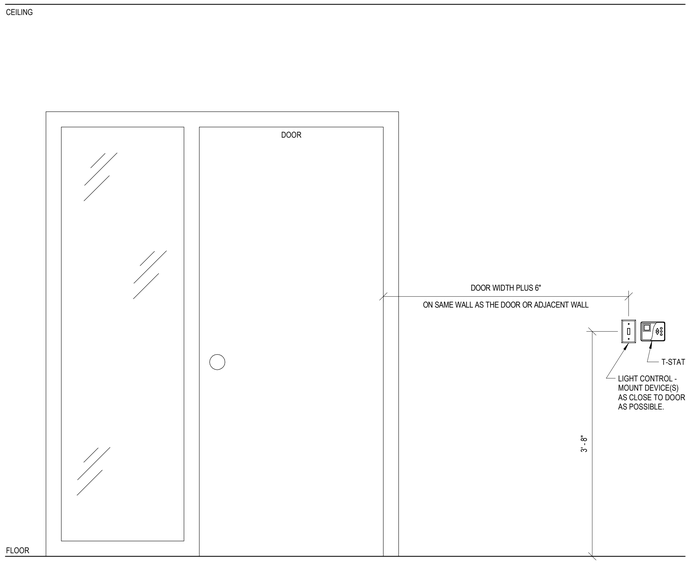
CUSTOMER WILL FURNISH:

6. MGE approved bar-type CT cabinet, securely fastened to wall surface, using strut when needed. See *TABLE 5*.
7. MGE approved CT rated meter socket, on opposite side of wireway, if applicable. See *TABLE 4*.
   - The use of a meter shield may be required, see *M15-10*.
8. One-inch rigid conduit for meter wiring, minimum 6" long, with grounding locknuts.
   - Use existing knockouts on meter socket.
   - MGE does not allow LBs on unmetered conduit.
9. MGE approved underground service conduit(s). See *TABLE 7*.
   - OR optional underground raceway(s). See *TABLE 8*.
10. Expansion fitting(s) installed above-grade.
11. Conduit and wires to main service disconnect.
   - The ampacity rating of the main disconnect(s) may not exceed the ampacity rating of the CT cabinet.
12. Ground in accordance with applicable electrical codes.

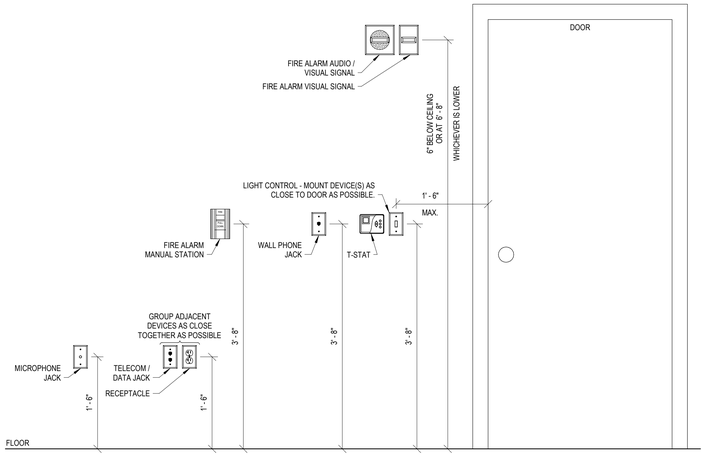
PROJECT SPECIFIC NOTES:
1. ELECTRICAL CONTRACTOR TO PROVIDE ALL "CUSTOMER" EQUIPMENT AND CONDUITS.
2. SEE ELECTRICAL ONE-LINE POWER DIAGRAM ON SHEET E620 FOR SERVICE SIZE REQUIREMENTS.

A1 COMMERICAL SINGLE-METER SERVICE CONNECTION

NOT TO SCALE

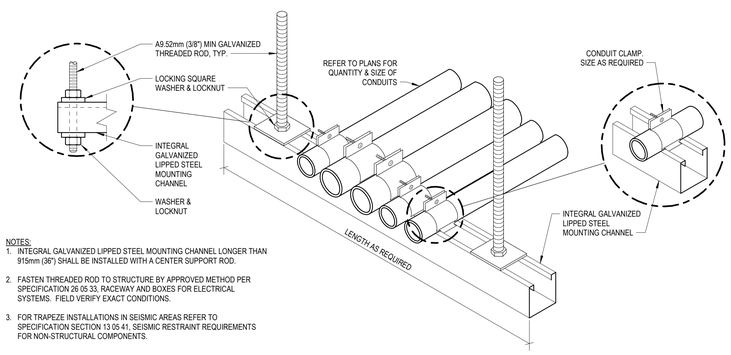


SIDE LIGHT OR WINDOW WALL LIGHT SWITCH AND THERMOSTAT INSTALLATIONS



B2 TYPICAL MOUNTING HEIGHT DETAIL

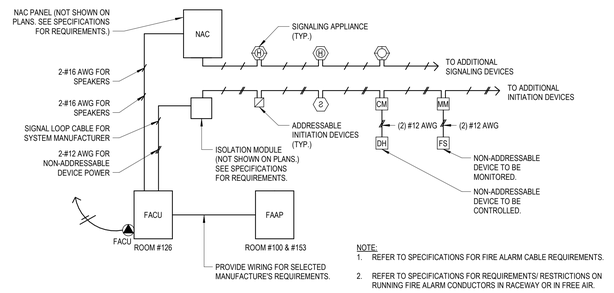
NTS



NOTES:
1. INTEGRAL GALVANIZED LIPPED STEEL MOUNTING CHANNEL LONGER THAN 915mm (36") SHALL BE INSTALLED WITH A CENTER SUPPORT ROD.
2. FASTEN THREADED ROD TO STRUCTURE BY APPROVED METHOD PER SPECIFICATION 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS. FIELD VERIFY EXACT CONDITIONS.
3. FOR TRAPEZE INSTALLATIONS IN SEISMIC AREAS REFER TO SPECIFICATION SECTION 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

A2 TRAPEZE SUPPORT

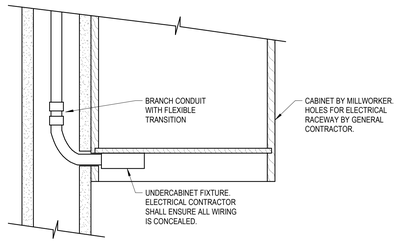
NTS



NOTE:
1. REFER TO SPECIFICATIONS FOR FIRE ALARM CABLE REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR REQUIREMENTS/ RESTRICTIONS ON RUNNING FIRE ALARM CONDUCTORS IN RACEWAY OR IN FREE AIR.

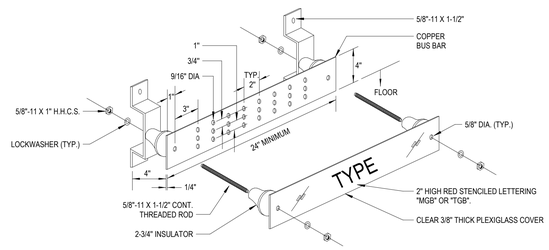
D5 FIRE ALARM RISER DIAGRAM

NTS



C5 UNDERCABINET LIGHT MOUNTING DETAIL

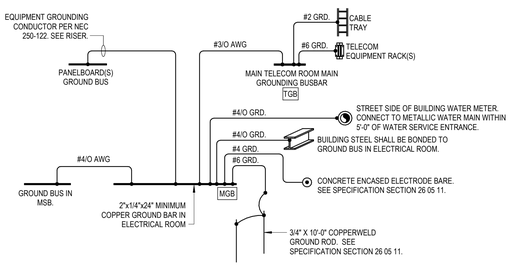
NTS



NOTE:
1. MATERIAL BY NEWTON OR GEORGIA BRASS IS ACCEPTABLE.
2. ALL BUS BARS MOUNTED AT 8' AFF UNLESS NOTED OTHERWISE.
A1 3. SEE TECHNOLOGY PLANS FOR TELECOM GROUND BAR LOCATIONS.
4. 10" MINIMUM GROUND BUS PERMITTED AT TE1 AND TE2.

B5 GROUND BUS

NTS



NOTES:
1. ALL GROUND CONDUCTORS TO BE ROUTED IN PVC CONDUIT.
2. ALL GROUND CONDUCTORS ON THIS DIAGRAM SHALL BE COPPER.

A5 GROUNDING SYSTEM DETAIL

NTS

3/7/2025 11:02:18 AM

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DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E501

GENERAL SHEET NOTES

A. DRAWING PROVIDED TO SHOW LUTRON CONTROLS AND EQUIPMENT.
B. SHADES PROVIDED BY THE GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE CONTROLS AND WIRING.

Sivoia QS | QSPS-10PNL | Smart Panel

085335d 4 04.10.20

Wiring Rules

Link Terminals:

- All wiring is NEC® Class 2 / PELV. Follow all applicable local and national codes for proper circuit separation and protection.
- COM: 12 - 18 AWG (4.0-1.0 mm²)
- MUX and $\overline{MUX}$: 22 AWG (0.5 mm²) twisted/shielded pair
- Total length of wiring on communication link must not exceed 2000 ft (610 m)
- Maximum of 100 devices in each Sivoia QS system (panel outputs and link pass-through combined; each QSPS-10PNL counts as 1 of the 100 devices)

NOTE: The 3-pin link terminals must be used when interconnecting multiple Smart Enclosures. Smart Enclosures cannot be interconnected using the 4-pin output terminals.

Output Terminals:

- All wiring is NEC® Class 2 / PELV. Follow all applicable local and national codes for proper circuit separation and protection.
- V+ and COM: 12 - 18 AWG (4.0-1.0 mm²)
- MUX and $\overline{MUX}$: 22 AWG (0.5 mm²) twisted/shielded pair
- Power (V+) terminals must NEVER be connected between outputs

Maximum devices powered per output			Maximum total length of wiring based on wire gauge		
Shades	+	Devices	12 AWG (4.0 mm²)	16 AWG (1.5 mm²)	18 AWG (1.0 mm²)
None	+	Up to 8 PDUs*	2000 ft (610 m)	1000 ft (305 m)	600 ft (183 m)
Any 1 shade/drapery drive unit	+	Up to 1 PDU*	500 ft (152 m)**	200 ft (61 m)	125 ft (38 m)
2 Palladiom, ≤ 30 sq ft (2.75 sq m) each	+	Up to 1 PDU*	N/A**	75 ft (23 m)	50 ft (15 m)
3 Palladiom, ≤ 20 sq ft (1.8 sq m) each	+	Up to 1 PDU*	N/A**	75 ft (23 m)	50 ft (15 m)
2 Sivoia QS roller 64, ≤ 30 sq ft (2.75 sq m) each	+	Up to 1 PDU*	200 ft (61 m)	75 ft (23 m)	50 ft (15 m)
3 Sivoia QS roller 64, ≤ 20 sq ft (1.8 sq m) each	+	Up to 1 PDU*	200 ft (61 m)	75 ft (23 m)	50 ft (15 m)
2 Sivoia QS roller 100, ≤ 50 sq ft (4.6 sq m) each	+	Up to 1 PDU*	200 ft (61 m)	75 ft (23 m)	50 ft (15 m)

*PDU = Power Draw Unit. For more information, refer to the QS Link Power Draw Unit Specification Submittal (P/N 369405).
** The connector supplied with Palladiom shades is not sized to accept 12 AWG wire.

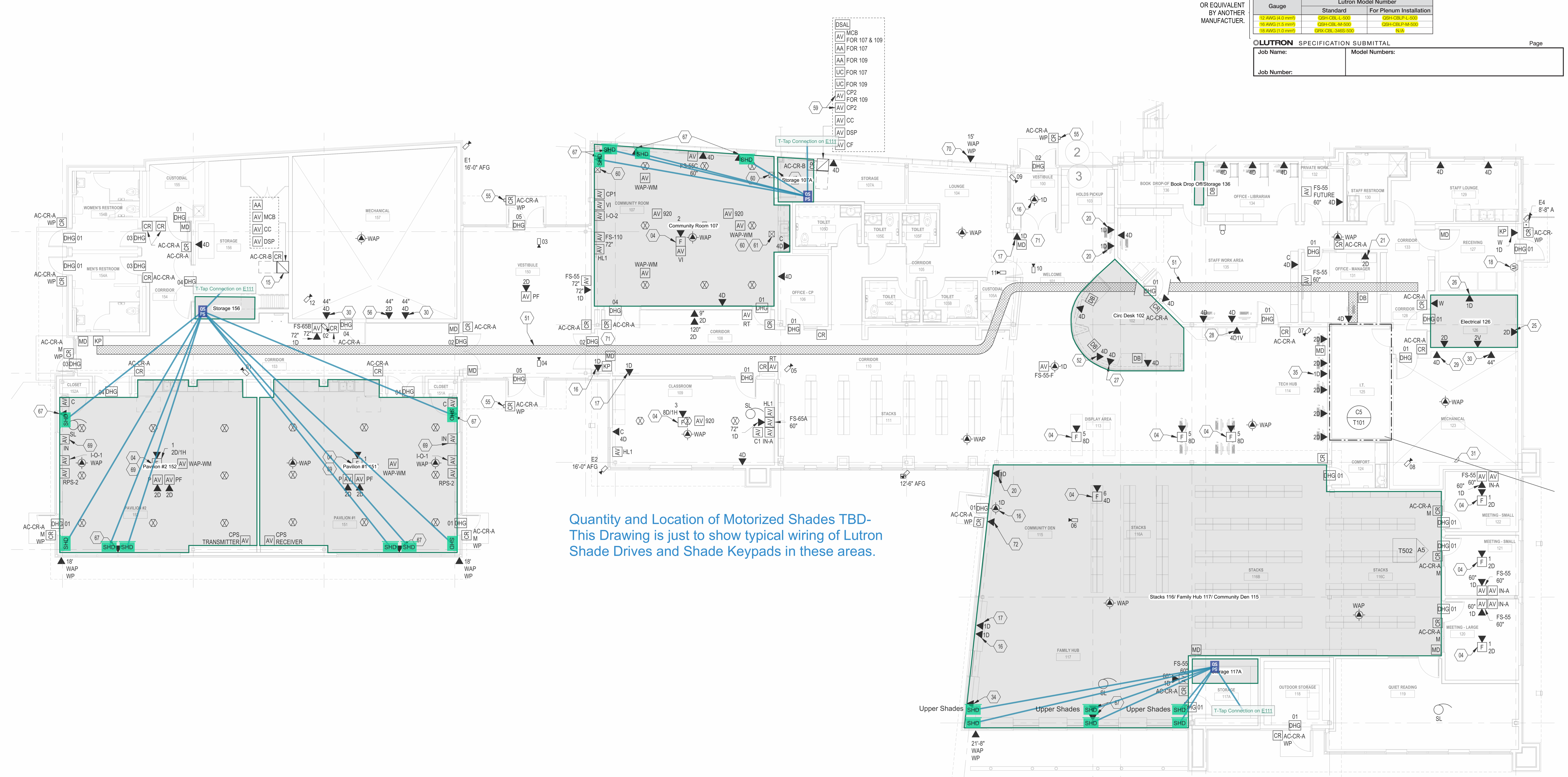
OR EQUIVALENT BY ANOTHER MANUFACTUER.

Options available from Lutron with power and communication conductors in one cable:

Gauge	Lutron Model Number	
	Standard	For Plenum Installation
12 AWG (4.0 mm²)	QSH-CBL-L-500	QSH-CBLP-L-500
16 AWG (1.5 mm²)	QSH-CBL-M-500	QSH-CBLP-M-500
18 AWG (1.0 mm²)	GRX-CBL-346S-500	N/A

LUTRON SPECIFICATION SUBMITTAL | Page

Job Name: Job Number:	Model Numbers:



Quantity and Location of Motorized Shades TBD- This Drawing is just to show typical wiring of Lutron Shade Drives and Shade Keypads in these areas.

A1 FIRST FLOOR PLAN - TECHNOLOGY

Lutron Designer 25.0.0.112

3/7/2025 11:02:19 AM

System Layout

General Notes

- This layout is for system schematic purposes only. Contractor shall locate, install, and wire equipment according to Lutron installation and specification documents.
  - If the Lutron Sensor Layout and tuning service has been purchased, then daylight and occupancy sensors are placed by Lutron.
- Verify shade design with Lutron.
- See Cover Sheet and One-Lines for additional information.
- Final location with adequate LTE coverage to be determined by electrical contractor

Legend

QSPS-10PNL (3)

Project Name: City of Madison Imagination Center
Location: Madison, Wisconsin
Project Number: 2213961.1.1
Created by: Kenny Allen
File Name: City of Madison Imagination Center at Reindahl Park-Athena only-Change ESNs to DIN Rail Panels-01232025.lutd
Document Revision:
Date: January 27, 2025
Sheet: 4 of 4

Floor 1/T101

NOT FOR CONSTRUCTION

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+1.610.282.3800 | Fax: +1.610.282.1146

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Madison, WI 53703
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DATE OF ISSUANCE: JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE: ELECTRICAL DETAILS

SHEET NUMBER: E507

SPECIAL PURPOSE OUTLET SCHEDULE

GENERAL NOTE:

A. LOADS SHOWN ON THE SPECIAL PURPOSE OUTLET SCHEDULE MAY REQUIRE EITHER A RECEPTACLE (A PLUG-IN CONTACT DEVICE AS DEFINED BY THE NEC) OR MAY REQUIRE A DIRECT CONNECTION (HARDWIRED) TO THE LOADS BRANCH CIRCUIT. FOR EACH LOAD THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE TYPE OF TERMINATION REQUIRED AS INDICATED ON THE EQUIPMENT MANUFACTURERS SHOP DRAWINGS. ALL RECEPTACLES, DISCONNECT SWITCHES, OR OTHER DEVICES REQUIRED FOR TERMINATION OF THESE CIRCUITS SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID. LOADS ON THIS SCHEDULE MAY ALSO REQUIRE NON-STANDARD ELECTRICAL ROUGH-IN HEIGHTS. ELECTRICAL CONTRACTOR SHALL ALSO VERIFY RACEWAY ROUGH-IN HEIGHTS FOR THESE LOADS WITH EQUIPMENT SHOP DRAWINGS PRIOR TO RACEWAY ROUGH-IN.

B. ALL MOUNTING HEIGHTS ARE MEASURED FROM ABOVE FINISHED FLOOR OR GRADE TO THE CENTER OF BOX, UNLESS OTHERWISE INDICATED.

C. IF THE NEMA TYPE IS LEFT BLANK IT IS A DIRECT CONNECTION.

NOTE:

1. PROVIDE BOX, CONDUIT AND PULL STRING FOR FUTURE HEAT PUMP WATER HEATER. PROVIDE SPARE BREAKER WITHIN PANEL A. CIRCUITING SHOWN FOR PANEL AND SERVICE SIZING ONLY.
2. PROVIDE BLANK FACE PLATE AND PROVISIONS FOR FUTURE OVER FLOOR RACEWAY TO FUTURE RFID GATE. PROVIDE WITH PULL STRING.
3. PROVIDE CONDUIT STUB THROUGH CONCRETE FLOOR. PROVIDE BLANK CAP OVER STUB. COORDINATE EXACT LOCATION FOR CONDUIT STUB WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE WITH PULL STRING.
4. ALL RFID GATES SHALL BE FED FROM THE SAME CIRCUIT IN PANEL B. PROVIDE A SWITCH TO CONTROL POWER TO ALL GATES NEXT TO PANEL B. PROVIDE SPACE FOR THREE 24V TRANSFORMERS NEAR PANEL B.
5. MOUTE RECEPTACLE TO THE TOP OF THE TELECOM RACK. SEE DETAIL B1/T501 FOR ADDITIONAL INFORMATION.
6. OWNER SUPPLIED UPS. VERIFY ELECTRICAL REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
7. ELECTRICAL CONTRACTOR TO PROVIDE GUTTER DEICING SYSTEM. BASIS OF DESIGN IS NVENT RAYCHEM GUTTER DEICING SYSTEM. PROVIDE WITH 920 SERIES ELECTRONIC TEMPERATURE CONTROLS. LOCATE CONTROLLER NEAR PANEL A. VERIFY REQUIREMENTS WITH EQUIPMENT PROVIDED.
8. ELECTRICAL CONTRACTOR TO PROVIDE GUTTER DEICING SYSTEM. BASIS OF DESIGN IS NVENT RAYCHEM GUTTER DEICING SYSTEM. PROVIDE WITH 920 SERIES ELECTRONIC TEMPERATURE CONTROLS. LOCATE CONTROLLER NEAR PANEL D. VERIFY REQUIREMENTS WITH EQUIPMENT PROVIDED.
9. COORDINATE INSTALLATION WITH WOOD CEILING INSTALLER.

TAG	DRIVING	LOCATION	POWER				FEED FROM		BREAKER		WIRING				RECEPTACLE INFORMATION		MOUNTING HEIGHT	SEE NOTE
			SPECIFIED SIZE	VOLTAGE	PHASE	ELECTRICAL LOAD	PANEL	CIRCUIT	SIZE	POLES	PHASE & NEUTRAL QTY	PHASE & NEUTRAL SIZE	GROUND SIZE	COND.	GFCI	NEMA TYPE		
TR-1	TELECOM RACK	125		120 V	1	1920 VA	C	12	20	1	2	12	12	1/2"		5-20R QUAD	RACK	5
TR-2	TELECOM RACK	125		120 V	1	1920 VA	C	13	20	1	2	12	12	1/2"		5-20R QUAD	RACK	5
TR-3	TELECOM RACK	125		120 V	1	1920 VA	C	14	20	1	2	12	12	1/2"		5-20R QUAD	RACK	5
TR-4	TELECOM RACK	125		120 V	1	1920 VA	B	41	20	1	2	12	12	1/2"		5-20R QUAD	WALL ABOVE RACK	
TR-5	TELECOM RACK	125		120 V	1	1920 VA	A	80	20	1	2	12	12	1/2"		5-20R QUAD	WALL ABOVE RACK	
UPS-1	RACK MOUNTED UPS	125		120 V	1	1500 VA	C	15	20	1	2	12	12	1/2"		TBD	RACK	6
UPS-2	RACK MOUNTED UPS	125		120 V	1	1500 VA	C	16	20	1	2	12	12	1/2"		TBD	RACK	6
WS-1	WATER SOFTENER	157	1 FLA	120 V	1	120 VA	A	77	20	1	2	12	12	1/2"			44"	

SPECIAL PURPOSE OUTLET SCHEDULE

GENERAL NOTE:

A. LOADS SHOWN ON THE SPECIAL PURPOSE OUTLET SCHEDULE MAY REQUIRE EITHER A RECEPTACLE (A PLUG-IN CONTACT DEVICE AS DEFINED BY THE NEC) OR MAY REQUIRE A DIRECT CONNECTION (HARDWIRED) TO THE LOADS BRANCH CIRCUIT. FOR EACH LOAD THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE TYPE OF TERMINATION REQUIRED AS INDICATED ON THE EQUIPMENT MANUFACTURERS SHOP DRAWINGS. ALL RECEPTACLES, DISCONNECT SWITCHES, OR OTHER DEVICES REQUIRED FOR TERMINATION OF THESE CIRCUITS SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID. LOADS ON THIS SCHEDULE MAY ALSO REQUIRE NON-STANDARD ELECTRICAL ROUGH-IN HEIGHTS. ELECTRICAL CONTRACTOR SHALL ALSO VERIFY RACEWAY ROUGH-IN HEIGHTS FOR THESE LOADS WITH EQUIPMENT SHOP DRAWINGS PRIOR TO RACEWAY ROUGH-IN.

B. ALL MOUNTING HEIGHTS ARE MEASURED FROM ABOVE FINISHED FLOOR OR GRADE TO THE CENTER OF BOX, UNLESS OTHERWISE INDICATED.

C. IF THE NEMA TYPE IS LEFT BLANK IT IS A DIRECT CONNECTION.

NOTE:

1. PROVIDE BOX, CONDUIT AND PULL STRING FOR FUTURE HEAT PUMP WATER HEATER. PROVIDE SPARE BREAKER WITHIN PANEL A. CIRCUITING SHOWN FOR PANEL AND SERVICE SIZING ONLY.
2. PROVIDE BLANK FACE PLATE AND PROVISIONS FOR FUTURE OVER FLOOR RACEWAY TO FUTURE RFID GATE. PROVIDE WITH PULL STRING.
3. PROVIDE CONDUIT STUB THROUGH CONCRETE FLOOR. PROVIDE BLANK CAP OVER STUB. COORDINATE EXACT LOCATION FOR CONDUIT STUB WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE WITH PULL STRING.
4. ALL RFID GATES SHALL BE FED FROM THE SAME CIRCUIT IN PANEL B. PROVIDE A SWITCH TO CONTROL POWER TO ALL GATES NEXT TO PANEL B. PROVIDE SPACE FOR THREE 24V TRANSFORMERS NEAR PANEL B.
5. MOUTE RECEPTACLE TO THE TOP OF THE TELECOM RACK. SEE DETAIL B1/T501 FOR ADDITIONAL INFORMATION.
6. OWNER SUPPLIED UPS. VERIFY ELECTRICAL REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
7. ELECTRICAL CONTRACTOR TO PROVIDE GUTTER DEICING SYSTEM. BASIS OF DESIGN IS NVENT RAYCHEM GUTTER DEICING SYSTEM. PROVIDE WITH 920 SERIES ELECTRONIC TEMPERATURE CONTROLS. LOCATE CONTROLLER NEAR PANEL A. VERIFY REQUIREMENTS WITH EQUIPMENT PROVIDED.
8. ELECTRICAL CONTRACTOR TO PROVIDE GUTTER DEICING SYSTEM. BASIS OF DESIGN IS NVENT RAYCHEM GUTTER DEICING SYSTEM. PROVIDE WITH 920 SERIES ELECTRONIC TEMPERATURE CONTROLS. LOCATE CONTROLLER NEAR PANEL D. VERIFY REQUIREMENTS WITH EQUIPMENT PROVIDED.
9. COORDINATE INSTALLATION WITH WOOD CEILING INSTALLER.

TAG	DRIVING	LOCATION	POWER				FEED FROM		BREAKER		WIRING				RECEPTACLE INFORMATION		MOUNTING HEIGHT	SEE NOTE
			SPECIFIED SIZE	VOLTAGE	PHASE	ELECTRICAL LOAD	PANEL	CIRCUIT	SIZE	POLES	PHASE & NEUTRAL QTY	PHASE & NEUTRAL SIZE	GROUND SIZE	COND.	GFCI	NEMA TYPE		
AHU-01-02	AIR HANDLING UNIT - CIRCUIT 2 - LIGHTING	157	5 A	120 V	1	600 VA	A	36	20	1	2	12	12	1/2"			TBD	
AHU-01-03	AIR HANDLING UNIT - CIRCUIT 3 - BIPOLAR IONIZATION	157	0.3 MCA	120 V	1	4 VA	A	38	15	1	2	12	12	1/2"			TBD	
AHU-02-02	AIR HANDLING UNIT - CIRCUIT 2 - LIGHTING	123	5 A	120 V	1	600 VA	D	47	20	1	2	12	12	1/2"			TBD	
AHU-02-03	AIR HANDLING UNIT - CIRCUIT 3 - BIPOLAR IONIZATION	123	0.2 MCA	120 V	1	2 VA	D	45	15	1	2	12	12	1/2"			TBD	
AO	AUTO OPERATOR	SEE PLANS		120 V	1	500 VA	<varies>	<varies>	20	1	2	12	12	1/2"				
BAS-L	BAS - LIBRARY	125		120 V	1	600 VA	D	48	20	1	2	12	12	1/2"			TBD	
BAS-P	BAS - PAVILION	157		120 V	1	600 VA	A	40	20	1	2	12	12	1/2"			TBD	
CH	CHARGER	105A		120 V	1	1200 VA	B	16	20	1	2	12	12	1/2"		5-20R	44"	
CHT	FUTURE ADULT CHANGING TABLE	105D		120 V	1	500 VA	B	20	20	1	2	12	12	1/2"		TBD	TBD	
CO	COPIER	114		120 V	1	1200 VA	B	5	20	1	2	12	12	1/2"		5-20R	18"	
COA	COPIER ACCESSORIES	114		120 V	1	1200 VA	B	4	20	1	2	12	12	1/2"		5-20R	18"	
DWH-1	HEAT PUMP WATER HEATER	157	30 FLA	208 V	1	6240 VA	A	71,73	40	2	2	8	10	3/4"			44"	
EC-ERV01	ENERGY RECOVERY VENTILATOR ELECTRIC PREHEAT COIL	157	24.33 MCA	208 V	3	8765 VA	A	53,55,57	35	3	3	10	10	3/4"				
EC-ERV02	ENERGY RECOVERY VENTILATOR ELECTRIC PREHEAT COIL	123	27.8 MCA	208 V	3	10015 VA	D	56,58,60	35	3	3	10	10	3/4"				
EV1	ELECTRIC VEHICLE JUICE BOX - SINGLE	SITE	9600 W	208 V	1	9600 VA	D	17,19	50	2	2	8	10	3/4"			44"	
EWC	ELECTRIC WATER COOLER	SEE PLANS		120 V	1	500 VA	<varies>	<varies>	20	1	2	12	12	1/2"	■	5-20R	VERIFY	
FACU	FIRE ALARM CONTROL UNIT	126		120 V	1	500 VA	D	7	20	1	2	12	12	1/2"			TBD	
FDWH-1	FUTURE HEAT PUMP WATER HEATER	157		208 V	1	6240 VA	A	74,76	40	2	2			3/4"			44"	1
FGD	FUTURE GARBAGE DISPOSAL	129		120 V	1	1200 VA	B	25	20	1	2	12	12	1/2"		5-20R	18"	
FRG-1	FUTURE RFID GATE - WALL MOUNTED	115		120 V	1	32 VA			20	1	2	-	-	1/2"			18"	2, 4
FRG-2	FUTURE RFID GATE - CONDUIT STUB	SEE PLANS		120 V	1	32 VA			20	1	2	-	-	3/4"			-	3, 4
GDI-1	GUTTER DE-ICING SYSTEM	ROOF	12W PER FOOT	208 V	1	1836 VA	A	82,84	15	2	2	12	12	1/2"			TBD	7
GDI-2	GUTTER DE-ICING SYSTEM	ROOF	12W PER FOOT	208 V	1	2316 VA	D	68,70	20	2	2	12	12	1/2"			TBD	8
HL1C	HL1 CAMERA	SEE PLANS		120 V	1	180 VA	<varies>	<varies>	20	1	2	12	12	1/2"		5-20R	<varies>	
LC	LIFT CHARGER	156		120 V	1	500 VA	A	13	20	1	2	12	12	1/2"		5-20R	44"	
MCB	MIKE CHARGING BASE	SEE PLANS		120 V	1	180 VA	<varies>	<varies>	20	1	2	12	12	1/2"		5-20R	44"	
MS	MONUMENT SIGN	SITE		120 V	1	500 VA	A	32	20	1	2	12	12	1/2"			TBD	
MW	MICROWAVE	129		120 V	1	1200 VA	B	26	20	1	2	12	12	1/2"		5-20R	24"	
P-RH-01	RADIANT HEAT MANIFOLD PUMP	154	0.03 FLA	120 V	1	4 VA	A	15	15	1	2	12	12	1/2"				
P-RH-02	RADIANT HEAT MANIFOLD PUMP	152A	0.03 FLA	120 V	1	4 VA	A	15	15	1	2	12	12	1/2"				
P-RH-03	RADIANT HEAT MANIFOLD PUMP	151A	0.03 FLA	120 V	1	4 VA	A	15	15	1	2	12	12	1/2"				
P-RH-04	RADIANT HEAT MANIFOLD PUMP	107A	0.03 FLA	120 V	1	4 VA	B	53	15	1	2	12	12	1/2"				
P-RH-05	RADIANT HEAT MANIFOLD PUMP	127	0.03 FLA	120 V	1	4 VA	D	54	15	1	2	12	12	1/2"				
P-RH-06	RADIANT HEAT MANIFOLD PUMP	123	0.03 FLA	120 V	1	4 VA	D	54	15	1	2	12	12	1/2"				
P-RH-07	RADIANT HEAT MANIFOLD PUMP	117A	0.03 FLA	120 V	1	4 VA	D	54	15	1	2	12	12	1/2"				
PROJ	PROJECTOR	SEE PLANS	20 A CKT	120 V	1	600 VA	A	<varies>	20	1	2	12	12	1/2"		5-20R	CEILING	9
PROJ-F	PROJECTOR - FUTURE	SEE PLANS	20 A CKT	120 V	1	600 VA	A	<varies>	20	1	2	12	12	1/2"		5-20R	CEILING	9
REF	REFIGERATOR	SEE PLANS		120 V	1	1200 VA	<varies>	<varies>	20	1	2	12	12	1/2"		5-20R	<varies>	
S1C	S1 CAMERA			120 V	1	180 VA	D	69	20	1	2	12	12	1/2"		5-20R	80"	
SC	SCRUBBER	155		120 V	1	500 VA	A	14	20	1	2	12	12	1/2"		5-20R	44"	
SF	SENSOR FAUCET	SEE PLANS	1 A	120 V	1	120 VA	<varies>	<varies>	20	1	2	12	12	1/2"		SIMPLEX 5-20R	18"	
SGN	WALL-MOUNTED SIGN	EXTERIOR		120 V	1	500 VA	B	29	20	1	2	12	12	1/2"				
ST	SENSOR TOILET	SEE PLANS	1 A	120 V	1	120 VA	<varies>	<varies>	20	1	2	12	12	1/2"		SIMPLEX 5-20R	18"	
SU	SENSOR URINAL	154A	1 A	120 V	1	120 VA	A	16	20	1	2	12	12	1/2"		SIMPLEX 5-20R	18"	
TP	TEMPORARY POWER	SITE		208 V	1	8320 VA	B	45,47	50	2	2	8	10	3/4"		50 AMP TWIST LOCK	24" 24"	

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DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

ELECTRICAL SCHEDULES

SHEET NUMBER

E602

3/7/2025 11:02:19 AM

PANEL: A — New Construction

VOLTAGE:	208Y/120V	BUS RATING:	400 A
PHASE / WIRE:	3P / 4W	MAIN TYPE:	MLO
SVC. ENTRANCE LABEL:	NO	MAIN RATING:	0 A
MINIMUM AIC:		UPSTREAM BREAKER RATING:	350 A
IS SERIES RATED ALLOWED:	NO	SPD:	NO

FEED-THRU LUGS:	NO		
MOUNTING:	SURFACE		
ENCLOSURE:	TYPE 1		
200% NEUTRAL:	NO		
PANELBOARD TYPE:	PANELBOARD		

CKT	DESCRIPTION	TRIP	POLE	CB TYPE	LOAD TYPE	LOAD	A	B	C	LOAD	LOAD TYPE	CB TYPE	POLE	TRIP	DESCRIPTION	CKT
1	ROOF	20 A	1		R	180 VA	180 VA 1080 VA			1080 VA	R		1	20 A	EXTERIOR	2
3	150, 153, 154	20 A	1		R	720 VA		720 VA 360 VA		360 VA	R		1	20 A	151	4
5	SPO - AO	20 A	1		EQ	1000 VA			1000 VA 360 VA	360 VA	R		1	20 A	152	6
7	SPO - AO	20 A	1		EQ	1000 VA	1000 VA 1000 VA			1000 VA	EQ		1	20 A	SPO - AO	8
9	SPO - AO	20 A	1		EQ	1000 VA		1000 VA 1000 VA		1000 VA	EQ		1	20 A	SPO - EWC	10
11	157	20 A	1		R	720 VA			720 VA 720 VA	720 VA	EQ; R		1	20 A	A1 155, 156 & SPO - MCB	12
13	SPO - LC	20 A	1		EQ	500 VA	500 VA 500 VA			500 VA	EQ		1	20 A	SPO - SC	14
15	SPOS - R-PH-01 - 03	15 A	1		H	11 VA		11 VA 480 VA		480 VA	EQ		1	20 A	SPOS SF, ST & SU, 154A	16
17	157	20 A	1		R	540 VA			540 VA 720 VA	720 VA	R		1	20 A	152	18
19	SPO - PROJ	20 A	1		EQ	600 VA	600 VA 720 VA			720 VA	R		1	20 A	151	20
21	SPO - PROJ	20 A	1		EQ	600 VA		600 VA 180 VA		180 VA	R		1	20 A	152	22
23	152	20 A	1		R	180 VA			180 VA 180 VA	180 VA	R		1	20 A	151	24
25	151	20 A	1		R	180 VA	180 VA 1200 VA			1200 VA	EQ		1	20 A	SPO - REF	26
27	SPO - REF	20 A	1		EQ	1200 VA		1200 VA 180 VA		180 VA	R		1	20 A	152	28
29	152	20 A	1		R	180 VA			180 VA 180 VA	180 VA	R		1	20 A	151	30
31	151	20 A	1		R	180 VA	180 VA 500 VA			500 VA	L		1	20 A	SPO - MS	32
33	LIGHTING	20 A	1		L	1216 VA		1216 VA 1244 VA		1244 VA	L		1	20 A	LIGHTING	34
35	MOTOR - AHU-01-01	45 A	3		YR	10808 VA			3603 VA 600 VA	600 VA	L		1	20 A	SPO - AHU-01-02	36
37	--	--	--	--	--	--	3603 VA 4 VA			4 VA	EQ		1	15 A	SPO - AHU-01-03	38
39	--	--	--	--	--	--		3603 VA 600 VA		600 VA	EQ		1	20 A	SPO - BAS-P	40
41	MOTOR - CHWP-01	15 A	3		EQ	1657 VA			552 VA 552 VA	1657 VA	EQ		3	15 A	MOTOR - CHWP-02	42
43	--	--	--	--	--	--	552 VA 552 VA			--	--	--	--	--	--	44
45	--	--	--	--	--	--		552 VA 552 VA		--	--	--	--	--	--	46
47	MOTOR - CHWP-04	15 A	3		EQ	2378 VA			793 VA 793 VA	2378 VA	EQ		3	15 A	MOTOR - CHWP-03	48
49	--	--	--	--	--	--	793 VA 793 VA			--	--	--	--	--	--	50
51	--	--	--	--	--	--		793 VA 793 VA		--	--	--	--	--	--	52
53	SPO - EC-ERV01	35 A	3		H	8765 VA			2922 VA 1394 VA	1394 VA	YR		1	15 A	MOTORS - FCU-01-01, FCU-01-0...	54
55	--	--	--	--	--	--	2922 VA 1621 VA			4864 VA	V		3	25 A	MOTOR - ERV-01	56
57	--	--	--	--	--	--		2922 VA 1621 VA		--	--	--	--	--	--	58
59	MOTOR - RF-01	15 A	3		V	2378 VA			793 VA 1621 VA	--	--	--	--	--	--	60
61	--	--	--	--	--	--	793 VA 552 VA			1657 VA	EQ		3	15 A	MOTOR - HWP-01	62
63	--	--	--	--	--	--		793 VA 552 VA		--	--	--	--	--	--	64
65	MOTOR - HWP-02	15 A	3		EQ	1657 VA			552 VA 552 VA	--	--	--	--	--	--	66
67	--	--	--	--	--	--	552 VA 793 VA			2378 VA	EQ		3	15 A	MOTOR - HWP-03 & HWP-04	68
69	--	--	--	--	--	--		552 VA 793 VA		--	--	--	--	--	--	70
71	SPO - DWH-1	40 A	2		EQ	6240 VA			3120 VA 793 VA	--	--	--	--	--	--	72
73	--	--	--	--	--	--	3120 VA 3120 VA			6240 VA	EQ		2	40 A	SPARE FOR SPO - FDWH-1	74
75	MOTOR - RCP-1	15 A	1		EQ	120 VA		120 VA 3120 VA		--	--	--	--	--	--	76
77	SPO - WS-1	20 A	1		EQ	120 VA			120 VA 540 VA	540 VA	R		1	20 A	EXTERIOR	78
79	150	20 A	1		R	180 VA	180 VA 1920 VA			1920 VA	EQ		1	20 A	SPO - TR-5	80
81	MOTORS - EF-1 & EF-2	15 A	1		EQ	648 VA		648 VA 918 VA		1836 VA	H		2	15 A	SPO - GDI-1	82
83	SPO - PROJ-F	20 A	1		EQ	600 VA			600 VA 918 VA	--	--	--	--	--	--	84
85	SPO - PROJ-F	20 A	1		EQ	600 VA	600 VA 600 VA			600 VA	EQ		1	20 A	SPO - PROJ-F	86
87	MOTORS - FCU-01-05 &...	15 A	1		YR	240 VA		240 VA 1799 VA		3598 VA	H		2	30 A	MOTOR - EUH-01	88
89	MOTOR - EUH-02	30 A	2		H	3598 VA			1799 VA 1799 VA	--	--	--	--	--	--	90
91	--	--	--	--	--	--	1799 VA									92
93																94
95																96
97	SPARE	20 A	1		--	--	0 VA 0 VA			--	--		1	20 A	SPARE	98
99	SPARE	20 A	1		--	--		0 VA 0 VA		--	--		1	20 A	SPARE	100
101	SPARE	20 A	1		--	--			0 VA 0 VA	--	--		1	20 A	SPARE	102
							32508 VA	29162 VA	29196 VA							

PANEL TOTALS	
TOTAL CONN. LOAD:	90866 VA
TOTAL ADJUSTED LOAD:	94458 VA
TOTAL CONN. AMPS:	252 A
TOTAL ADJUSTED AMPS:	262 A

NOTES:
PROVIDE (1) 72 CKT PANEL AND (1) 30 CKT PANEL.

LOAD TYPE	CONNECTED LOAD	ADJUSTMENT FACTOR	ADJUSTED LOAD
EQ	41714 VA	100.00%	41714 VA
H	17809 VA	100.00%	17809 VA
L	3560 VA	125.00%	4450 VA
Motor	10808 VA	125.00%	13510 VA
R	8100 VA	100.00%	8100 VA
V	7242 VA	100.00%	7242 VA
YR	1634 VA	100.00%	1634 VA

CIRCUIT BREAKER TYPE ABBREVIATIONS:	LOAD TYPE ABBREVIATIONS:		
GFCI = GROUND FAULT CIRCUIT INTERRUPTER	C = COOLING SEASON ONLY	F = FARM	R = RECEPTACLE
HACR = HEATING AND AIR CONDITIONING RATED	ECD = ELECTRIC CLOTHES DRYER	GL1 = GENERAL LIGHTING - 2 W / SQ FT	SA = SMALL APPLIANCE
HB = HAND-BLOCKING DEVICE	EL = ELEVATOR	GL2 = GENERAL LIGHTING - 3 W / SQ FT	T = TRANSFORMER
L = LOCKABLE	EQ = EQUIPMENT	H = HEATING SEASON ONLY	V = VENTILATING
ST = SHUNT TRIP	ER1 = ELECTRIC RANGE LESS THAN 3.5 KW	K = KITCHEN EQUIPMENT - NON-DWELLING UNIT	W = WELDING
	ER2 = ELECTRIC RANGE 3.5 - 8.75 KW	L = LIGHTING	X = XRAY
	EX = EXISTING	P = PANEL	YR = YEAR ROUND

PANEL: B — New Construction

VOLTAGE:	208Y/120V	BUS RATING:	225 A
PHASE / WIRE:	3P / 4W	MAIN TYPE:	MLO
SVC. ENTRANCE LABEL:	NO	MAIN RATING:	0 A
MINIMUM AIC:		UPSTREAM BREAKER RATING:	175 A
IS SERIES RATED ALLOWED:	NO	SPD:	NO

FEED-THRU LUGS:	NO		
MOUNTING:	RECESSED		
ENCLOSURE:	TYPE 1		
200% NEUTRAL:	NO		
PANELBOARD TYPE:	PANELBOARD		

CKT	DESCRIPTION	TRIP	POLE	CB TYPE	LOAD TYPE	LOAD	A	B	C	LOAD	LOAD TYPE	CB TYPE	POLE	TRIP	DESCRIPTION	CKT
1	ROOF	20 A	1		R	180 VA	180 VA 540 VA			540 VA	R		1	20 A	114	2
3	114	20 A	1		R	540 VA		540 VA 1200 VA		1200 VA	EQ		1	20 A	SPO - COA	4
5	SPO - CO	20 A	1		EQ	1200 VA			1200 VA 1440 VA	1440 VA	R		1	20 A	114	6
7	102	20 A	1		R	1080 VA	1080 VA 900 VA			900 VA	R		1	20 A	102	8
9	SPO - AO	20 A	1		EQ	1000 VA		1000 VA 360 VA		360 VA	R		1	20 A	101	10
11	104, 100, 105, 105A, 101	20 A	1		R	1260 VA			1260 VA 720 VA	720 VA	R		1	20 A	104	12
13	104	20 A	1		R	720 VA	720 VA 1000 VA			1000 VA	EQ		1	20 A	SPO - EWC	14
15	108, 110	20 A	1		R	900 VA		900 VA 1200 VA		1200 VA	EQ		1	20 A	SPO - CH	16
17	132	20 A	1		R	720 VA			720 VA 1020 VA	1020 VA	EQ; R		1	20 A	SPOS SF & ST, 101, 105A, 105B, 105C	18
19	SPOS SF & ST, 105E, 105F, 105D	20 A	1		EQ	720 VA	720 VA 500 VA			500 VA	EQ		1	20 A	SPO - CHT	20
21	SPO - AO	20 A	1		EQ	1000 VA		1000 VA 960 VA		960 VA	EQ; R		1	20 A	SPOS SF, ST & 130, 127, 128	22
23	129	20 A	1		R	540 VA			540 VA 1200 VA	1200 VA	EQ		1	20 A	SPO - REF	24
25	SPO - FGD	20 A	1		EQ	1200 VA	1200 VA 1200 VA			1200 VA	EQ		1	20 A	SPO - MW	26
27	129	20 A	1		R	180 VA		180 VA 180 VA		180 VA	R		1	20 A	129	28
29	SPO - SGN	20 A	1		EQ	1500 VA			1500 VA 1000 VA	1000 VA	EQ		1	20 A	SPO - AO	30
31	131	20 A	1		R	900 VA	900 VA 540 VA			540 VA	R		1	20 A	134	32
33	134	20 A	1		R	900 VA		900 VA 900 VA		900 VA	R		1	20 A	136, 135	34
35	135	20 A	1		R	720 VA			720 VA 900 VA	900 VA	EQ; R		1	20 A	A1 107A & SPO - MCB	36
37	106	20 A	1		R	720 VA	720 VA 540 VA			540 VA	R		1	20 A	107	38
39	107	20 A	1		R	360 VA		360 VA 720 VA		720 VA	R		1	20 A	107	40
41	SPO - TR-4	20 A	1		EQ	1920 VA			1920 VA 180 VA	180 VA	R		1	20 A	107	42
43	R COMMUNITY ROOM 107	20 A	1		R	720 VA	720 VA 360 VA			360 VA	R		1	20 A	150	44
45	SPO - TP	50 A	2		R	8320 VA		4160 VA 180 VA		180 VA	R		1	20 A	107	46
47	--	--	--	--	--	--			4160 VA 540 VA	540 VA	R		1	20 A	108	48
49	108	20 A	1		R	540 VA	540 VA 1417 VA			1417 VA	L		1	20 A	LIGHTING	50
51	LIGHTING	20 A	1		L	1402 VA		1402 VA 1364 VA		1364 VA	L		1	20 A	LIGHTING	52
53	MOTOR - FCU-01-03 & SPO - P-RH-04	15 A	1		YR; H	616 VA			616 VA 540 VA	540 VA	R		1	20 A	129	54
55	150	20 A	1		R	180 VA	180 VA 360 VA			360 VA	R		1	20 A	135	56
57	R CIRC DESK 102	20 A	1		R	360 VA		360 VA 1799 VA		3598 VA	H		2	30 A	MOTOR - EUH-3	58
59	SPO - HLTC A1	20 A	1		EQ	180 VA			180 VA 1799 VA	--	--	--	--	--	--	60
61																62
63																64
65																66
67	SPARE	20 A	1		--	--	0 VA 0 VA			--	--		1	20 A	SPARE	68
69	SPARE	20 A	1		--	--		0 VA 0 VA		--	--		1	20 A	SPARE	70
71	SPARE	20 A	1		--	--			0 VA 0 VA	--	--		1	20 A	SPARE	72
							14317 VA	19665 VA	22155 VA							

PANEL TOTALS	
TOTAL CONN. LOAD:	56137 VA
TOTAL ADJUSTED LOAD:	47672 VA
TOTAL CONN. AMPS:	156 A
TOTAL ADJUSTED AMPS:	132 A

NOTES:

LOAD TYPE	CONNECTED LOAD	ADJUSTMENT FACTOR	ADJUSTED LOAD
EQ	16920 VA	100.00%	16920 VA
H	4 VA	100.00%	4 VA
L	4183 VA	125.00%	5228 VA
Motor	3598 VA	125.00%	4498 VA
R	30820 VA	66.22%	20410 VA
YR	612 VA	100.00%	612 VA

CIRCUIT BREAKER TYPE ABBREVIATIONS:	LOAD TYPE ABBREVIATIONS:		
GFCI = GROUND FAULT CIRCUIT INTERRUPTER	C = COOLING SEASON ONLY	F = FARM	R = RECEPTACLE
HACR = HEATING AND AIR CONDITIONING RATED	ECD = ELECTRIC CLOTHES DRYER	GL1 = GENERAL LIGHTING - 2 W / SQ FT	SA = SMALL APPLIANCE
HB = HAND-BLOCKING DEVICE	EL = ELEVATOR	GL2 = GENERAL LIGHTING - 3 W / SQ FT	T = TRANSFORMER
L = LOCKABLE	EQ = EQUIPMENT	H = HEATING SEASON ONLY	V = VENTILATING
ST = SHUNT TRIP	ER1 = ELECTRIC RANGE LESS THAN 3.5 KW	K = KITCHEN EQUIPMENT - NON-DWELLING UNIT	W = WELDING
	ER2 = ELECTRIC RANGE 3.5 - 8.75 KW	L = LIGHTING	X = XRAY
	EX = EXISTING	P = PANEL	YR = YEAR ROUND

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DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

PANEL SCHEDULES

SHEET NUMBER

E610

3/7/2025 11:02:20 AM

PANEL: C — New Construction

VOLTAGE: 208Y/120V	BUS RATING: 100 A	FEED-THRU LUGS: NO
PHASE / WIRE: 3P / 4W	MAIN TYPE: MLO	MOUNTING: RECESSED
SVC. ENTRANCE LABEL: NO	MAIN RATING: 0 A	ENCLOSURE: TYPE 1
MINIMUM AIC:	UPSTREAM BREAKER RATING: 60 A	200% NEUTRAL: NO
IS SERIES RATED ALLOWED: NO	SPD: NO	PANELBOARD TYPE: PANELBOARD

CKT	DESCRIPTION	TRIP	POLE	CB TYPE	LOAD TYPE	LOAD	A		B		C		LOAD	LOAD TYPE	CB TYPE	POLE	TRIP	DESCRIPTION	CKT
1	125	20 A	1		R	180 VA	180 VA	180 VA					180 VA	R		1	20 A	125	2
3	125	20 A	1		R	180 VA			180 VA	180 VA			180 VA	R		1	20 A	125	4
5	R.I.T. 125	20 A	1		R	180 VA					180 VA	180 VA	180 VA	R		1	20 A	125	6
7	125	20 A	1		R	180 VA	180 VA	180 VA					180 VA	R		1	20 A	125	8
9	125	20 A	1		R	180 VA			180 VA	180 VA			180 VA	R		1	20 A	125	10
11	125	20 A	1		R	180 VA					180 VA	1920 VA	1920 VA	EQ		1	20 A	SPO - TR-1	12
13	SPO - TR-2	20 A	1		EQ	1920 VA	1920 VA	1920 VA					1920 VA	EQ		1	20 A	SPO - TR-3	14
15	SPO - UPS-1	20 A	1		EQ	1500 VA			1500 VA	1500 VA			1500 VA	EQ		1	20 A	SPO - UPS-2	16
17																			18
19																			20
21																			22
23																			24
25	SPARE	20 A	1		--	--	0 VA	0 VA					--	--		1	20 A	SPARE	26
27	SPARE	20 A	1		--	--			0 VA	0 VA			--	--		1	20 A	SPARE	28
29	SPARE	20 A	1		--	--					0 VA	0 VA	--	--		1	20 A	SPARE	30
							4560 VA		3720 VA		2460 VA								

PANEL TOTALS	
TOTAL CONN. LOAD:	10740 VA
TOTAL ADJUSTED LOAD:	10740 VA
TOTAL CONN. AMPS:	30 A
TOTAL ADJUSTED AMPS:	30 A

NOTES:

LOAD TYPE	CONNECTED LOAD	ADJUSTMENT FACTOR	ADJUSTED LOAD
EQ	8760 VA	100.00%	8760 VA
R	1980 VA	100.00%	1980 VA

CIRCUIT BREAKER TYPE ABBREVIATIONS:	LOAD TYPE ABBREVIATIONS:		
GFCI = GROUND FAULT CIRCUIT INTERRUPTER	C = COOLING SEASON ONLY	F = FARM	R = RECEPTACLE
HACR = HEATING AND AIR CONDITIONING RATED	ECD = ELECTRIC CLOTHES DRYER	GL1 = GENERAL LIGHTING - 2 W / SQ FT	SA = SMALL APPLIANCE
HB = HAND-BLOCKING DEVICE	EL = ELEVATOR	GL2 = GENERAL LIGHTING - 3 W / SQ FT	T = TRANSFORMER
L = LOCKABLE	EQ = EQUIPMENT	H = HEATING SEASON ONLY	V = VENTILATING
ST = SHUNT TRIP	ER1 = ELECTRIC RANGE LESS THAN 3.5 KW	K = KITCHEN EQUIPMENT - NON-DWELLING UNIT	W = WELDING
	ER2 = ELECTRIC RANGE 3.5 - 8.75 KW	L = LIGHTING	X = XRAY
	EX = EXISTING	P = PANEL	YR = YEAR ROUND

INVERTER: INV — New Construction

INPUT VOLTAGE: 208	CAPACITY IN WATTS: 8000	MANUFACTURER: IOTA
OUTPUT VOLTAGE: 120	QTY OF OUTPUT BREAKERS: 6	CATALOG NUMBER: IIS-8000-208IN-120OUT-ST-FSREQ(#)-TREQ(#)-6-1P120-20AMP-ON-6

CKT	Load Name	TRIP	POLE	CB TYPE	LOAD TYPE	A		B		LOAD TYPE	CB TYPE	POLE	TRIP	Load Name	CKT
1	EXTERIOR LIGHTING	20 A	1		L	509 VA	1513 VA			L		1	20 A	LIGHTING	2
3	LIGHTING	20 A	1		L			1465 VA	544 VA	L		1	20 A	LIGHTING	4
5	SPARE	20 A	1		--	0 VA	0 VA			--		1	20 A	SPARE	6
						2023 VA		2009 VA							

PANEL TOTALS	
TOTAL CONN. LOAD:	4032 VA
TOTAL ADJUSTED LOAD:	5039 VA
TOTAL CONN. AMPS:	19 A
TOTAL ADJUSTED AMPS:	24 A

NOTES:

LOAD TYPE	CONNECTED LOAD	ADJUSTMENT FACTOR	ADJUSTED LOAD
L	4032 VA	125.00%	5039 VA

GENERAL NOTES:
1. PROVIDE WITH 90 MINUTES OF BACKUP, UL924 LISTING.
2. OR PRIOR APPROVED EQUAL.

CIRCUIT BREAKER TYPE ABBREVIATIONS:	LOAD TYPE ABBREVIATIONS:		
GFCI = GROUND FAULT CIRCUIT INTERRUPTER	C = COOLING SEASON ONLY	F = FARM	R = RECEPTACLE
HACR = HEATING AND AIR CONDITIONING RATED	ECD = ELECTRIC CLOTHES DRYER	GL1 = GENERAL LIGHTING - 2 W / SQ FT	SA = SMALL APPLIANCE
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L = LOCKABLE	EQ = EQUIPMENT	H = HEATING SEASON ONLY	V = VENTILATING
ST = SHUNT TRIP	ER1 = ELECTRIC RANGE LESS THAN 3.5 KW	K = KITCHEN EQUIPMENT - NON-DWELLING UNIT	W = WELDING
	ER2 = ELECTRIC RANGE 3.5 - 8.75 KW	L = LIGHTING	X = XRAY
	EX = EXISTING	P = PANEL	YR = YEAR ROUND

PANEL: D — New Construction

VOLTAGE: 208Y/120V	BUS RATING: 400 A	FEED-THRU LUGS: NO
PHASE / WIRE: 3P / 4W	MAIN TYPE: MLO	MOUNTING: SURFACE
SVC. ENTRANCE LABEL: NO	MAIN RATING: 0 A	ENCLOSURE: TYPE 1
MINIMUM AIC:	UPSTREAM BREAKER RATING: 250 A	200% NEUTRAL: NO
IS SERIES RATED ALLOWED: NO	SPD: NO	PANELBOARD TYPE: PANELBOARD

CKT	DESCRIPTION	TRIP	POLE	CB TYPE	LOAD TYPE	LOAD	A		B		C		LOAD	LOAD TYPE	CB TYPE	POLE	TRIP	DESCRIPTION	CKT
1	SITE LIGHTING	20 A	1		L	1304 VA	1304 VA	180 VA					180 VA	R		1	20 A	ROOF	2
3	126	20 A	1		R	360 VA			360 VA	180 VA			180 VA	R		1	20 A	126	4
5	126	20 A	1		R	360 VA					360 VA	180 VA	180 VA	R		1	20 A	EXTERIOR	6
7	SPO - FACU	20 A	1		EQ	500 VA	500 VA	540 VA					540 VA	R		1	20 A	123	8
9	124, 114	20 A	1		EQ, R	1020 VA			1020 VA	1080 VA			1080 VA	R		1	20 A	122	10
11	121	20 A	1		R	1080 VA					1080 VA	540 VA	540 VA	R		1	20 A	120	12
13	116C, 119	20 A	1		R	540 VA	540 VA	360 VA					360 VA	R		1	20 A	117A, 118	14
15	116B, 117	20 A	1		R	1260 VA			1260 VA	900 VA			900 VA	R		1	20 A	EXTERIOR	16
17	SPO - EV1	50 A	2		EQ	9600 VA					4800 VA	1260 VA	1260 VA	R		1	20 A	EXTERIOR	18
19	--	--	--	--	--	--	4800 VA	720 VA					720 VA	R		1	20 A	R STORAGE 117A	20
21	117	20 A	1		R	720 VA			720 VA	720 VA			720 VA	R	GFCI	1	20 A	115	22
23	115	20 A	1	GFCI	R	720 VA					720 VA	900 VA	900 VA	R		1	20 A	116C, 115, 116B, 113	24
25	111	20 A	1		R	1080 VA	1080 VA	720 VA					720 VA	R		1	20 A	109	26
27	109	20 A	1		R	360 VA			360 VA	180 VA			180 VA	R		1	20 A	120	28
29	120	20 A	1		R	180 VA					180 VA	180 VA	180 VA	R		1	20 A	120	30
31	120	20 A	1		R	180 VA	180 VA	180 VA					180 VA	R		1	20 A	119	32
33	119	20 A	1		R	180 VA			180 VA	180 VA			180 VA	R		1	20 A	119	34
35	119	20 A	1		R	180 VA					180 VA	180 VA	180 VA	R		1	20 A	109	36
37	109	20 A	1		R	180 VA	180 VA	360 VA					360 VA	R		1	20 A	109	38
39	109	20 A	1		R	180 VA			180 VA	180 VA			180 VA	R		1	20 A	109	40
41	LIGHTING	20 A	1		L	1520 VA					1520 VA	1025 VA	1025 VA	L		1	20 A	LIGHTING	42
43	LIGHTING	20 A	1		L	956 VA	956 VA	2023 VA					4032 VA	Spare; L		2	50 A	INV	44
45	SPO - AHU-02-03	15 A	1		EQ	2 VA			2 VA	2009 VA			--	--	--	--	--	--	46
47	SPO - AHU-02-02	20 A	1		L	600 VA					600 VA	600 VA	600 VA	EQ		1	20 A	SPO - BAS-L	48
49	MOTOR - IU-02 & OU-02	25 A	2		YR	2766 VA	1383 VA	1383 VA					2766 VA	YR		2	25 A	MOTOR - IU-01 & OU-01	50
51	--	--	--	--	--	--			1383 VA	1383 VA			--	--	--	--	--	--	52
53	MOTORS - CUH-01, CHU-02,...	15 A	1		YR	475 VA					475 VA	11 VA	11 VA	H		1	15 A	SPOS - R-PH-05 - 07	54
55	SPO - AO	20 A	1		EQ	500 VA	500 VA	3338 VA					10015 VA	H		3	35 A	SPO - EC-ERV02	56
57	MOTOR - ERV-02	35 A	3		V	6971 VA			2324 VA	3338 VA			--	--	--	--	--	--	58
59	--	--	--	--	--	--					2324 VA	3338 VA	--	--	--	--	--	--	60
61	--	--	--	--	--	--	2324 VA	901 VA					2702 VA	V		3	15 A	MOTOR - RF-02	62
63	EXTERIOR	20 A	1		R	540 VA			540 VA	901 VA			--	--	--	--	--	--	64
65	R FAMILY HUB 117	20 A	1		R	540 VA					540 VA	901 VA	--	--	--	--	--	--	66
67	123	20 A	1		R	720 VA	720 VA	1158 VA					2316 VA	H		2	20 A	SPO - GDI-2	68
69	SPO - HL1C & S1C	20 A	1		EQ	360 VA			360 VA	1158 VA			--	--	--	--	--	--	70
71	A1																		72
73																			74
75																			76
77																			78
79	SPARE	20 A	1		--	--	0 VA	0 VA					--	--		1	20 A	SPARE	80
81	SPARE	20 A	1		--	--			0 VA	0 VA			--	--		1	20 A	SPARE	82
83	SPARE	20 A	1		--	--					0 VA	0 VA	--	--		1	20 A	SPARE	84
							26330 VA		20899 VA		21893 VA								

PANEL TOTALS	
TOTAL CONN. LOAD:	69122 VA
TOTAL ADJUSTED LOAD:	68234 VA
TOTAL CONN. AMPS:	192 A
TOTAL ADJUSTED AMPS:	189 A

NOTES:

LOAD TYPE	CONNECTED LOAD	ADJUSTMENT FACTOR	ADJUSTED LOAD
EQ	11682 VA	100.00%	11682 VA
H	12342 VA	100.00%	12342 VA
L	9436 VA	125.00%	11795 VA
Motor	6971 VA	125.00%	8714 VA
R	19980 VA	75.03%	14990 VA
V	2702 VA	100.00%	2702 VA
YR	6008 VA	100.00%	6008 VA

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L = LOCKABLE	EQ = EQUIPMENT	H = HEATING SEASON ONLY	V = VENTILATING
ST = SHUNT TRIP	ER1 = ELECTRIC RANGE LESS THAN 3.5 KW	K = KITCHEN EQUIPMENT - NON-DWELLING UNIT	W = WELDING
	ER2 = ELECTRIC RANGE 3.5 - 8.75 KW	L = LIGHTING	X = XRAY
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BID DOCUMENTS

DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE

PANEL SCHEDULES

SHEET NUMBER

E611

3/7/2025 11:02:21 AM

GENERAL SYMBOLS

N — NORTH INDICATOR

A1 / A1 E-201 A1 / A1 — ELEVATION VIEW INDICATOR

A6 / E-501 — SECTION VIEW INDICATOR

A6 / E-501 — VIEW CALLOUT

1 / E-XXX — VIEW INDICATOR

X / E-XXX — PICTURE LOCATION REFERENCE

01 — KEYNOTE INDICATOR

REVISION CLOUD

1 — REVISION INDICATOR

VIEW LOCATION LEGEND

D1	D2	D3	D4	D5	D6
C1	C2	C3	C4	C5	C6
B1	B2	B3	B4	B5	B6
A1	A2	A3	A4	A5	A6

TECHNOLOGY SHEET INDEX

A1 SHEET T505 WAS REMOVED FROM THE TECHNOLOGY SET. SHEET WAS RENAMED TO E507 AND WAS ADDED TO THE ELECTRICAL SET.

COMMUNICATIONS

AA — AMP - SEE AUDIO / VISUAL CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION

DOORBELL - PROVIDE NUTONE BK131LSN
- WALL MOUNTED 1'-6" BFC UOI

DOORBELL PUSHBUTTON - PROVIDE NUTONE BK131LSN. INSTALL TRANSFORMER ABOVE SUSPENDED CEILING ADJACENT TO PUSHBUTTON.
- WALL MOUNTED 3'-10" AFF UOI

DSAL — DOCKING STATION FOR ASSISTIVE LISTENING - SEE AUDIO / VISUAL CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION

UC — UNIFIED COMMUNICATIONS ENGINE FOR HUDDLY MICROPHONE

X — SPEAKER
- CEILING MOUNTED
- (X) INDICATES TYPE:
  (NONE) FLUSH
  (S) SURFACE

X — SPEAKER
- WALL MOUNTED 1'-6" BFC UOI
- (X) INDICATES TYPE:
  (NONE) FLUSH
  (S) SURFACE

AV X — AUDIO / VISUAL CONNECTION
- (X) INDICATES DESIGNATION - SEE AUDIO / VISUAL CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION

VOICE / DATA

C / #X — VOICE / DATA OUTLET
- WALL MOUNTED 1'-6" AFF UOI
- (C) INDICATES MOUNTED 6" ABOVE COUNTER BACKSPLASH, UOI
- (X) INDICATES QUANTITY AND TYPE
  (A) AUXILIARY
  (D) DATA
  (H) HDMI
  (R) RCA
  (U) USB
  (V) VOICE
  (VG) VGA
  (W) WALL PHONE MOUNTED AT 44" AFF
  (X) COAX

WAP — WIRELESS ACCESS POINT
- WALL MOUNTED
- SUPPLY 10' - 0" SERVICE COIL
- PROVIDE (2) CATEGORY 6A CABLES

#X — VOICE / DATA FURNITURE FEED
- WALL MOUNTED 1'-0" AFF UOI
- (X) INDICATES QUANTITY AND TYPE
  (D) DATA
  (V) VOICE

SL — SERVICE LOOP
- LOCATED ABOVE ACCESSIBLE CEILING FOR POTENTIAL WAP
- SUPPLY 20' - 0" SERVICE COIL
- PROVIDE (2) CATEGORY 6A CABLES

X — VOICE / DATA OUTLET
- CEILING MOUNTED
- (X) INDICATES TYPE
  (A) AUXILIARY
  (D) DATA
  (H) HDMI
  (R) RCA
  (VG) VGA
  (X) COAX

WAP — WIRELESS ACCESS POINT
- CEILING MOUNTED
- SUPPLY 10' - 0" SERVICE COIL
- PROVIDE (2) CATEGORY 6A CABLES

PTWP — PASS THRU WALL PLATE

ELECTRICAL ABBREVIATIONS

1P	-	ONE POLE
2P	-	TWO POLE
3P	-	THREE POLE
4P	-	FOUR POLE
1P, 1W	-	ONE POLE, ONE WIRE
1P, 2W	-	ONE POLE, TWO WIRE
2P, 2W	-	TWO POLE, TWO WIRE
2P, 3W	-	TWO POLE, THREE WIRE
3P, 2W	-	THREE POLE, TWO WIRE
3P, 3W	-	THREE POLE, THREE WIRE
3P, 4W	-	THREE POLE, FOUR WIRE
4P, 4W	-	FOUR POLE, FOUR WIRE
A	-	AMPERE
AC	-	ALTERNATING CURRENT
AF	-	AMPERE FRAME
AFF	-	ABOVE FINISHED FLOOR
AFG	-	ABOVE FINISHED GRADE
AIC	-	AMPERE INTERRUPTING CAPACITY
ANSI	-	AMERICAN NATIONAL STANDARDS INSTITUTE
AL	-	ALUMINUM
AS	-	AMP SWITCH
AT	-	AMP TRIP
ARCH	-	ARCHITECT
ATS	-	AUTOMATIC TRANSFER SWITCH
A / V	-	AUDIO VISUAL
AWG	-	AMERICAN WIRE GRADE
B	-	PEDESTAL MOUNTED ON BENCH TOP
BF	-	BELOW FLOOR
BFC	-	BELOW FINISHED CEILING
BFF	-	BELOW FINISHED FLOOR
BFG	-	BELOW FINISHED GRADE
BLDG	-	BUILDING
C	-	CONDUIT
CAM	-	CAMERA
CAT	-	CATALOG
CATV	-	CABLE TELEVISION
CB	-	CIRCUIT BREAKER
CKT	-	CIRCUIT
CLG	-	CEILING MOUNTED
CO	-	COPIER
CT	-	CURRENT TRANSFORMER
CU	-	COPPER
CL	-	CENTERLINE
DC	-	DIRECT CURRENT
DR	-	DRYER
Δ	-	DELTA
DISC	-	DISCONNECT
DWG	-	DRAWING
E	-	EMERGENCY
EC	-	ELECTRICAL CONTRACTOR
EMT	-	ELECTRIC METALLIC TUBING
ER	-	EQUIPMENT ROOM
EWC	-	ELECTRIC WATER COOLER
EX	-	EXISTING
F/UTP	-	FOILED/UNSHIELDED TWISTED PAIR
FA	-	FIRE ALARM
FLA	-	FULL LOAD AMPS
FO	-	FIBER OPTIC
FPC	-	FIRE PROTECTION CONTRACTOR
GC	-	GENERAL CONTRACTOR
GDS	-	GENERATOR DOCKING STATION
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	-	GROUND FAULT PROTECTION EQUIPMENT
GND	-	GROUND
GRC	-	GALVANIZED RIGID CONDUIT
HH	-	HANDHOLE
HP	-	HORSEPOWER
HVAC	-	HEATING, VENTILATING, AND AIR CONDITIONING
HZ	-	HERTZ (CYCLE) PER SECOND
ISP	-	INSIDE PLANT
IT	-	INFORMATION TECHNOLOGY
JB	-	JUNCTION BOX
KVA	-	KILOVOLT AMPERE
KVAR	-	KILOVOLT AMPERE REACTIVE
KW	-	KILOWATT
LP	-	LIGHTING PANEL
LS	-	LIMIT SWITCH
LTG	-	LIGHTING
LV	-	LOW VOLTAGE
MC	-	MECHANICAL CONTRACTOR
MCA	-	MINIMUM CIRCUIT AMPS
MCC	-	MOTOR CONTROL CENTER
MDP	-	MAIN DISTRIBUTION PANEL
MISC	-	MISCELLANEOUS
MH	-	MANHOLE
MLO	-	MAIN LUGS ONLY
MTD	-	MOUNTED
MTG	-	MOUNTING
MTS	-	MANUAL TRANSFER SWITCH
MW	-	MICROWAVE
MV	-	MEDIUM VOLTAGE
N / A	-	NOT APPLICABLE
NC	-	NORMALLY CLOSED
NEC	-	NATIONAL ELECTRIC CODE
NIC	-	NOT IN CONTRACT
NO	-	NORMALLY OPEN
#	-	NUMBER
NTS	-	NOT TO SCALE
OSP	-	OUTSIDE PLANT
P	-	POLE
PB	-	PULL BOX
PC	-	PLUMBING SYSTEM CONTRACTOR
PH	-	PHASE
PNL	-	PANEL OR PANELBOARD
PP	-	POWER PANEL
PR	-	PAIR
PRI	-	PRIMARY
PROJ	-	PROJECTOR
PVC	-	POLYVINYL CHLORIDE
REC	-	RECESSED
REF	-	REFRIGERATOR
RSC	-	RIGID STEEL CONDUIT
SC	-	SECURITY CONTRACTORUNDING
SEC	-	SECONDARY
SN	-	SOLID NEUTRAL
SP	-	SPARE
SS	-	STAINLESS STEEL
ST	-	SHUNT TRIP
STP	-	SHIELDED TWISTED PAIR
SUSP	-	SUSPENDED
SW	-	SWITCH
SWBD	-	SWITCHBOARD
T	-	TAMPER RESISTANT SAFETY RECEPTACLE
TBB	-	TELECOMMUNICATIONS BONDING BACKBONE
TC	-	TELEPHONE CABINET
TCI	-	TELECOMMUNICATIONS CABLING INSTALLER
TELE / DATA	-	TELEPHONE / DATA
TEL	-	TELEPHONE
TELECOM	-	TELECOMMUNICATIONS
TGP	-	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	-	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TP	-	TWISTED PAIR
TYP	-	TYPICAL
UG	-	UNDERGROUND
UTP	-	UNSHIELDED TWISTED PAIR
UOI	-	UNLESS OTHERWISE INDICATED
V	-	VOLT
W	-	WATT
WA	-	WASHER
WAP	-	WIRELESS ACCESS POINT
WP	-	WEATHERPROOF
XFMR	-	TRANSFORMER
Y	-	WYE
ZAM	-	ZONE ADAPTER MODULE

TELECOMMUNICATIONS EQUIPMENT

TGB — GROUND BAR

X / Y — LADDER TRAY
- (X) INDICATES WIDTH
- (Y) INDICATES DEPTH

X / Y — BASKET TRAY
- (X) INDICATES WIDTH
- (Y) INDICATES DEPTH

X / Y — WIRE MESH TRAY
- (X) INDICATES WIDTH
- (Y) INDICATES DEPTH

IT / X — IT CABINET
- (X) INDICATES DESIGNATION

BB / X — 3/4" PLYWOOD BACKBOARD
- (X) INDICATES DESIGNATION

IT / X — FLOOR MOUNTED TWO POST IT RACK
- (X) INDICATES DESIGNATION

IT / X — FLOOR MOUNTED FOUR POST IT RACK
- (X) INDICATES DESIGNATION

RACEWAYS AND BOXES

BUSWAY
- RATING AND TYPE AS INDICATED ON DRAWINGS

MULTI-OUTLET RACEWAY ASSEMBLY
- WALL MOUNTED 1'-6" AFF, UOI

MANHOLE

HH — HANDHOLE

PB — PULL BOX

JUNCTION BOX

CTB — CABLE TAP BOX

X F — FLOOR BOX
- FLUSH
- (X) INDICATES OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS. SEE FLOOR BOX & POKE THRU SCHEDULE, WITHIN THE ELECTRICAL DRAWING SET, FOR MORE INFORMATION.

X P — POKE THRU
- FLOOR MOUNTED
- (X) INDICATES OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS. SEE FLOOR BOX & POKE THRU SCHEDULE, WITHIN THE ELECTRICAL DRAWING SET, FOR MORE INFORMATION.

PP — POWER POLE
- OUTLET TYPES REQUIRED AT EACH LOCATION AS INDICATED ON DRAWINGS.

SECURITY AND ACCESS CONTROL

X — SECURITY OR ACCESS CONTROL PANEL
- SURFACE MOUNTED
- (X) INDICATES DESIGNATION
  (DACP) DOOR ACCESS CONTROL PANEL
  (SAP) SECURITY ANNUNCIATOR PANEL
  (SACP) SECURITY ACCESS CONTROL PANEL

AA — AUDIBLE ALARM

X — CCTV CAMERA
- CEILING OR WALL MOUNTED
- PROVIDE (1) CATEGORY 6 CABLE
- (X) INDICATES TYPE:
  (WP) WEATHER PROOF
  (VP) VANDAL PROOF

X — CCTV CAMERA
- CEILING OR WALL MOUNTED
- (X) INDICATES TYPE:
  (WP) WEATHER PROOF
  (VP) VANDAL PROOF

X CR — CARD READER
- WALL MOUNTED 3'-8" AFF UOI
- (X) INDICATES TYPE:
  (M) MULLION MOUNT
  (WP) WEATHER PROOF
  (VP) VANDAL PROOF
  (AC-CR-A) CARD READER ON CITY-LIBRARY SYSTEM
  (AC-CR-B) CARD READER ON CITY-IT SYSTEM

DE — DELAYED EGRESS

DC — DOOR CONTACT

X DHG — DOOR HARDWARE GROUP (DHG)
- (X) INDICATES DHG DESIGNATION

DPS — DOOR POSITION SWITCH

DRS — DOOR RELEASE SWITCH

DB — DURESS BUTTON

EFED — ELECTRIC FIRE EXIT DEVICE

EL — ELECTRIC LOCKING DEVICE

EPD — ELECTRIC PANIC DEVICE

EPT — ELECTRIC POWER TRANSFER

ES — ELECTRIC STRIKE

ETW — ELECTRIC THROUGH WIRE HINGE

GB — GLASS BREAK DETECTOR

IR — INFRARED MOTION SENSOR

KP — KEY PAD

KS — KEY SWITCH

ML — MAGNETIC LOCK

M — MONITOR

MD — MOTION DETECTOR

PB — PANIC BUTTON

PS — POWER SUPPLY

PTH — POWER TRANSFER HINGE

RSD — REMOTE STATUS DISPLAY

REX — REQUEST TO EXIT SENSOR

SD — SOUND DETECTOR

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Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

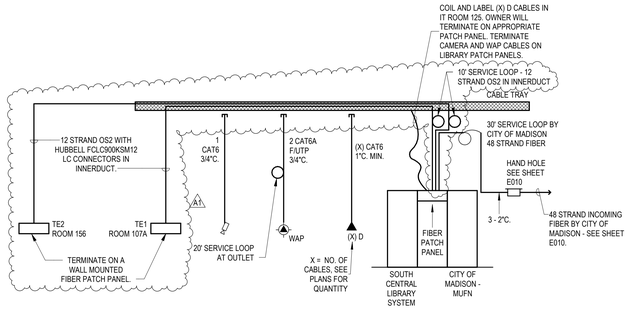
SHEET TITLE

TECHNOLOGY SYMBOLS & ABBREVIATIONS

SHEET NUMBER

T001

3/7/2025 11:37:13 AM



C1 STRUCTURED CABLING RISER DIAGRAM
NOT TO SCALE

ASSISTIVE LISTENING SYSTEM FOR COMMUNITY ROOM 107

GENERAL NOTES:

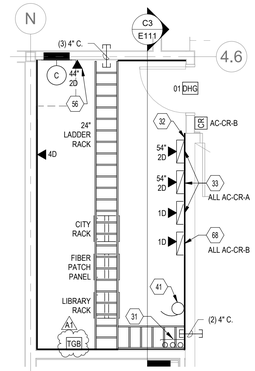
A. MANUFACTURER REQUIRED: LISTEN TECHNOLOGY

B. PROVIDE AN LS-71-072 IDSP ADVANCED LEVEL 4 STATIONARY RF SYSTEM (72 MHZ)

NOTE:

1. ***

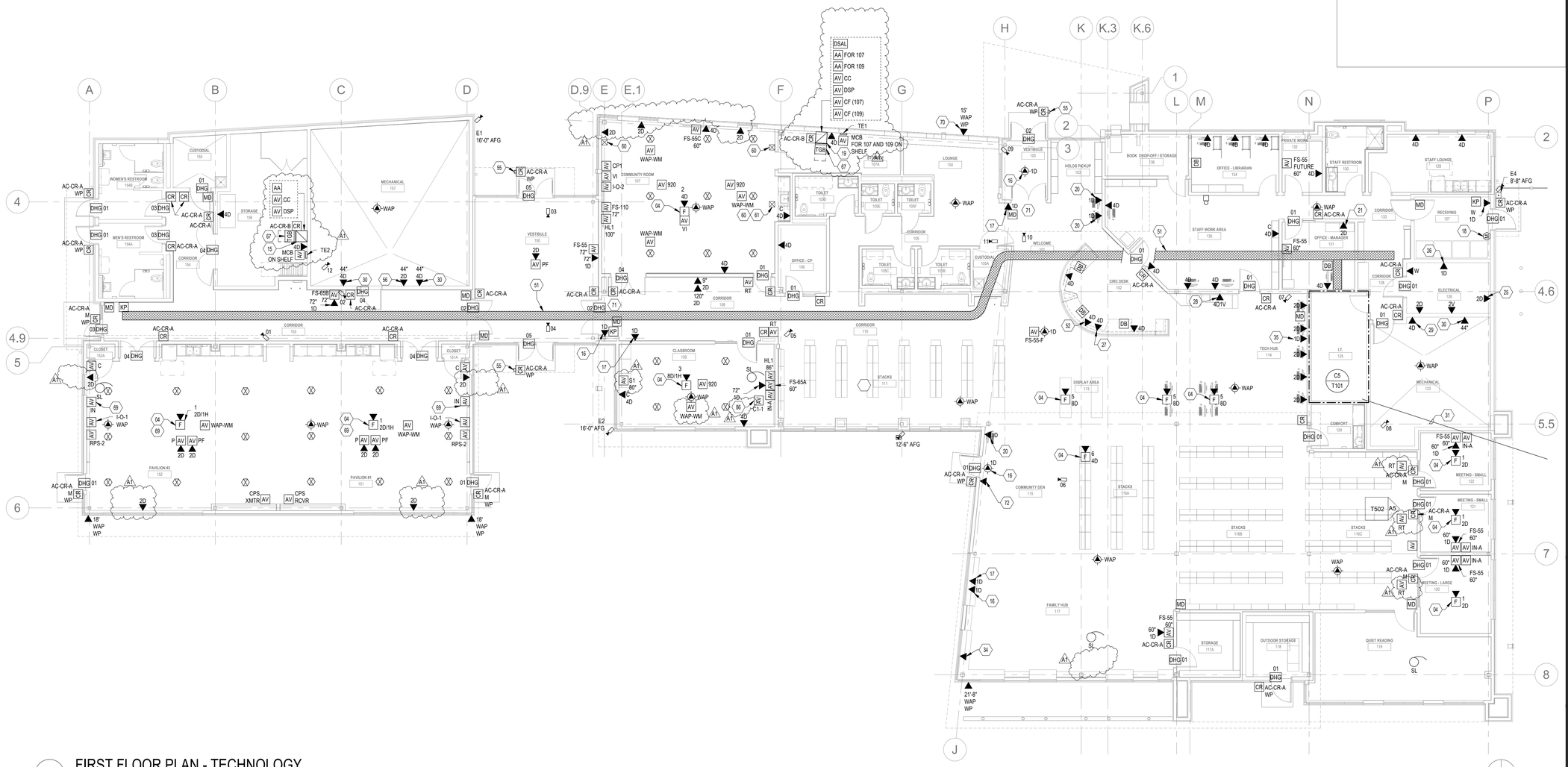
QTY	MODEL	EQUIPMENT
1	LA-122	UNIVERSAL ANTENNA KIT (72 MHz AND 216 MHz)
1	LA-304	ASSISTIVE LISTENING NOTIFICATION SIGNAGE KIT
1	LA-326	UNIVERSAL RACK MOUNTING KIT
1	LA-381-01	INTELLIGENT 12-UNIT CHARGING TRAY
1	LA-382	INTELLIGENT CABLE MANAGEMENT UNIT
4	LA-401	UNIVERSAL EAR SPEAKER
1	LA-422	USB TO MICRO USB CABLE
4	LA-430	INTELLIGENT EARPHONE / NECK LOOP LANYARD
1	LA-904	LISTEN DISPENSING LOG BOOK
1	LPT-A107-B	DUAL RCA TO DUAL RCA CABLE 6.6FT (2 m)
4	LR-5200-072	ADVANCED INTELLIGENT DSP RF RECEIVER (72 MHz)



C5 ENLARGED PLAN - IT ROOM 125 - TECHNOLOGY
1/4" = 1'-0"

SHEET KEYNOTES

04	UTILIZE ONE FLOOR BOX FOR BOTH POWER AND TELECOMMUNICATIONS. SEE ELECTRICAL SCHEDULES FOR ADDITIONAL INFORMATION.
15	PA RACK FOR PAVILION AV.
16	SENSOURCE PEOPLE COUNTER
17	BOOK SENSOR
18	PROVIDE 18" WALL MONITOR DISPLAYING OUTPUT OF CAMERA E4.
19	AV RACK FOR COMMUNITY ROOM 107 AND CLASSROOM 109.
20	SELF CHECK MACHINE
21	STAFF PRINTER
25	TO MONITOR MSB
26	FOR PV INVERTERS
27	FOR STAFF PRINTER AND COMPUTER.
28	FOR PUBLIC COPY MACHINE WITH FAX AND COIN TOWER
29	AT MAIN BAS VERIFY LOCATION
30	AT WORK BENCH
31	(3) 2" CONDUITS FROM FIBER OPTIC HANDHOLE. SEE SITE PLAN FOR ADDITIONAL INFORMATION.
32	3/4" THICK PAINTED WHITE PLYWOOD IT/DATA BACKBOARD. TYPE A-C PLYWOOD, A SIDE OUT. RUN FROM FLOOR TO 8'-0" AFF.
33	PROVIDE (5) KEYSCAN CONTROL PANELS FOR LIBRARY AND PAVILION. STACK PANELS AS REQUIRED.
34	PROVIDE "INTERACTIVE DIGITAL DISPLAY / SPECIAL EFFECTS".
35	SCANNER
41	30 FOOT FIBER SERVICE LOOP BY CITY OF MADISON.
51	4" HIGH BY 24" WIDE WELDED WIRE CABLE TRAY ABOVE ACCESSIBLE CEILING.
52	CASH REGISTER
55	PROVIDE 36" TALL PEDESTAL TO MOUNT CARD READER. LOCATE NEXT TO THE PUSH PLATE PEDESTAL.
56	FOR BAS.
60	PROVIDE BOX 96" AFF. TO BOTTOM. RUN (2 CAT 6 AND (1) HD-SDI IN 1" C. TO 125.
61	MOUNT ON FACE OF SOFFIT. ALIGN WITH CENTERLINE OF 110" DISPLAY.
A1 67	MOUNT BELOW TELECOM RACK.
68	KEYSCAN CONTROL PANELS FOR IT 125.
69	WHEN HDMI CABLE IS PLUGGED INTO JACK, PROJECTOR AND AUDIO TO ACTIVATE AUTOMATICALLY TO PLAY PROGRAMMING. INCLUDE HDMI AND 1/4" STEREO JACKS.
70	PROVIDE ROUGH-IN ONLY.
71	PROVIDE 1" CONDUIT STUB THROUGH CONCRETE FLOOR FOR FUTURE RFID GATE. PROVIDE BLANK CAP OVER STUB. PROVIDE STUBS BETWEEN GATES FOR LOW VOLTAGE AND ANTENNA CABLES RUN BETWEEN GATES. ASSUME (3) GATE PEDESTALS AT THIS LOCATION. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
72	PROVIDE 1" CONDUIT TO THIS LOCATION. PROVIDE BLANK FACE PLATE AND PROVISIONS FOR FUTURE OVER FLOOR RACEWAY TO FUTURE RFID GATE. PROVIDE PROVISIONS FOR FUTURE OVERFLOOR RACEWAY BETWEEN GATES FOR LOW VOLTAGE AND ANTENNA CABLES RUN BETWEEN GATES. ASSUME (2) GATE PEDESTALS AT THIS LOCATION.
A1 96	AV TOUCH PANEL FOR UC SERVING 109.



A1 FIRST FLOOR PLAN - TECHNOLOGY
1/8" = 1'-0"

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A1	ADDENDUM #1	03/07/2025

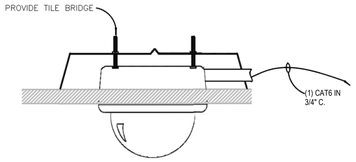
SHEET TITLE

FIRST FLOOR PLAN - TECHNOLOGY

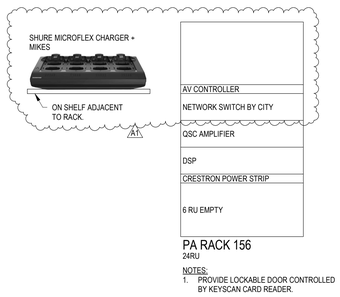
SHEET NUMBER

T101

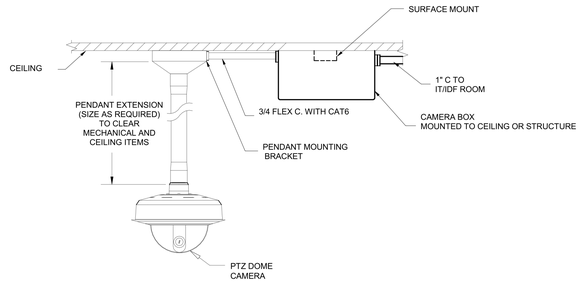
3/7/2025 11:37:16 AM



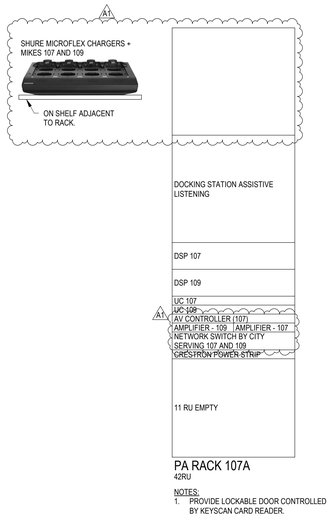
D3 FIXED INDOOR IN-CEILING DOME
NOT TO SCALE



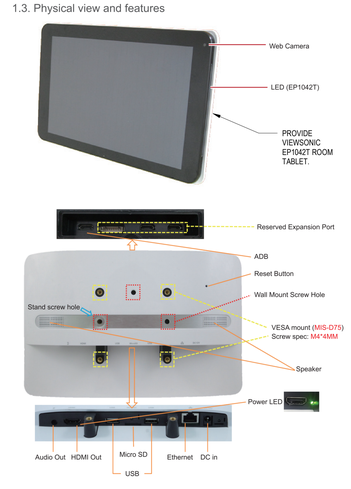
C2 TELECOM RACK 156
NOT TO SCALE



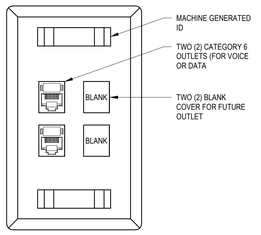
C3 SECURITY CAMERAS 06, 12 & 13 MOUNTING DETAIL
NTS



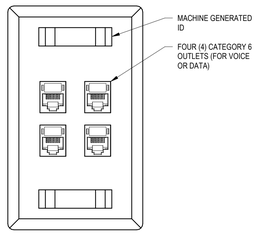
A2 TELECOM RACK 107A
NOT TO SCALE



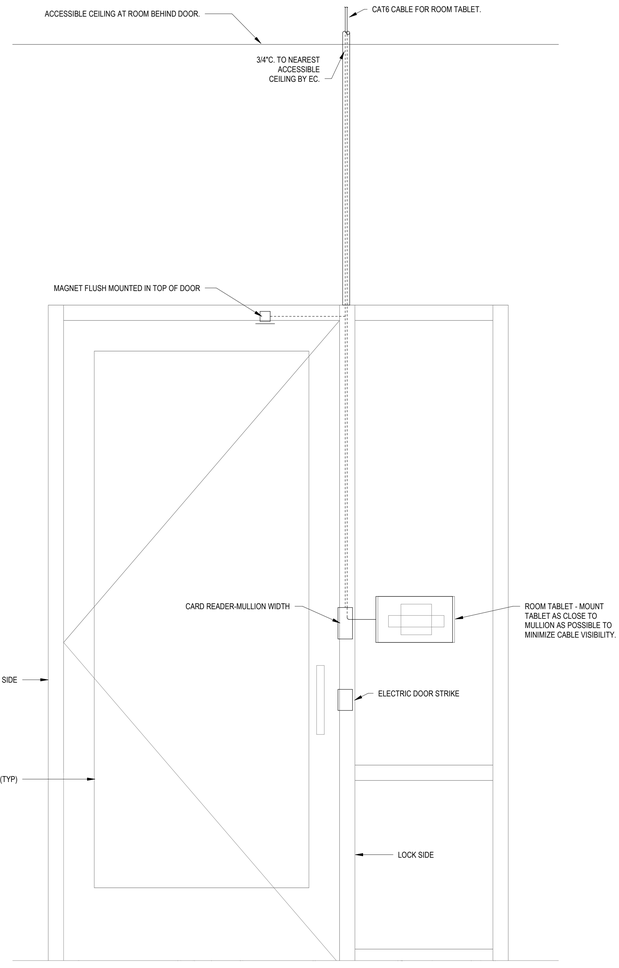
A3 VIEWSONIC ROOM TABLET DETAIL
AV RT
NOT TO SCALE



D4 2 DATA TELECOMMUNICATIONS OUTLET DETAIL
NOT TO SCALE



D6 4 DATA TELECOMMUNICATIONS OUTLET DETAIL
NOT TO SCALE



A1

A5 MULLION MOUNT CARD READER & ROOM TABLET DETAIL
RT AV M CR
1 1/2" = 1'-0"

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A1	ADDENDUM #1	03/07/2025

SHEET TITLE
TECHNOLOGY DETAILS

SHEET NUMBER
T502

3/7/2025 11:37:16 AM

CAMERA SCHEDULE

ABBREVIATIONS:

PoE = POWER OVER ETHERNET

PTZ = PAN-TILT-ZOOM

GENERAL NOTE:

A. CAMERAS, HOUSINGS, LENS AND MOUNTING BRACKETS FURNISHED, INSTALLED, AND WIRED BY CONTRACTOR. REFERENCE SPECIFICATIONS 28 08 00 AND 28 23 00.

NOTE:

1. SEE SHEETS T503 AND T504 FOR CAMERA INFORMATION.
2. CAMERA OUTPUT TO BE VISIBLE ON DEDICATED MONITOR. SEE KEYED NOTE 18 ON SHEET T101.

CAMERA NO.	LOCATION	MOUNT	TYPE		VIEWING OBJECTIVE	APPROXIMATE VIEWING DISTANCE (STATED IN FEET)	FEATURES								ACCESSORIES				SEE NOTE
			FIXED	PTZ			VANDAL PROOF	WEATHER PROOF	SMOKED DOME	IK10, IP66 & NEMA 4X	VARIFOCAL LENSE	REMOTE FOCUS & ZOOM	PoE	ENVIRONMENTAL	WALL MOUNT BRACKET	CORNER BRACKET	KEYBOARD & JOY STICK	MID-SPAN PoE POWER	
01	153	CEILING	■		FACE OF INDIVIDUAL ENTERING PAVILION	14' - 28'			■				■						1
02	153	CEILING	■		FACE OF INDIVIDUAL ENTERING PAVILION	6'			■				■						1
03	150	CEILING	■		FACE OF INDIVIDUAL ENTERING PAVILION	23'			■				■						1
04	150	CEILING	■		FACE OF INDIVIDUAL ENTERING PAVILION	23'			■				■						1, 2
05	110	CEILING		■	FACE OF INDIVIDUAL LEAVING 105	12'			■				■						1
06	115	PENDANT	■		FACE OF INDIVIDUAL ENTERING LIBRARY	15'			■				■						1
07	114	CEILING		■	PATRONS AT COMPUTERS	30'			■				■						1
08	123	PENDANT		■	MECHANICAL ROOM - 360°							■	■						1
09	100	CEILING	■		FACE OF INDIVIDUALS LEAVING LIBRARY	10'			■				■						1
10	101	CEILING	■		FACE OF INDIVIDUAL ENTERING LIBRARY	6'			■				■						1
11	105	CEILING	■		ACTIVITY IN CORRIDOR 105	10' - 29'			■				■						1
12	157	PENDANT		■	MECHANICAL ROOM - 360°							■	■						1
E1	EXTERIOR	WALL	■		PATRONS ENTERING PAVILION	17'	■	■		■		■	■		■				1
E2	EXTERIOR	WALL	■		PATRONS ENTERING PAVILION	20'	■	■		■			■		■				1
E3	EXTERIOR	WALL	■		FACE OF INDIVIDUAL ENTERING LIBRARY	14'	■	■		■			■		■				1
E4	EXTERIOR	WALL	■		LOADING AREA OUT TO DUMPSTER - DIGITAL PTZ	8' - 65'	■	■		■		■	■		■				1

DOOR HARDWARE GROUP SCHEDULE

ABBREVIATIONS:

CR = CARD READER

DPS = DOOR POSITION SWITCH

EL = ELECTRONIC LATCH RETRACTION

ELT = ELECTRIFIED LEVER TRIM

EPT = ELECTRIC POWER TRANSFER

ES = ELECTRIC STRIKE

FAMDH = FIRE ALARM MAGNETIC DOOR HOLDER

FASD = SMOKE DETECTOR

PS = POWER SUPPLY

GENERAL NOTES:

A. INFORMATION LISTED BELOW IS BASED ON DOOR HARDWARE INFORMATION PROVIDED BY THE OWNER. COORDINATION WITH DOOR HARDWARE WILL BE DONE DURING THE SHOP DRAWING PHASE.

B. SEE PLANS FOR DOOR HARDWARE GROUP LOCATIONS.

C. FIRE ALARM DOOR HOLDERS AND RELATED SMOKE DETECTORS ARE SHOWN ON PLANS.

D. AUTO DOORS, AUTO DOOR PUSH BUTTONS, POWER SUPPLIES AND CARD READERS ARE SHOWN ON PLANS.

NOTE:

1. POWER SUPPLY LOCATED IN____.

HARDWARE GROUP NUMBER	AUTO DOOR	AUTO DOOR PUSH BUTTONS	CR	DPS	EL	ELT	EPT	ES	FAMDH	FASD	PS	SEE NOTE
01			1	1				1				
02	1	2	1	2	2							
03	1	2	1	1				1				
04			1	2	2							
05	1	2	1	2				1				

AUDIO / VISUAL CONNECTION SCHEDULE

AV TAG

GENERAL NOTE:

1. SEE SPECIFICATION DIVISION 27 AND SHEETS T701 - T704 FOR MANUFACTURER AND MODEL NUMBER INFORMATION.

NOTES:

A1 1. PROVIDE CRESTRON WS-NC FLUSH WALL INSTALLATION KIT.
2. PROVIDE CAT6 CABLE.
3. MOUNT AT 7'-0" AFF.
4. COIL 30 FEET OF CABLE ABOVE THE CEILING FOR A FUTURE FLAT SCREEN TV.
5. PROVIDE WIREMOLD EVOLUTION SERIES 2-GANG WALLBOX EFS82. INSTALL REQUIRED DEVICES WITHIN.
6. PROVIDE RELAY (1-NO, 1-NC) AT PA RACK FOR USE BY TEMPERATURE CONTROL CONTRACTOR IN SETTING VAV BOX STATE. PROGRAM TO ACTIVATE ON PARTITION OPEN/CLOSE.
7. COORDINATE INSTALLATION WITH WOOD CEILING INSTALLER.

TAG	DESCRIPTION	CONDUIT ROUTE	CONDUIT	INSTALLED BY	PROCURED BY	SEE NOTE
920	MICROPHONE ARRAY	TO AV RACK (107A)	3/4"	EC	EC	
AA	AUDIO AMPLIFIER	INSTALL IN RACK (107A)	-	EC	EC	
C	ROOM CONTROLLER	TO AV RACK (156)	3/4"	EC	EC	
C1-1	AV CONTROL TOUCH PANEL	TO AV RACK (107A)	-	EC	EC	
CC	AV CONTROLLER	INSTALL IN ASSOCIATED RACK (107A)	3/4"	EC	EC	
CF (107)	FLEX VIDEO CONFERENCING SYSTEM	INSTALL IN RACK (107A)	-	EC	EC	
CF (109)	FLEX VIDEO CONFERENCING SYSTEM	INSTALL IN RACK (107A)	-	EC	EC	
CP1	AV CONTROL TOUCH PANEL	TO AV RACK (107A)	-	EC	EC	1
CPS	CRESTRON PARTITION SENSOR FOR AUTO-COMBINING AV SYSTEM FOR ROOMS	TO AV RACK (156)	3/4"	EC	EC	6
DSAL	DOCKING STATION ASSISTIVE LISTENING	INSTALL IN RACK (107A)	-	EC	EC	
DSP	DIGITAL SIGNAL PROCESSOR	INSTALL IN ASSOCIATED RACK (107A)	3/4"	EC	EC	
FS-55	55" FLAT SCREEN DISPLAY	TO 125	3/4"	EC	EC	5
FS-55-F	55" FLAT SCREEN DISPLAY - FUTURE (ROUGH-IN ONLY)	TO 125	3/4"	EC	EC	4, 5
FS-55C	55" FLAT SCREEN DISPLAY	TO AV RACK (107A)	3/4"	EC	EC	5
FS-65A	65" FLAT SCREEN DISPLAY	TO 125	3/4"	EC	EC	5
FS-65B	65" FLAT SCREEN DISPLAY	TO 125	3/4"	EC	EC	5
FS-110	110" FLAT SCREEN DISPLAY	TO AV RACK (107A)	3/4"	EC	EC	5
HL1	CAMERA	TO AV RACK (107A)	3/4"	EC	EC	3, 5
I-O-1	INPUT PLATE - (2) XLR	TO AV RACK (156)	(2) 3/4"	EC	EC	5
I-O-2	INPUT PLATE - (2) XLR	TO AV RACK (107A)	(2) 3/4"	EC	EC	5
IN	INPUT PLATE - HDMI WITH CAT CONVERSION AND 1/4" AUDIO JACK	TO AV RACK (156)	3/4"	EC	EC	5
IN-A	INPUT PLATE - HDMI		1-1/4"	EC	EC	5
MCB						
P	PROJECTOR	FROM ACCESSIBLE CEILING TO RACK (156)	3/4"	EC	EC	7
PF	PROJECTOR - FUTURE (ROUGH-IN ONLY)	FROM ACCESSIBLE CEILING TO RACK (156)	3/4"	EC	-	7
RPS-2	RETRACTABLE PROJECTION SCREEN - WALL	TO AV RACK (156)	3/4"	EC	EC	
RT	ROOM TABLET	TO ACCESSIBLE CEILING	3/4"	EC	EC	2
S1	CAMERA	TO AV RACK (107A)	3/4"	EC	EC	3, 5
VI	INPUT PLATE - HDMI WITH CAT CONVERSION	TO AV RACK (107A)	1-1/4"	EC	EC	5
WAP-WM	WIRELESS ACCESS POINT - WIRELESS MIKES ONLY	TO ASSOCIATED AV RACK (107A OR 156)	1"	EC	EC	

A1

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A1 TECHNOLOGY SCHEDULES

SHEET NUMBER

T601

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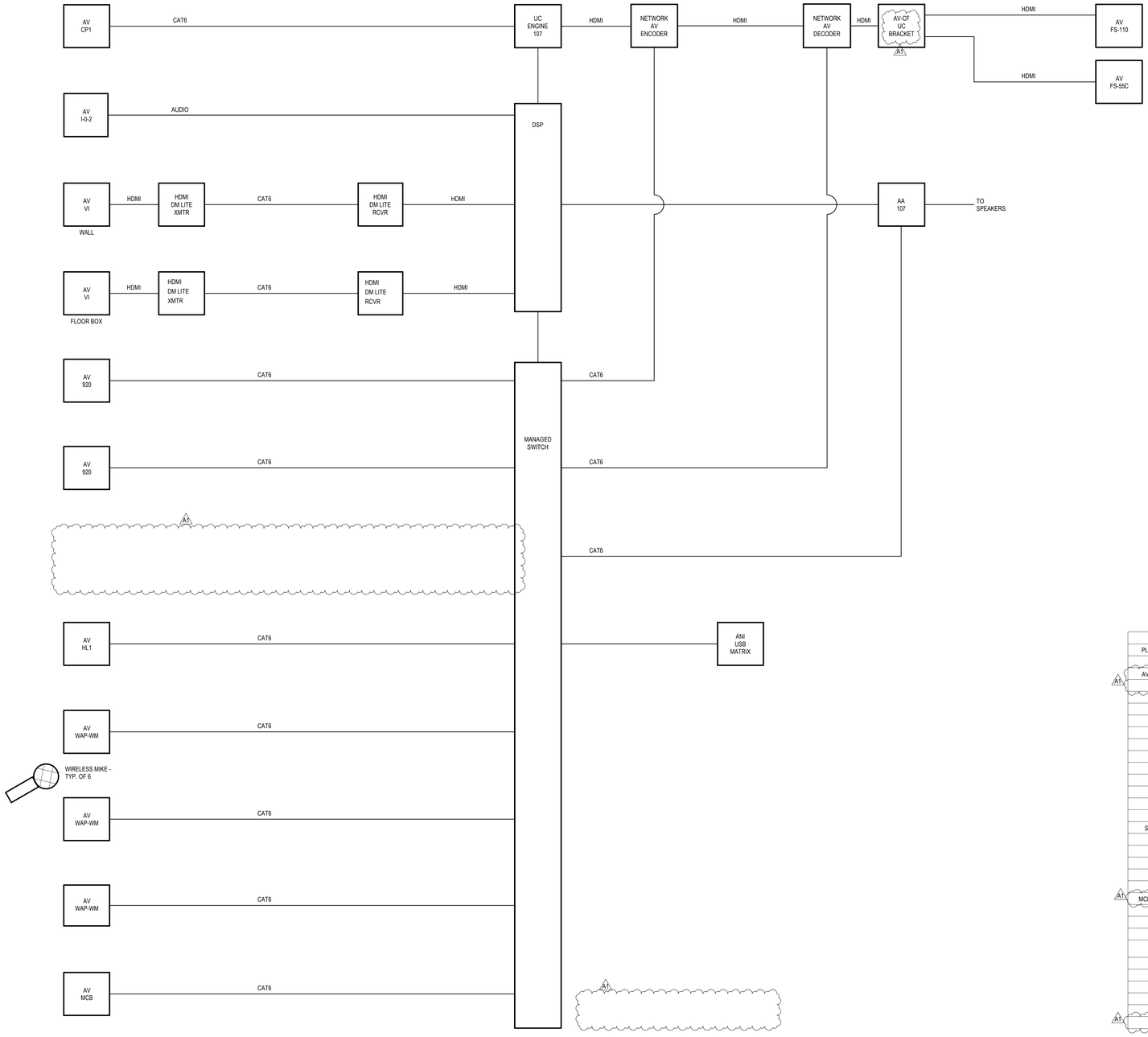
GENERAL SHEET NOTES

A. AV FLOW DIAGRAM IS FOR ILLUSTRATION PURPOSES ONLY. TO INDICATE DESIGN INTENT AND SHALL BE REDONE BY THE AUDIO-VISUAL INTEGRATOR AS PART OF THE SUBMITTAL PROCESS. ANY ADDITIONAL COMPONENTS OR CONNECTIONS NECESSARY FOR FUNCTION SHALL BE PROVIDED BY THE AUDIO-VISUAL INTEGRATOR.

B. ALL EQUIPMENT SHOWN BELOW, UNLESS INDICATED "BY OWNER", SHALL BE PROVIDED BY THE AUDIO-VISUAL SYSTEM INTEGRATOR. A SUBCONTRACTOR TO THE DIVISION 26 CONTRACTOR WITH SPECIAL EXPERTISE IN AUDIOVISUAL WORK PERFORMING WORK UNDER SECTIONS 27 41 00, 27 41 16, 27 51 16, AND 27 51 23.

C. PROVIDE CONNECTION TO FIRE ALARM CONTROL MODULE AT AV RACK TO SILENCE PROGRAMMING IF A FIRE ALARM IS IN PROGRESS.

A1



A1 AV FLOW DIAGRAM - COMMUNITY ROOM 107
NTS

COMMUNITY ROOM 107

PLAN DESIGNATION	QTY	MASTER NO.	MANUFACTURER	DESCRIPTION
FS-110	1	C110S	ABSEN	110" DIAGONAL 1.27MM ALL-IN-ONE W/SPARES, MOUNT 1080P
AV-CF (UC FOR 107)	1	UC-CX100-Z-WM	CRESTRON	CRESTRON FLEX ADVANCED VIDEO CONFERENCE SYSTEM INTEGRATOR KIT WITH A WALL MOUNTED CONTROL INTERFACE
NOT USED				
PA RACK 107	1	UCA-RMK-1U	CRESTRON	RACK MOUNT KIT FOR UC ENGINE BRACKET ASSEMBLY
PA RACK 107	1	TESIRA SERVER-IO AVB	BIAMP	CONFIGURABLE I/O DSP WITH UP TO 48 CHANNELS OF I/O, 1 DSP-2 CARD (2 ADDITIONAL DSP-2 CARDS CAN BE AD
PA RACK 107	1	TESIRA DAN-1	BIAMP	TESIRA 64X64 DANTE MODULE FOR USE IN SERVER OR SERVER-IO CHASSIS
PA RACK 107	8	TESIRA SEC-4	BIAMP	TESIRA 4 CHANNEL MIC/LINE INPUT CARD WITH ACOUSTIC ECHO CANCELLATION PER CHANNEL
PA RACK 107	3	TESIRA SOC-4	BIAMP	TESIRA 4 CHANNEL MIC/LINE OUTPUT CARD
PA RACK 107	1	TESIRA EX-UBT	BIAMP	POE AVB/USB EXPANDER WITH BLUETOOTH WIRELESS TECHNOLOGY
AV-VI	1	HD-TX-4KZ-101-1G-W	CRESTRON	DM LITE 4K60 4:4:4 TRANSMITTER FOR HDMI SIGNAL EXTENSION OVER CATX CABLE, WALL PLATE, WHITE
PA RACK 107	1	HD-RX-4KZ-101	CRESTRON	DM LITE 4K60 4:4:4 RECEIVER FOR HDMI SIGNAL EXTENSION OVER CATX CABLE
NOT SHOWN	2	DM-NVX-E10	CRESTRON	DM NVX 1080P60 4:4:4 NETWORK AV ENCODER
NOT SHOWN	2	DM-NVX-D10	CRESTRON	DM NVX 1080P60 4:4:4 NETWORK AV DECODER
AV HL1	1	7090043790672	HUDDLY	HUDDLY L1 W/ NETWORK ADAPTER, WALL & SHELF MOUNT, 2M ETHERNET CABLE
SEE FLOOR PLAN	12	AD-C6T-WH	QSC	6.5" TWO-WAY CEILING SPEAKER, 70/100V TRANSFORMER WITH 16 BYPASS, 135 CONICAL DMT COVERAGE, INCLUDES
AA 107	1	SPA4-60	QSC	1/2 RU 4 CHANNEL ENERGY STAR AMPLIFIER / MULTICHANNEL OPERATION 60 WATTS INTO 8 & 4, BRIDGED PAIR OP
DSAL	1	LS-71-072	LISTEN	LISTEN IDSP ADVANCED LEVEL IV STATIONARY RF SYSTEM (72 MHZ)
AV 920	2	MXA920W-S	SHURE	920 CEILING ARRAY, WHITE, SQUARE, 24 IN
AV WAP-WM	3	MXWAPT8=-Z10	SHURE	8-CH ACCESS POINT TRANSCEIVER
NOT SHOWN	6	MXW2/SM58=-Z10	SHURE	HH TRANSMITTER WITH SM58
MCB FOR 107 AND 109	1	MXWNCS8	SHURE	8-CH NETWORKED CHARGING STATION
AV I-0-2	1	D-I3	RDL - RADIO DESIGN LABS	MIC/LINE INPUT ASSEMBLY-XLR RCA TERMINAL BLOCK
PA RACK 107	1	C9300X-48HX-A	CISCO	SWITCH FURNISHED BY CITY
PA RACK 107	1	PD-815SC-NS	MIDDLE ATLANTIC	SLIM PWR STRIP,8 OUTLET,1
PA RACK 107	1	ERK-SERIES	MIDDLE ATLANTIC	RACK LESS R DR SIZE AS REQUIRED - INCLUDE SPACE FOR CLASSROOM GEAR. PROVIDE SPECIAL RACK WITH LOCKABLE DOOR CONTROLLED BY KEYSCAN CARD READER.
PA RACK 107	1	ERK-SERIES	MIDDLE ATLANTIC	ERK REAR RAIL OPTION
PA RACK 107	1	CBS-ERK-SERIES	MIDDLE ATLANTIC	SKIRTED CASTER BASE FOR ERK
PA RACK 107	2	QFAN	MIDDLE ATLANTIC	4-1/2 QUIET FAN WITH GUAR
PA RACK 107	1	UPS-S2200R	MIDDLE ATLANTIC	UPS STD 2200VA
FS-55C	1	S90D	SAMSUNG	55" MONITOR, PROVIDE MOUNT
NOT USED				

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A1	ADDENDUM #1	03/07/2025

SHEET TITLE

AV FLOW DIAGRAMS

SHEET NUMBER

T701

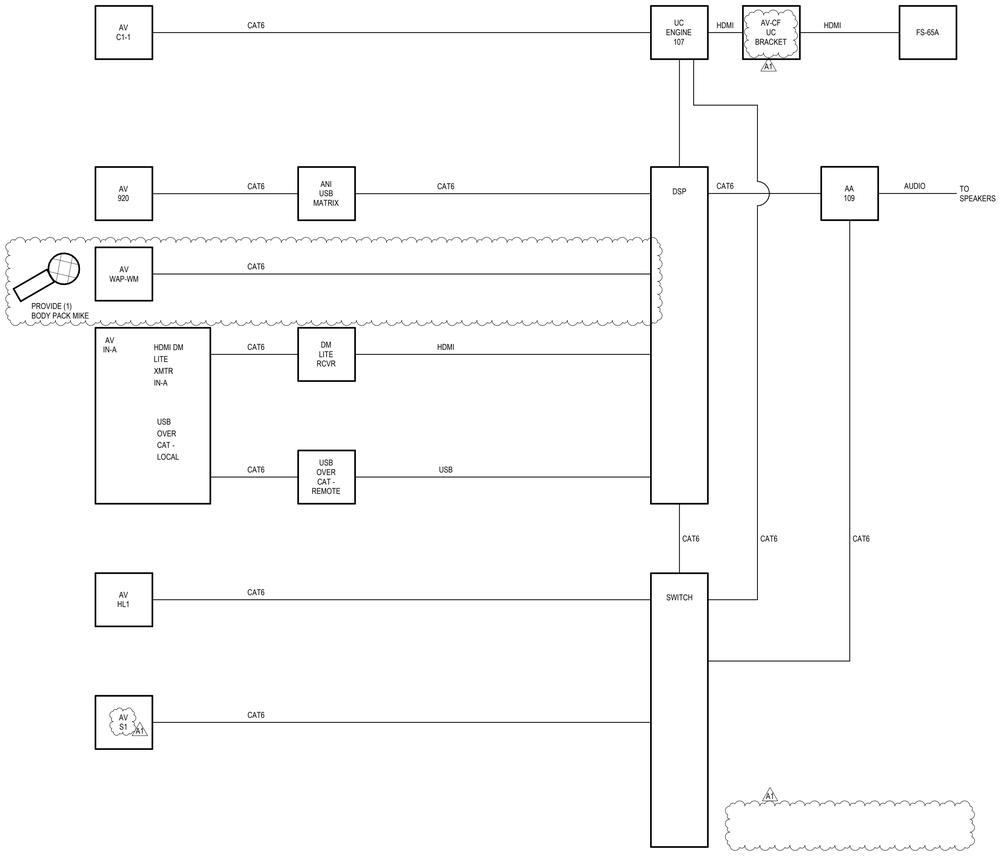
3/7/2025 11:37:16 AM

GENERAL SHEET NOTES

A. AV FLOW DIAGRAM IS FOR ILLUSTRATION PURPOSES ONLY. TO INDICATE DESIGN INTENT AND SHALL BE REDONE BY THE AUDIO-VISUAL INTEGRATOR AS PART OF THE SUBMITTAL PROCESS. ANY ADDITIONAL COMPONENTS OR CONNECTIONS NECESSARY FOR FUNCTION SHALL BE PROVIDED BY THE AUDIO-VISUAL INTEGRATOR.

A1 B. ALL EQUIPMENT SHOWN BELOW, UNLESS INDICATED "BY OWNER", SHALL BE PROVIDED BY THE AUDIO-VISUAL SYSTEM INTEGRATOR. A SUBCONTRACTOR TO THE DIVISION 26 CONTRACTOR WITH SPECIAL EXPERTISE IN AUDIOVISUAL WORK PERFORMING WORK UNDER SECTIONS 27 41 00, 27 41 16, 27 51 16, AND 27 51 23.

C. PROVIDE CONNECTION TO FIRE ALARM CONTROL MODULE AT AV RACK TO SILENCE PROGRAMMING IF A FIRE ALARM IS IN PROGRESS.



A2 AV FLOW DIAGRAM - CLASSROOM
NTS

CLASSROOM 109

PLAN DESIGNATION	QTY	MASTER NO.	MANUFACTURER	DESCRIPTION
FS-65A	1	FW85BZ30L	SONY	85IN BRAVIA 4K HDR PROFESSIONAL DISPLAY
FS-65A	1	AS3LDP7	CHIEF	LOW DENSITY WALL MOUNT WITH PDU
A1 AV-CF (UC 109)	1	UC-CX100-Z-WM	CRESTRON	CRESTRON FLEX ADVANCED VIDEO CONFERENCE SYSTEM INTEGRATOR KIT WITH A WALL MOUNTED CONTROL INTERFACE
PA RACK 107	1	UCA-RMK-1U	CRESTRON	RACK MOUNT KIT FOR UC ENGINE BRACKET ASSEMBLY
PA RACK 107	1	TESIRAFORTE DAN VT	BIAMP	FIXED I/O DSP WITH 12 ANALOG INPUTS, 8 ANALOG OUTPUTS, 8 CHANNELS CONFIGURABLE USB AUDIO, 32 X 32 CH
PA RACK 107	1	ANIUSB-MATRIX	SHURE	DANTE (4 INPUTS) TO ANALOG (1 INPUT/1 OUTPUT) ROUTER/USB INTERFACE (1 INPUT/1 OUTPUT ONBLOCK CONNECT
AV IN-A	1	HD-TX-4K2-101-1G-W	CRESTRON	DM LITE 4K60 4:4:4 TRANSMITTER FOR HDMI SIGNAL EXTENSION OVER CATX CABLE, WALL PLATE, WHITE
PA RACK 107	1	HD-RX-4K2-101	CRESTRON	DM LITE 4K60 4:4:4 RECEIVER FOR HDMI SIGNAL EXTENSION OVER CATX CABLE
AV IN-A	1	USB-EXT-2-LOCAL-1G-W	CRESTRON	USB OVER CATEGORY CABLE EXTENDER WALL PLATE, LOCAL, WHITE
PA RACK 107	1	USB-EXT-2-REMOTE	CRESTRON	USB OVER CATEGORY CABLE EXTENDER, REMOTE
PA RACK 107	2	DM-NVX-E10	CRESTRON	DM NVX 1080P60 4:4:4 NETWORK AV ENCODER
A1 NOT USED				
AV HL1	2	7090043790672	HUDDLY	HUDDLY L1 W/ NETWORK ADAPTER, WALL & SHELF MOUNT, 2M ETHERNET CABLE
SEE FLOOR PLAN	4	AD-C6T-WH	QSC	6.5" TWO-WAY CEILING SPEAKER, 70/100V TRANSFORMER WITH 16 BYPASS, 135 CONICAL DMT COVERAGE, INCLUDES
AA 109	1	SPA4-60	QSC	1/2 RU 4 CHANNEL ENERGY STAR AMPLIFIER / MULTICHANNEL OPERATION 60 WATTS INTO 8 & 4, BRIDGED PAIR OP
AV 920	1	A1 MXA920W-S	SHURE	900 CEILING ARRAY, WHITE, SQUARE, 24 IN
PA RACK 107	1	C9300X-48HX-A	CISCO	SWITCH FURNISHED BY CITY
				MOUNT RACK MOUNTED GEAR IN SHARED RACK IN 107
PA RACK 107	1	UPS-S2200R	MIDDLE ATLANTIC	UPS STD 2200VA
A1 AV S1	1	7090043790993	HUDDLY	HUDDLY S1 W/NETWORK ADAPTER, WALL AND SHELF MOUNT, 2M ETHERNET CABLE
NOT SHOWN	1	MXW1X/O-Z10	SHURE	WIRELESS BODY PACK MIKE
AV-WP-WM	1	MXWAPT2-Z10	SHURE	2-CH ACCESS POINT TRANSCEIVER

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GRAEF
1010 East Washington Avenue,
Suite 202
Madison, WI 53703
608 / 242 1550

JLA PROJECT NUMBER: 20-0928

CITY OF MADISON WISCONSIN

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BID DOCUMENTS

DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

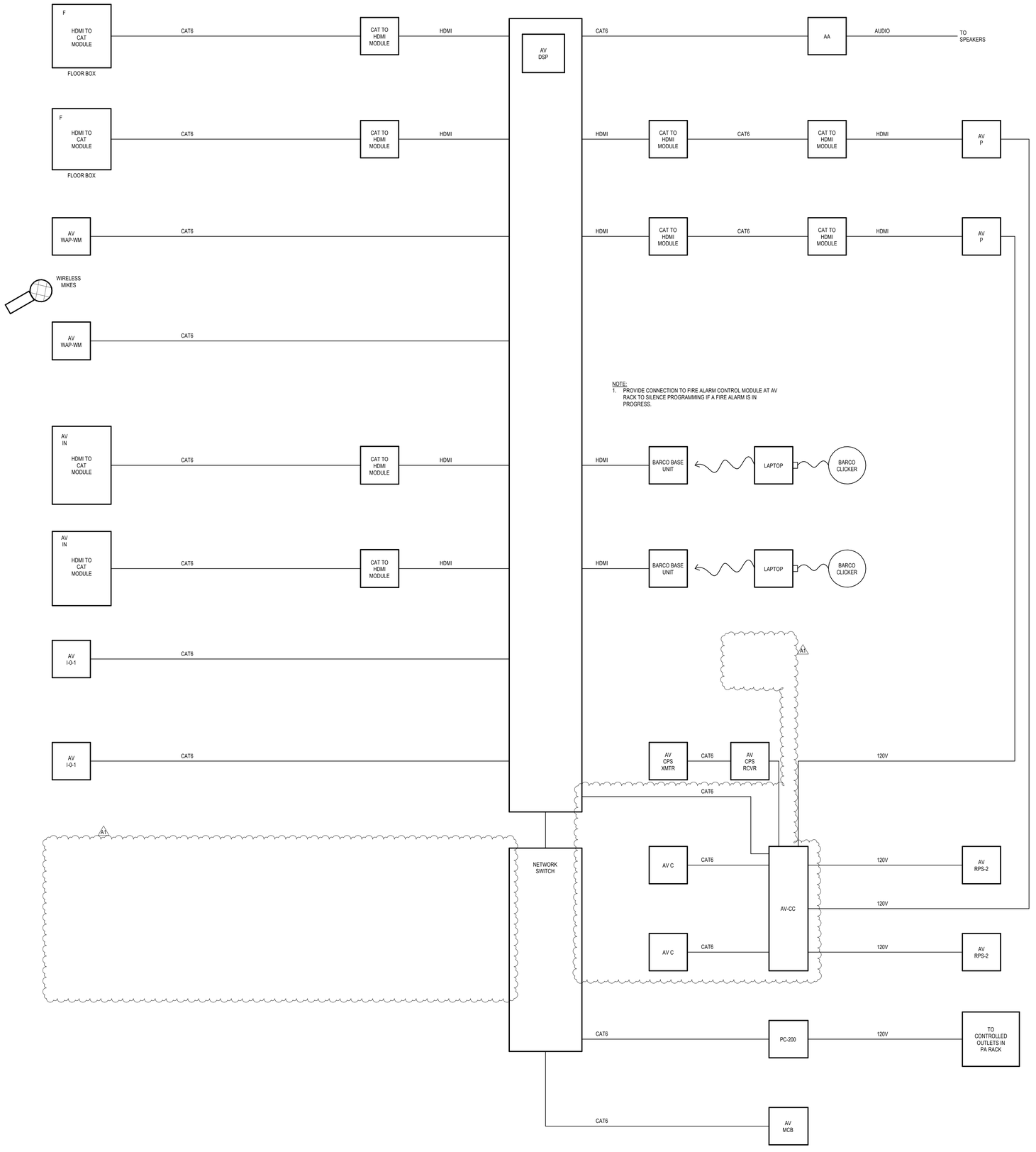
SHEET TITLE

AV FLOW DIAGRAMS

SHEET NUMBER

T702

3/7/2025 11:37:17 AM



NOTE:
1. PROVIDE CONNECTION TO FIRE ALARM CONTROL MODULE AT AV RACK TO SILENCE PROGRAMMING IF A FIRE ALARM IS IN PROGRESS.

A2 AV FLOW DIAGRAM - PAVILIONS 1 & 2
NTS

GENERAL SHEET NOTES

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DATE OF ISSUANCE JANUARY 6, 2025

REVISION SCHEDULE

Mark	Description	Date
A1	ADDENDUM #1	03/07/2025

SHEET TITLE
AV FLOW DIAGRAMS

SHEET NUMBER
T703

3/7/2025 11:37:17 AM

GENERAL SHEET NOTES

A. ALL EQUIPMENT SHOWN BELOW, UNLESS INDICATED "BY OWNER", SHALL BE PROVIDED BY THE AUDIO-VISUAL SYSTEM INTEGRATOR: A SUBCONTRACTOR TO THE DIVISION 26 CONTRACTOR WITH SPECIAL EXPERTISE IN AUDIOVISUAL WORK PERFORMING WORK UNDER SECTIONS 27 41 00, 27 41 16, 27 51 16, AND 27 51 23.

A1

PAVILION #1 151 & PAVILION #2 152

PLAN DESIGNATION	QTY	MASTER NO.	MANUFACTURER	DESCRIPTION
AV RPS-2	2	ELECTROL	DA-LITE	120" MOTORIZED PROJECTION SCREEN
AV P	2	L775U	EPSON	7000 LUMEN LASER 3LCD PROJECTOR
	2	V12808001	EPSON	UNIVERSAL PROJECTOR MOUNT
AV IN	2	HD-TX-101-C-1G-E-B-T	CRESTRON	HDMI INPUT PLATE
	2	HD-MD4X4-4KZ-E	CRESTRON	HDMI RECEIVER
AV C	2	A1 TSW-570P-B-S	CRESTRON	WALL TOUCH PANEL
CPS XMTR/RCVR	1	GLS-PART-CN	CRESTRON	PARTION SENSOR
	1	PW240-RU	CRESTRON	POWER SUPPLY
	1	PC-200	CRESTRON	POWER STRIP
	LOT	CRESNET-P-TL-SP100	CRESTRON	CRESTRON SIGNAL CABLE
	1	TESIRA SERVER I-O	BIAMP	DIGITAL SIGNAL PROCESSOR
	2	SLX24D/SM58	SHURE	DUAL CHANNEL WIRELESS MIKES
SEE FLOOR PLAN	16	AD-C6T-WH	QSC	CEILING SPEAKERS, 70/100V TRANSFORMERS
AA	1	GXD 8 1200W	QSC	1200 WATT 2-CHANNEL AUDIO AMPLIFIER
AV I-0-1	2	DB-J2	RDL	AUX AUDIO INPUT PLATE
	1	DWR-16-22PD SPECIAL	MIDDLE ATLANTIC	WALL RACK WITH LOCKABLE DOOR CONTROLLED BY KEYSCAN CARD READER
	1	A1 C9300X-48HX-A	CISCO	A1 SWITCH FURNISHED BY CITY
	LOT	CAT6		CABLE
	LOT	14 AWG IN CONDUIT		SPEAKER WIRE
	2	CX-50	BARCO	CLICK-SHARE WIRELESS CONNECTION SYSTEM
A1 AV-CC	1	CP4	CRESTRON	RACK MOUNTED AV CONTROL SYSTEM

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AV FLOW DIAGRAMS

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T704

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ADDENDUM-1
SPECIFICATIONS

SECTION 00 01 02
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: Imagination Center at Reindahl Park
Library: 1814 Parkside Drive.
Pavilion: 1818 Parkside Drive
Madison, Wisconsin 53704.

B. Architect's Project Number: 20-0928-02.

C. Owner's Project Number: MUNIS NO 17085.

D. The Owner, hereinafter referred to as Owner: City of Madison Engineering Division

E. Additional Stakeholders:
1. Madison Public Library.
2. Madison Parks - City of Madison Parks Division.

1.02 PROJECT DESCRIPTION

A. Summary Project Description: 17,468 square foot single-story public library and community center on an 87.315 acre site. This is a multi-agency collaborative effort to serve the residents of northeast Madison, Wisconsin.

B. Contract Scope: Construction and demolition.

C. Contract Terms: Cost plus a fee, with a guaranteed maximum price (GMP).

1.03 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Architect: JLA Architects.
800 E. Broadway, Suite 200.
Monona, WI 53713.
Project Manager: Jennifer Camp, AIA
Phone: 608.241.9500.
E-mail: jcamp@jla-ap.com.

1.04 ~~PROCUREMENT TIMETABLE~~

~~Desired Construction Start: Thursday, April 3, 2025.~~

~~Desired Substantial Completion Date: Not later than Thursday, September 3, 2026.~~

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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[CoM] Denotes City of Madison section

(A1) = Revised as part of Bid Specification Addendum 1, dated 3-6-25

Division 33 -- Utilities

END OF SECTION

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C402	SITE GRADING PLAN
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S512	DETAILS
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A411	CASEWORK & INTERIOR ELEVATIONS

A412	CASEWORK & INTERIOR ELEVATIONS
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A415	INTERIOR ELEVATIONS AND CASEWORK
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A511	BUILDING DETAILS
A512	BUILDING DETAILS
A513	BUILDING DETAILS
A514	BUILDING DETAILS
A515	BUILDING DETAILS
A516	BUILDING DETAILS
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A518	BUILDING DETAILS
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A520	BUILDING DETAILS
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T504 TECHNOLOGY DETAILS
~~T505 TECHNOLOGY DETAILS~~
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PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

SECTION 01 29 76
PROGRESS PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

A. The General Contractor (GC) shall review this and all related specifications prior to submitting progress payment requests.

B. Progress payment requests (Partial Payment-PP) for this contract shall be applied for by the GC in the Project Management Web Site.

C. The City Project Manager (CPM) shall review and amend or approve the PP on the Project Management Web Site.

D. After approval of the PP by the CPM, they shall forward the PP to the appropriate agencies for BPW contractual review and payment processing.

1.02 RELATED SPECIFICATIONS

A. Section 01 26 63 - Change Order (CO).

B. Section 01 29 73 - Schedule of Values.

C. Section 01 31 19 - Progress Meetings.

D. Section 01 31 23 - Project Management Web Site.

E. Section 01 32 16 - Construction Progress Schedules.

F. Section 01 32 26 - Construction Progress Reporting.

G. Section 01 33 23 - Submittals.

H. Section 01 45 16 - Field Quality Control Procedures.

I. Section 01 77 00 - Closeout Procedures.

J. Section 01 78 13 - Completion and Correction List.

K. Section 01 78 23 - Operation and Maintenance Data.

L. Section 01 78 36 - Warranties.

M. Section 01 78 39 - As-Built Drawings.

N. Section 01 78 43 - Spare Parts and Extra Materials.

O. Section 01 79 00 - Demonstration and Training.

1.03 RELATED DOCUMENTS

A. The following documents shall be used when evaluating PP requests.

1. Daily and weekly construction progress reports filed since the last payment request.
2. Contractors Schedule of Values as updated from the last payment request. See Specification 01 29 73 - Schedule of Values.
3. Any document that may be required to be submitted for review and approval, as noted by the specifications listed in Section 1.02 above, or the Progress Payment Milestone Schedule in Section 1.04 below, to achieve a required bench mark of contract progression or contract requirement.

1.04 PROGRESS PAYMENT MILESTONES

A. City Engineering-Facility Management has developed the Project Payment Milestone Schedule (Section 1.04 below) to assist the GC in providing required construction specific documentation and general contractual documentation in a timely manner.

B. The Progress Payment Milestone Schedule is not an all inclusive list. Multiple agencies review progress payment requests and contract closeout requests. Missing, incomplete, or incorrect documentation for any agency may be a cause for not processing progress payments. It shall be the sole responsibility of the Contractor for providing documentation as required or requested to the appropriate agencies.

C. The milestone schedule is based on the contract total sum and shall be valid for most contracts. Milestone submittals will be required with whatever progress payment hits the percentage of contract total indicated in the schedule.

D. The CPM shall review the milestone schedule with each progress payment request and at their option may elect to hold processing the progress payment until such time as the contractor has met the requirements for providing construction specific documentation.

E. It shall be the General Contractors responsibility to comply with all BPW Contract Administration requirements and related deadlines as outlined in the Award Letter, Award Checklist, and Start Work Letter.

See next page for Progress Payment Milestone Schedule table (revised).

Progress Payment (PP) Milestone Schedule		
MILESTONE DESCRIPTION	**DUE BEFORE**	**REMARKS**
BPW Contract Administration Documentation • Workforce profiles • Best Value Contracting Documentation • Sub-contractors prequalification approval & Affirmative Action plans • Submittals Schedule • Other as may be required	PP-1, or start work as applicable	• For GC and Sub-contractors before PP-1 regardless of scheduling • Sub-contractors (if applicable), due 10 days before they may start work • Sub-contractors (if applicable), due 10 days before they may start work • Specification 01 32 19
Required Construction Submittals/Administrative Documents • Contractors Project Directory • Schedule of Values • Waste Management Plan • Closeout Requirement Checklist • Warranty Checklist • Time Lapse Construction Camera (camera installed and operational) • Submission and Completion of all long-lead construction element submittals	PP-1	References • Specification 01 31 23 • Specification 01 29 73 • Specification 01 74 19 • Specification 01 77 00 • Specification 01 78 36 • Specification 01 32 33 • Various Specifications
Construction Progress Milestones Early submittals, per submittal schedule Detailed Contract Schedules	PP-1	See specifications for specific requirements • Specification 01 32 19, Examples: concrete mix, structural steel, products with long lead times • See Specification 01 32 16
Electrical Gear Submittal and Approval Milestone 1. Electrical Contractor (EC) must provide for Engineer's review all permanent power distribution equipment as specified in the remarks column. The following submittals must be completed for all equipment listed in the remarks: a. manufacturer's data sheets b. shop drawings 2. EC/GC must provide written notification from Electrical Utility notifying an Electric Service Report (ESR) is submitted and under review. 3. No fabrication or shipping shall commence prior to receipt of conditional approval from the Engineer of Record.	PP-2	• Specification 26 05 73.10 • Specification 26 09 13.13 • Specification 26 21 00 • Specification 26 24 13.11 • Specification 26 24 16.11 • Specification 26 27 13.13 • Specification 26 27 13.16

Progress Payment (PP) Milestone Schedule		
MILESTONE DESCRIPTION	**DUE BEFORE**	**REMARKS**
Electrical Gear Supplier Confirmation Milestone 1. EC/GC must provide written confirmation of equipment shipping dates on supplier's letterhead.	PP-3	• Specification 26 05 73.10 • Specification 26 09 13.13 • Specification 26 21 00 • Specification 26 24 13.11 • Specification 26 24 16.11 • Specification 26 27 13.13 • Specification 26 27 13.16
General Construction Progress Requirements are all up to date • Progress Schedules • Submittals/Re-submittals (ongoing) • Schedule of Values • Progress Reporting • LEED Documentation • Waste Management documentation • QMOs are being addressed and closed • Progress Cleaning • As-Built Drawings	Each future PP	Verified with each Progress Payment Request • Specification 01 32 16 • Specification 01 33 23 • Specification 01 29 73 • Specification 01 32 26 • All specifications with LEED documentation requirements • Specification 01 74 19 • Specification 01 45 16 • Specification 01 74 13 • Specification 01 78 39
*** All of the above are being updated on the Project Management Web Site as required**		
BPW Contract Administration Documentation • Weekly payroll reports • Best Value Contracting Reports • SBE Reports	25% CT or PP 2	See 1.04.E above. *This progress payment will be withheld by BPW for any missing contractual documentation.*
Construction Progress Milestones • Construction/Contract Closeout Meeting #1 • Submittals/Re-submittals complete	50% CT	• Specification 01 31 19 • Specification 01 33 23
Operation and Maintenance (O & M) drafts	60% CT	• Specification 01 78 23
Construction/Contract Closeout Meeting #2 • Construction closeout checklist	70% CT	• Specification 01 31 19 • Specification 01 77 00

Progress Payment (PP) Milestone Schedule		
MILESTONE DESCRIPTION	**DUE BEFORE**	**REMARKS**
BPW Contract Administration Documentation • Request Finalization Review from BPW	80% CT	This is a recommendation to the GC and is not a requirement of this PP. • Specification 01 77 00
Construction Progress Milestones • Operation and Maintenance (O & M) finals, accepted • All major QMO issues resolved • As-Built Drawings, Division Trades ready for GC review	80% CT	• Specification 01 78 23 • Specification 01 45 16; Items that could prevent occupancy • Specification 01 78 39
All of the following shall be completed for this PP: • Regulatory Inspections completed • All QMO reports closed • Demonstration and Training completed • Attic Stock completed • Final Cleaning	90% CT	Contractor to determine the proper order of completion: • Governing ordinances and statutes • Specification 01 45 16 • Specification 01 79 00 • Specification 01 78 43 • Specification 01 74 13
Construction Closeout Procedures: • Letter of Substantial Compliance sent to BI and DHS as needed • Certificate of Occupancy issued • As-Built Drawings, finals, accepted • City Letter of Substantial Completion • Warranty letters dated and issued	100% CT	• Specification 01 77 00 • Generated/Signed by the Architect • Building Inspection • Specification 01 78 39 • Signed by the City Engineer • Specification 01 78 36
*** Completion of this begins the one year warranty.**		
BPW Contract Administration Documentation Contract Closeout Procedures • Construction Closeout has been completed • Contractor requests final payment of retainage upon receiving City Letter of Substantial Completion • All BPW contractual requirements are verified	Final	• Specification 01 77 00 • Contractor must provide any missing BPW Contractual Documentation
*** Completion of this closes the contract but not the warranty period/bond.**		
***NOTE:* CT = Contract Total less held retainage**		

1.05 PROGRESS PAYMENT SUBMITTAL

A. Each progress payment submittal shall be completed in the Project Management Website. See guide on the Project Management Website for the procedure.

B. Submit all required construction progress documentation to the appropriate Project Management Web Site component as described in guides.

C. In general the following shall apply to all PP requests:
   1. Materials or products:
      a. On order, being shipped, etc. may not be invoiced.
      b. Received and stored on the project site may be invoiced.
      c. Being manufactured off site at any location may not be invoiced (example: cabinetry, ductwork, etc.)
      d. Completed products stored off site locally waiting for delivery to the project site may be invoiced with prior approval by the CPM. All of the following conditions must be met to be allowed:
         1) Items must be visually inspected by CPM to verify product is complete.
         2) Item must be stored inside a compatible structure and the structure and contents must be insured.
         3) Contractor is responsible for condition until installation is completed.
   2. All labor and equipment, including rental time for the current progress period may be invoiced.
   3. Only completed installations may be invoiced to 100% based on the Schedule of Values.

D. DO NOT submit BPW Contract Administration Documentation for review with Progress Payment Requests, submit them directly to the correct agency and in the correct format as instructed from information in your BPW Contract Award Packet instructions.

PART 2 - PRODUCTS - THIS SECTION NOT USED

PART 3 - EXECUTION

3.01 GENERAL CONTRACTOR PROCEDURE

A. The GC shall use the Project Management Website for each PP request.
   1. 1. The GC shall subtotal the work completed to date for all of the original Schedule of Value items.
   2. Ensure that any newly posted change orders have been entered.
   3. The GC shall submit the PP request in the Project Management Website. The username and date will be automatically recorded.
   4. The GC shall provide the dates from and to for the PP being requested.
   5. The GC shall provide the list of all contractors/sub-contractors that were actively working during the dates indicated above. The guide details the appropriate location for this list.
      a. All contractors/sub-contractors named must be in compliance with all City requirements (Pre-qualified, Affirmative Action Plan on file, etc). The PP will be held and not processed by the City of Madison until all contractors/sub-contractors are in compliance.
      b. Do not list the names of suppliers or manufacturers, doing so will slow down processing and require a re-submittal of the paperwork.
   6. The GC shall attach a copy of the current Project Schedule.

3.02 CITY PROJECT MANAGER PROCEDURE

A. The CPM shall review all documents submitted by the GC to ensure the schedule of values accurately reflects the work completed to date.

B. The CPM may elect to hold processing of any progress payment pending submittal of required progress payment milestones.

C. When verified, the CPM shall send the PP and required documentation to the appropriate City agencies for further processing of the payment request.

D. The PP processing will be completed and available for view on the Project Management Web Site.

END OF SECTION

SECTION 01 43 50
AIR BARRIER SYSTEMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, Division 07 Specification Sections, apply to this Section.

1.02 SUMMARY

A. Contractor will engage a qualified consultant(s) to perform tests and inspections prior to the installation of air barrier components.

B. This section includes administrative and procedural requirements for accomplishing an airtight building enclosure that controls infiltration or exfiltration of air.

C. Related Sections:
   1. Section 07 25 00: Weather Barriers.
   2. Requirements of this section relate to the coordination between subcontractors required to provide an airtight building enclosure, customized fabrication and installation procedures, not production of standard products.

1.03 DEFINITIONS

A. Air Barrier System: The airtight components of the building enclosure and the joints, junctures and transitions between materials, products, and assemblies forming the air-tightness of the building enclosure.

B. Services: Include coordination between the trades, the proper scheduling and sequencing of the work, pre-construction meetings, inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Architect.

1.04 PERFORMANCE REQUIREMENTS

A. General Performance: The Contractor shall ensure that the intent of constructing the building enclosure with a continuous air barrier system to control air leakage into, or out of the conditioned space is achieved. The air barrier system shall have the following characteristics:
   1. It shall be continuous, with all joints sealed.
   2. It shall be structurally supported to withstand positive and negative air pressures applied to the building enclosure.
   3. Continuity of the air barrier materials and products with joints to provide complete assemblies.
   4. Continuity of all the enclosure assemblies with joints and transition materials to provide a whole building air barrier system.

B. Connection shall be made between:
   1. Foundation and walls.
   2. Walls and windows or doors.
   3. Different wall systems.
   4. Wall and roof.
   5. Wall and roof over unconditioned space.
   6. Walls, floor and roof across construction, control and expansion joints.
   7. Walls, floors and roof to utility, pipe and duct penetrations.

C. Air Barrier Penetrations: All penetrations of the air barrier and paths of air infiltration / exfiltration shall be made air-tight.

D. Compliance Requirements:
   1. Assemblies: an air permeance not to exceed 0.03 cfm/ft2p under a pressure differential of 0.3 inch (7.62 mm). water (1.57psf) (0.15 L/s.m2 @ 75 Pa) when tested in accordance with ASTM E 1677.
   2. Materials: Materials used for the air barrier system in the opaque envelope shall have an air permeance not to exceed 0.004 cfm/ft2 under a pressure differential of 0.3 inch (7.62 mm). water (1.57psf) (0.02 L/s.m2 @ 75 Pa) when tested in accordance with ASTM E 2178. Or,
   3. Entire Building: The air leakage of the entire building shall not exceed 0.15 cfm/sf under a pressure differential of 0.3 inch (7.62 mm). water (1.57psf) (0.75 L/s.m2 @ 75 Pa) when tested according to ASTM E 779.

1.05 SUBMITTALS

A. Field quality-control reports.

B. Testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Architect. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
   1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.

C. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making the inspection or test.
   6. Designation of the Work and test method.
   7. Identification of product and Specification Section.
   8. Complete inspection or test data.
   9. Test results and an interpretation of test results.
   10. Ambient conditions at the time of sample taking and testing.
   11. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
   12. Name and signature of laboratory inspector.
   13. Recommendations on retesting.

1.06 QUALITY ASSURANCE

A. General Performance: The Contractor shall ensure that the intent of constructing the building enclosure with a continuous air barrier system to control air leakage into, or out of the conditioned space is achieved. The air barrier system shall have the following characteristics:

B. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
   1. Qualifications for Air Barrier Testing and Inspection Agencies: Engage Air Barrier inspection and testing service agencies, including independent testing laboratories, that are prequalified and that specialize in the types of air barrier system inspections and tests to be performed.

C. Specific quality-control requirements for individual construction activities are specified in the sections of the specifications. Requirements in those sections may also cover production of standard products. It is the Contractor’s responsibility to ensure that each subcontractor is adequately and satisfactorily performing the quality assurance documentation, tests and procedures required by each section.

D. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.

1.07 PROJECT CONDITIONS

A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide coordination of the trades, and the sequence of construction to ensure continuity of the air barrier system joints, junctures and transitions between materials and assemblies of materials and products, from substructure to walls to roof. Provide quality assurance procedures, testing and verification as specified herein. Facilitate inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction or by the Owner. Costs for these services are included in the Contract Sum.

B. Organize preconstruction meetings between the trades involved in the whole building's air barrier system to discuss where each trade begins and ends and the responsibility and sequence of installation of all the air-tight joints, junctures, and transitions between materials, products and assemblies of products specified in the different sections, to be installed by the different trades.

C. Build a mock-up before proceeding with the work, satisfactory to the Architect, of each airtight joint type, juncture, and transition between products, materials and assemblies.

D. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
   1. Provide access to the Work.
   2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
   3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
   4. Deliver samples to testing laboratories.
   5. Provide security and protection of samples and test equipment at the Project Site.

E. Duties of the Testing and Inspection Agency: The independent agency engaged to perform inspections, sampling, and testing of air barrier materials, components and assemblies specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
   1. The agency shall notify the Architect and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
   2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
   3. The agency shall not perform any duties of the Contractor.

F. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
   1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.01 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Tests and Inspections:
   1. Qualitative Testing and Inspection:
      a. Daily reports of observations, with copies to the Owner, Contractor and Architect.
      b. Continuity of the air barrier system throughout the building enclosure with no gaps, holes.
      c. Structural support of the air barrier system to withstand design air pressures.
      d. Masonry and concrete surfaces are smooth, clean and free of cavities, protrusions and mortar droppings, with mortar joints struck flush, or as required by the manufacturer of the air barrier material.
      e. Site conditions for application temperature and dryness of substrates.
      f. Maximum length of exposure time of materials to ultra-violet deterioration.
      g. Surfaces are properly primed.
      h. Laps in material are 2” minimum, shingled in the correct direction (or mastic applied on exposed edges), with no fishmouths.
      i. Mastic applied on cut edges.
      j. Roller has been used to enhance adhesion.
      k. Measure application thickness of liquid-applied materials to manufacturer’s specifications for the specific substrate.
      l. Materials used for compatibility.
      m. Transitions at changes in direction, and structural support at gaps.
      n. Connections between assemblies (membrane and sealants) for cleaning, preparation and priming of surfaces, structural support, integrity and continuity of seal.
      o. All penetrations sealed.
   2. Testing Standards
      a. Refer to Specification Sections 01-91-19 Building Enclosure Commissioning Requirements

3.02 REPAIR AND PROTECTION

A. Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section "Cutting and Patching."

B. Protect construction exposed by or for quality-control service activities and protect repaired construction.

C. C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION

SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Insulating glass units.

B. Glazing units.

C. Laminated glass interlayers.

D. Glazing compounds.

1.02 RELATED REQUIREMENTS

~~Section 01 23 00 - Alternates: add alternate for IG-3B locations.~~

A. Section 07 25 00 - Weather Barriers.

B. Section 07 26 00 - Vapor Retarders.

C. Section 07 27 00 - Air Barriers.

D. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.

E. Section 08 11 13 - Hollow Metal Doors and Frames: Glazed lites in doors and borrowed lites.

F. Section 08 41 26 - All-Glass Entrances and Storefronts: Glazing provided as part of entrance assembly.

G. Section 08 43 13 - Aluminum-Framed Storefronts: Glazing provided as part of storefront assembly.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. AAMA 501.6 - Recommended Dynamic Test Method for Determining the Seismic Drift Causing Glass Fallout from Window Wall, Curtain Wall and Storefront Systems; 2018.

C. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

D. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

F. ASTM C1036 - Standard Specification for Flat Glass; 2021.

G. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

H. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2019.

I. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

J. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2021a.

K. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.

L. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.

M. GANA (SM) - GANA Sealant Manual; 2008.

N. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

P. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.

Q. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2023.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by each of the affected installers.

1.05 SUBMITTALS

A. See Section 01 33 23-Submittals for City of Madison required submittal procedures.

B. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements, and identify available colors.

C. Installer's qualification statement.
1. Architectural Glass and Metal Technician (AGMT) certificates or equivalent ANSI accredited certificates for architectural glass and metal installers for no less than 50% of the crew installing architectural glass and metal products.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
1. Provide certified glass products through ANSI accredited certifications that include plant audits and independent laboratory performance testing.

B. Installer Qualifications: A qualified glazing contractor for this Project who employs glazing technicians certified under the Architectural Glass and Metal Technician (AGMT) certification program. No less than 50% of the crew performing architectural glass and metal work shall be Architectural Glass and Metal Technicians (AGMT).

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.07 MOCK-UPS

A. See Section 01 43 39 - Mockups for additional requirements.

1.08 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F (4 degrees C).

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.09 WARRANTY

A. See Section 01 77 00-Closeout Procedures for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Float Glass Manufacturers:
1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
2. ~~[_____]~~Or Approved Equal.
3. Substitutions: ~~See Section01 60 00-Product Requirements~~See Section 01 25 13 - Product Substitution Procedures.

B. Laminated Glass Manufacturers:
1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
2. ~~[_____]~~Or Approved Equal.
3. Substitutions: ~~See Section01 60 00-Product Requirements~~See Section 01 25 13 - Product Substitution Procedures.

C. Bird-Friendly Glass Manufacturers:
1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
2. [____]Or Approved Equal.
3. Substitutions: ~~See Section01 60 00 Product Requirements~~See Section 01 25 13 - Product Substitution Procedures.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
3. Glass thicknesses listed are minimum.

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
1. In conjunction with weather barrier related materials described in other sections, as follows:
a. Water-Resistive Barriers: See Section 07 25 00.
b. Vapor Retarders: See Section 07 26 00.
c. Air Barriers: See Section 07 27 00.
2. To utilize inner pane of multiple pane insulating glass units for continuity of vapor retarder and/or air barrier seal.
3. To maintain a continuous vapor retarder and/or air barrier throughout glazed assembly from glass pane to heel bead of glazing sealant.

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.

B. Laminated Glass: Float glass laminated in accordance with ASTM C1172.
1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category I impact test requirements.

2.04 INSULATING GLASS UNITS

A. Manufacturers:
1. Cardinal Glass Industries: www.cardinalcorp.com/#sle.
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Insulating Glass Units: Types as indicated.
1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO.
3. Spacer Color: Black.

4. Edge Seal:
   a. Color: Black.
5. Purge interpane space with dry air, hermetically sealed.

C. Type IG-1 - Insulating Glass Units: Vision glass, double glazed.
1. Applications: Exterior glazing unless otherwise indicated.
2. Space between lites filled with argon.
   a. Basis of Design: Cardinal Endure IG spacer.
   b. Basis of Design Air Gap: 1/2 inch or 13 mm.
3. Outboard Lite: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
   b. Coating: Self-cleaning type, on #1 surface.
   c. Coating: Low-E (passive type), LoE-270 on #2 surface.
4. Inboard Lite: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
5. Total Thickness: 1 inch or 24.4 mm .
6. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.
7. Visible Light Transmittance (VLT): 68 percent, nominal.
8. Solar Heat Gain Coefficient (SHGC): 0.41, nominal.

D. Type IG-1B - Insulating Glass Units: Bird-friendly Acid Etched vision glass, double glazed.
1. Applications: Exterior glazing unless otherwise indicated.
2. Space between lites filled with argon.
   a. Basis of Design: Cardinal Endure IG spacer.
   b. Basis of Design Air Gap: 1/2 inch or 13 mm.
3. Outboard Lite: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
   b. Bird-Friendly Pattern: 5 mm dots, spaced at 2 by 2 inches.
      1) Acid-etched on exterior, Surface 1, of IGU.
   c. Coating: Low-E (passive type), LoE-270 on #2 surface.
4. Inboard Lite: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
5. Total Thickness: 1 inch or 24.4 mm .
6. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.

E. Type IG-2 - Insulating Glass Units: Vision glass, double glazed.
1. Applications: Tempered exterior glazing as indicated on drawings.
2. Space between lites filled with argon.
   a. Basis of Design: Cardinal Endure IG spacer.
   b. Basis of Design Air Gap: 1/2 inch or 13 mm.
3. Outboard Lite: Fully tempered float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
   b. Coating: Self-cleaning type, on #1 surface.
   c. Coating: Low-E (passive type), LoE-270 on #2 surface.
4. Inboard Lite: Fully tempered laminated float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
5. Total Thickness: 1 inch or 25.7 mm.
6. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.

F. Type IG-2B - Insulating Glass Units: Bird-friendly Acid Etched vision glass, double glazed.
1. Applications: Tempered exterior glazing as indicated on drawings.
2. Space between lites filled with argon.
   a. Basis of Design: Cardinal Endure IG spacer.
   b. Basis of Design Air Gap: 1/2 inch or 13 mm.

3. Outboard Lite: Fully tempered float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
   b. Bird-Friendly Pattern: 5 mm dots, spaced at 2 by 2 inches.
      1) Acid-etched on exterior, Surface 1, of IGU.
   c. Coating: Low-E (passive type), LoE-270 on #2 surface.
4. Inboard Lite: Fully tempered float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
5. Total Thickness: 1 inch or 24.4 mm .
6. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.

G. Type IG-3B - Insulating Glass Units: Bird-friendly Acid Etched laminated exterior glazing.
   ~~Applications: See Section 01 23 00 - Alternates for locations .~~
1. Space between lites filled with argon.
   a. Basis of Design: Cardinal Endure IG spacer.
   b. Basis of Design Air Gap: 1/2 inch or 13 mm.
2. Outboard Lites: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
   b. Bird-Friendly Pattern: 5 mm dots, spaced at 2 by 2 inches.
      1) Acid-etched on exterior, Surface 1, of IGU.
   c. Coating: Low-E (passive type), LoE-270 on #2 surface.
   d. PVB Interlayer between outboard lites (LGI-1).
3. Inboard Lite: Heat-strengthened float glass, 1/4 inch or 5.77 mm thick, minimum.
   a. Tint: Clear.
4. Total Thickness: 1 inch or 24.4 mm .
5. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.

2.05 BASIS OF DESIGN - INSULATING GLASS UNITS

A. Basis of Design - Insulating Glass Units: Vision glazing, with low-e coating.
1. Applications: Exterior insulating glass glazing unless otherwise indicated.
2. Space between lites filled with argon.
3. Total Thickness: 1 inch or 24.4 mm.
4. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.30, nominal.
5. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO.
6. Spacer Color: Black.
7. Edge Seal:
   a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
8. Color: Black.
9. Purge interpane space with dry air, hermetically sealed.

2.06 GLAZING UNITS

A. Type G-1 - Monolithic Interior Vision Glazing:
1. Applications: Interior glazing unless otherwise indicated.
2. Glass Type: Annealed float glass.
3. Tint: Clear.
4. Thickness: 1/4 inch (6.4 mm), nominal.

B. Type G-2 - Monolithic Interior Vision Glazing:
1. Applications: Tempered interior glazing as indicated on drawings.
2. Glass Type: Fully tempered float glass.

3. Tint: Clear.
4. Thickness: 1/4 inch (6.4 mm), nominal.

2.07 LAMINATED GLASS INTERLAYERS

A. Type LGI-1 - Polyvinyl Butyral (PVB) Interlayer for Laminated Glazing:
   1. Functionality: Post-breakage safety and security.
   2. Applications:
      a. Single pane, laminated glass unit.
      b. Interior laminated pane of insulating glass unit, Type IG-3B.
   3. Color: Clear.
   4. Thickness: As required for indicated performance of laminated glass application.
   5. Manufacturers:
      a. Eastman Chemical Company; Saflex Clear PVB Interlayer: www.saflex.com/#sle.
      b. Sekisui S-LEC America, LLC; S-LEC Clear Film: www.s-lec.us/#sle.
      c. Substitutions: See Section 01 60 00 - Product Requirements.

2.08 GLASS COATINGS

A. Decorative Coating: Two component, water-based silicone polyurethane opaque color hybrid coating for roll coat and spray applications.
   1. Application: Interior locations as indicated on drawings.
      a. Glass and Coating Orientation: On surface facing substrate
   2. Decorative Coating Glass Unit Fabrication: Strictly according to coating manufacturer's written instructions.
   3. Dry Film Thickness: Between 0.0012 inch (0.030 mm) and 0.0015 inch (0.040 mm), minimum.
   4. Color: Selected from manufacturer's standard range and indicated on drawings.

2.09 GLAZING COMPOUNDS

A. Type GC-1 - Glazing Putty: Polymer modified latex recommended by manufacturer for outdoor use, knife grade consistency; gray color.

B. Type GC-2 - Butyl Sealant: Single component; ASTM C920 Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

C. Type GC-3 - Polysulfide Sealant: Two component; chemical curing, nonsagging type; ASTM C920 Type M, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.

D. Type GC-4 - Polyurethane Sealant: Single component, chemical curing, nonstaining, nonbleeding; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 20 to 35; color as selected.

E. Type GC-5 - Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; nonbleeding, nonstaining; ASTM C920 Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color as selected.

F. Manufacturers:
   1. Bostik Inc: www.bostik-us.com/#sle.
   2. Dow Corning Corporation: www.dowcorning.com/construction/#sle.Dow Corning Corporation: www.dowcorning.com/construction/#sle.
   3. Momentive Performance Materials, Inc: www.momentive.com/#sle.
   4. Pecora Corporation: www.pecora.com/#sle.
   5. Tremco Commercial Sealants & Waterproofing; Proglaze: www.tremcosealants.com/#sle.

2.10 ACCESSORIES

A. Concealed nonprogressive structural glass mounting system.
   1. Glass Panel Mounting System: Two-part patented system of interlocking metal rail brackets structurally connected to substrate surface and backs of glass units for concealed support.

a. Applications: As indicated on drawings for wall mounted glass units.
   1) Include adaptations for installation where compliance with applicable seismic design is required.
      (a) Provide system successfully tested in accordance with AAMA 501.6.
b. Mounting Action: Hook shape of mounting rail bracket interlocks with hook shape of another mounting bracket.
c. Nonprogressive mounting sequence.
d. System Weight Supporting Capacity: Up to 84 lb/sq ft (410.0 kg/sq m) glass panel weight per unit of area, or up to 500 lb (226.8 kg) total glass panel weight.
e. Maximum Reveal Width Between Panel Edges: 1/4 inch (6.4 mm) at completed installation.
f. Manufacturers:
   1) McGrory Glass Inc; CaptiveHook by McGrory Glass: www.mcgrory.com/#sle.
   2) Substitutions: See Section 01 60 00 - Product Requirements.

B. Setting Blocks: Silicone, with 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot (25 mm for each square meter) of glazing or minimum 4 inch (100 mm) by width of glazing rabbet space minus 1/16 inch (1.5 mm) by height to suit glazing method and pane weight and area.

C. Glazing Tape, Back Bedding Mastic Type: Preformed, butyl-based, 100 percent solids compound with integral resilient spacer rod applicable to application indicated; 5 to 30 cured Shore A durometer hardness; coiled on release paper; black color.
   1. Width: As required for application.
   2. Thickness: As required for application.
   3. Spacer Rod Diameter: As required for application.
   4. Manufacturers:
      a. Pecora Corporation: www.pecora.com/#sle.
      b. Tremco Global Sealants: www.tremcosealants.com/#sle.
      c. Substitutions: See Section 01 60 00 - Product Requirements.

D. Glazing Splines: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option II; color black.

E. Glazing Clips: Manufacturer's standard type.

F. Smoke Removal Window/Glazing Unit Markings: Adhesive backed markings affixed to manually operable or fixed windows of high-rise buildings to identify units intended for post-fire smoke removal in compliance with ICC (IBC) and local building officials.

2.11 SOURCE QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for additional requirements.

B. Provide shop inspection and testing for all types of glass.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that the minimum required face and edge clearances are being provided.

C. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

D. Verify that sealing between joints of glass framing members has been completed effectively.

E. Proceed with glazing system installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, and paint.

3.04 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 INSTALLATION - DRY GLAZING METHOD (TAPE AND GASKET SPLINE GLAZING)

A. Application - Exterior Glazed: Set glazing infills from the exterior of the building.

B. Cut glazing tape to length; install on glazing pane. Seal corners by butting tape and sealing junctions with butyl sealant.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

D. Rest glazing on setting blocks and push against fixed stop with sufficient pressure to attain full contact.

E. Install removable stops without displacing glazing spline. Exert pressure for full continuous contact.

F. Carefully trim protruding tape with knife.

3.06 INSTALLATION - DRY GLAZING METHOD (TAPE AND TAPE)

A. Application - Interior Glazed: Set glazing infills from the interior of the building.

B. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

D. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.

E. Place glazing tape on free perimeter of glazing in same manner described above.

F. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.

G. Carefully trim protruding tape with knife.

3.07 INSTALLATION - WET GLAZING METHOD (COMPOUND AND COMPOUND)

A. Application - Interior Glazed: Set glazing infills from the interior of the building.

B. Install glazing resting on setting blocks. Install applied stop and center pane by use of spacer shims at 24 inch (610 mm) centers, kept 1/4 inch (6 mm) below sight line.

C. Locate and secure glazing pane using glazers' clips.

D. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

3.08 INSTALLATION - WET/DRY GLAZING METHOD (PREFORMED TAPE AND SEALANT)

A. Application - Exterior Glazed: Set glazing infills from the exterior of the building.

B. Cut glazing tape to length and set against permanent stops, 3/16 inch (5 mm) below sight line. Seal corners by butting tape and dabbing with butyl sealant.

C. Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete the continuity of the air and vapor seal.

D. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

E. Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient pressure to attain full contact at perimeter of pane or glass unit.

F. Install removable stops, with spacer strips inserted between glazing and applied stops 1/4 inch (6.4 mm) below sight lines.
   1. Place glazing tape on glazing pane of unit with tape flush with sight line.

G. Fill gap between glazing and stop with _____ type sealant to depth equal to bite of frame on glazing, but not more than 3/8 inch (9 mm) below sight line.

H. Apply cap bead of _____ type sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.09 INSTALLATION - WET/DRY GLAZING METHOD (TAPE AND SEALANT)

A. Application - Interior Glazed: Set glazing infills from the interior of the building.

B. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch (152 mm) from corners.

D. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.

E. Install removable stops, spacer shims inserted between glazing and applied stops at 24 inch (610 mm) intervals, 1/4 inch (6 mm) below sight line.

F. Fill gaps between pane and applied stop with specified type sealant to depth equal to bite on glazing, to uniform and level line.

G. Carefully trim protruding tape with knife.

3.10 INSTALLATION - BUTT JOINT GLAZING METHOD (SEALANT ONLY)

A. Application - Exterior Glazed: Set glazing infills from exterior side of building.

B. Temporarily brace glass in position for duration of glazing process; mask edges of glass at adjoining glass edges and between glass edges and framing members.

C. Temporarily secure a small diameter nonadhering foamed rod on back side of joint.

D. Apply sealant to open side of joint in continuous operation; thoroughly fill joint without displacing foam rod, and then tool sealant surface smooth to concave profile.

E. Permit sealant to cure then remove foam backer rod, and then apply sealant to opposite side, tool smooth to concave profile.

F. Remove masking tape.

3.11 INSTALLATION - PRESSURE GLAZED SYSTEMS

3.12 INSTALLATION - STRUCTURAL SILICONE GLAZING

A. Application - Factory (Shop) Glazed: Follow basic guidelines of structural silicone glazing for glazing application.

B. Provide design review of the glazing system and project details, adhesion testing, proper surface preparation, training and a quality service program.

C. Provide only structural silicone sealant, tested and manufactured for structural glazing.

3.13 INSTALLATION - ACRYLIC FOAM TAPE STRUCTURAL GLAZING

A. Application - Factory (Shop) Glazed: Follow basic guidelines of structural silicone glazing for acrylic foam tape structural glazing application.

B. Provide design review of the glazing system and project details, adhesion testing, proper surface preparation, training and a quality service program.

C. Provide only acrylic foam tapes designed, tested and manufactured for structural glazing.

3.14 INSTALLATION - PLASTIC FILM

A. Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.

B. Place without air bubbles, creases or visible distortion.

C. Install film tight to perimeter of glass and carefully trim film with razor sharp knife. Provide 1/16 inch (1.6 mm) to 1/8 inch (3.2 mm) gap at perimeter of glazed panel unless otherwise required. Do not score the glass.

3.15 FIELD QUALITY CONTROL

A. See Section 01 45 16-Field Quality Control Procedures for City of Madison requirements.

B. Glass and Glazing product manufacturers to provide field surveillance of the installation of their products.

C. Monitor and report installation procedures and unacceptable conditions.

3.16 CLEANING

A. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

B. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

C. Remove nonpermanent labels immediately after glazing installation is complete.

D. Clean glass and adjacent surfaces after sealants are fully cured.

E. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.17 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

3.18 SCHEDULES

A. See applicable schedules as indicated on the drawings.

END OF SECTION

SECTION 10 22 39
FOLDING PANEL PARTITIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Top-supported folding panel partitions, horizontal opening.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood blocking and track support shimming.

B. Section 08 71 00 - Door Hardware: Lock cylinders for panels

C. Section 26 05 33.13 - Conduit for Electrical Systems: Empty conduit from partition motor controller to disconnect and from motor controller to control buttons.

D. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections; control buttons .

1.03 REFERENCE STANDARDS

A. ANSI A208.1 - American National Standard for Particleboard; 2022.

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

C. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.

D. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009 (Reapproved 2016).

E. ASTM E413 - Classification for Rating Sound Insulation; 2022.

F. ASTM E557 - Standard Guide for Architectural Design and Installation Practices for Sound Isolation Between Spaces Separated by Operable Partitions; 2012 (Reapproved 2020).

G. ASTM F793/F793M - Standard Classification of Wall Coverings by Use Characteristics; 2020.

H. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2020.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene at project site seven calendar days prior to scheduled beginning of construction activities of this section to review section requirements.
   1. Require attendance by representatives of installer.

1.05 SUBMITTALS

A. See Section 01 33 23-Submittals for City of Madison required submittal procedures.

B. Product Data: Provide data on partition materials, operation, hardware and accessories, electric operating components, track switching components, and colors and finishes available.

C. Design Data: Design calculations, bearing seal and signature of structural engineer licensed to practice in the State in which the Project is located, showing loads at points of attachment to the building structure.

D. Shop Drawings: Indicate opening sizes, track layout, details of track and required supports, static and dynamic loads, location and details of pass door and frame, adjacent construction and finish trim, and stacking depth.

E. Samples for Review: Submit two samples of surface finish, 12 by 12 inches (300 by 300 mm) size, illustrating quality, colors selected, texture, and weight.

F. Certificates: Certify that partition system meets or exceeds specified acoustic requirements.

G. Manufacturer's Instructions: Indicate special procedures.

H. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods. Describe cleaning materials detrimental to finish surfaces and hardware finish.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified this section with minimum three years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until installation.

1.08 WARRANTY

A. See Section 01 77 00-Closeout Procedures, for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Folding Panel Partitions - Horizontal Opening:
   1. Modernfold, a DORMA Group Company: www.modernfold.com/#sle.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FOLDING PANEL PARTITIONS - HORIZONTAL OPENING

A. Folding Panel Partitions: Center opening; paired panels; side stacking; motor operated.
   1. Basis of Design: Acousti-seal Encore Paired Panel, STC 56 by **Modernfold.**

B. Panel Construction:
   1. Panel Properties:
      a. Thickness With Finish: 4 inches (100 mm).
      b. Width: Equal widths.
      c. Weight: 12 lb/sq ft (59 kg/sq m).

C. Panel Finishes:
   1. Facing: Vinyl coated fabric .
      a. **Selection: Reed (Arani) 101189-513.**
   2. Exposed Metal Trim: Clear anodized.

D. Panel Seals:
   1. Modernfold Sure Set Automatic System: Top and Bottom
   2. Panel to Panel Seals: Grooved and gasketed astragals, with continuous flexible ribbed vinyl seal fitted to panel edge construction; color to match panel finish.
   3. Acoustic Seals: Flexible acoustic seals at jambs, meeting mullions, ceilings, floor and ceiling seals, and above track to structure acoustic seal.

E. Suspension System:
   1. Modernfold Smart Track suspension system

F. Performance:
   1. Acoustic Performance:
      a. Sound Transmission Class (STC): Equal to or greater than 55 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90, on panel size of 100 sq ft (9.3 sq m).
   2. Installed partition system track capable of supporting imposed loads, with maximum deflection of 1/360 of span.

G. Operation:

1. Electric Operator: 12 inches (300 mm) per second traveling speed; adjustable friction clutch brake actuated by solenoid controlled motor starter; enclosed limit switch; enclosed magnetic reversing starter.
2. Control Station: One standard keyed, three button OPEN-STOP-CLOSE type; 24 volt circuit; surface mounted.
   a. Location to be determined
   b. Key switch prepared for mortise lock cylinder.
   c. Key switches alike.
3. Safety Features:
   a. Limit Switches: Automatic type, at both extremes of travel, to prevent over-travel.
   b. Emergency Release: Mechanism to disengage motor drive system and permit manual operation.
   c. Pocket Door Interlock: Mechanism to prevent operation of panels unless storage pocket doors are fully open.
4. Electrical Requirements:
   a. See Manufacturer recommendations for motor size required for specified panel system.
   b. Disconnect Switch: Factory mount disconnect switch in control panel.

H. Accessories:
   1. Pocket Enclosures: Door, frame, and trim to match adjacent panels.

2.03 MATERIALS

A. Aluminum Extrusions: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.

B. Vinyl Coated Fabric: ASTM F793 Category VI, polyvinyl fluoride (PVC) finish for washability and improved flame retardance; color as selected by Architect from manufacturer's standard range.

C. Hardwood Plywood: Face species Beech, plain sliced, book matched, veneer core; HPVA HP-1, Front Face Grade AA, Back Face Grade 1; glue type as recommended for application.

D. Particleboard: ANSI A208.1; composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.

E. Acoustic Insulation:
   1. Type: As required for acoustic performance indicated.
   2. Thickness: As required for acoustic performance indicated.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that required utilities are available, of the correct characteristics, in proper location, and ready for use.

C. Verify track supports are laterally braced and will permit track to be level within 1/4 inch (6.4 mm) of required position and parallel to the floor surface.

D. Verify floor flatness of 1/8 inch in 10 feet (3 mm in 3 m), non-cumulative.

E. Verify wall plumbness of 1/8 inch in 10 feet (3 mm in 3 m), non-cumulative.

3.02 INSTALLATION

A. Install partition in accordance with manufacturer's instructions and ASTM E557.

B. Fit and align partition assembly level and plumb.

C. Lubricate moving components.

D. Install acoustic sealant to achieve required acoustic performance.

3.03 ADJUSTING

A. Adjust partition assembly to provide smooth operation from stacked to full open position. Do not over-compress acoustic seals.

B. Visually inspect partition in full extended position for light leaks to identify a potential acoustical leak.

C. Adjust partition assembly to achieve lightproof seal.

3.04 CLEANING

A. Clean finish surfaces and partition accessories.

3.05 CLOSEOUT ACTIVITIES

A. Demonstrate operation of partition and identify potential operational problems.

END OF SECTION

SECTION 13 34 16
PRE-ENGINEERED STRUCTURES - SOLAR FORMA

PART 1 GENERAL

1.01 SUMMARY

A. Provide required infrastructure to support ~~FUTURE~~ pre-engineered structures as shown and as specified. Comply with applicable provisions of Divisions 00 and 01.

B. Section includes pre-engineered structures for:
   1. Shade Structure

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Concrete encasement of conduits; foundation for structure.

B. Section 26 05 33.13 - Conduit for Electrical Systems.

C. Section 26 05 33.16 - Boxes for Electrical Systems.

D. Section 26 05 26 - Grounding and Bonding for Electrical Systems.

1.03 SUBMITTALS

A. See Section 01 33 23 - Submittals, for City of Madison required submittal procedures.

B. Shop Drawings: Submit shop drawing, including complete erection drawings, framing members and details, wind bracing details, column schedule, and (where applicable) provisions for accommodation of electrical equipment. Include foundation and structural design calculations. Shop drawings and design calculations shall be sealed by a professional engineer registered in the State of Wisconsin.

C. Samples: Submit color samples for selection/verification of finish colors.

D. Warranty: Submit written warranty as specified below.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Protect products after arrival at destination from weather, sunlight, and damage.

B. Store products elevated to allow air circulation and to not introduce mold, fungi decay, or insects to the product.

C. Handle products with protective straps or padded forks if lifted with mechanical equipment. Use of chain or cable to lift product into place will not be accepted.

D. To curtail warping of lumber, all units shall remain packaged while being stored.

1.05 WARRANTY

A. Structures shall have a 10-year limited warranty on steel frame members and a 10-year limited warranty on paint system.

B. For photovoltaic (PV) panels, micro inverters and other solar-related electrical equipment shall have a 10-year warranty.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

A. Pre-engineered solar powered shade structures shall be manufactured by Solar Forma Design, 1106 Mondovi Road, Eau Claire, WI 54701.

B. Representative for Solar Forma Design is Engineered Representation, Inc.
   1. Contact: Jeff Gatzow.
   2. Phone: 414-458-9074.
   3. email: jg@engineeredrepinc.com

C. Substitutions: No "or equal" products or substitutions will be allowed.

2.02 DESIGN REQUIREMENTS

A. Foundation and structural design shall be the responsibility of structure manufacturer.

B. Design, manufacture, and erection shall conform to the following code:
   1. Wisconsin Commercial Building Code (Wis. Adm. Code, chs. SPS 361 to 366).

C. Structures shall be designed to support construction loads and the structural loads as required by the referenced building code.

2.03 SHADE STRUCTURES

A. Model: Qty (1) E2 (B/17') Model. Location provided on plans .

B. Solar PV:
   1. 708 cells, min. 3.5Kw and temperature range of -40-degree C. to +65 degrees C.

C. Lighting: Internally lighted

D. Power: (1) GFI outlet per tree, by Electrical Contractor.

E. Mounting: Concrete foundation per manufacturers recommendations.

PART 3 EXECUTION

3.01 ERECTION

A. Erect structures in accordance with shop drawings and manufacturer's recommendations. Coordinate the work of other trades to facilitate the general progress of the work.

CLEAN-UP

A. Upon completion, clean panels, and other components to remove construction staining and dirt, and repair defects which might detract from visual appearance of structures.

END OF SECTION

SECTION 27 41 16
PARK PAVILION AUDIO VISUAL SYSTEM

PART 1 - GENERAL

1.01 SCOPE

A. This section includes furnishing and installing an AV system including speakers, controls and other equipment required for a complete operating system.

B. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.

1.02 SUMMARY

A. Section Includes:
1. Scope.
2. Summary.
3. Applicable Codes.
4. System Functions.
5. Quality Assurance.
6. Submittals.
7. Bill of Material.
8. General Provisions.
9. Wiring.
10. Equipment Grounding.
11. Equipment Racks.
12. Work Included.
13. Maintenance and Operation Manuals.
14. Commissioning.
15. Warranty.

B. Related Sections:
1. Section 26 05 26 – Grounding and Bonding.
2. Section 26 05 29 – Electrical Hangers and Supports.
3. Section 26 05 33.13 – Conduit for Electrical Systems.
4. Section 26 05 33.16 - Boxes for Electrical Systems.
5. Section 26 05 33.23 - Surface Raceways for Electrical Systems.
6. Section 27 00 05 - Communications Cabling
7. Section 27 41 00 - Professional Audiovisual Systems

C. All work and materials shall conform in every detail to the rules and requirements of the National Fire Protection Association, the Wisconsin Electrical Code and present manufacturing standards.

D. All materials shall be listed by UL and shall bear the UL label. If UL has no published standards for a particular item, then other national independent testing standards shall apply and such items shall bear those labels. Where UL has an applicable system listing and label, the entire system shall be so labeled.

E. Other applicable standards (plus applicable update bulletins and errata) are as follows:
1. General.
2. ANSI/IEEE C2 - National Electrical Safety Code.
3. SPS Chapter 316 – Wisconsin Dept. of Safety and Professional Services Electrical Code.
4. IEEE/ANSI 142-1982 - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

1.03 SYSTEM FUNCTIONS

A. The audiovisual system shall accept input from these sources:
1. Wireless microphones.
2. The local area network.

3. Portable devices connected via wall plate.
4. Portable devices connected via Barco click-share system.
5. The cable TV network.

B. It will provide amplified sound over ceiling speakers ~~and video displays~~ and video projectors via devices connected via wall plates or the Barco click-share system. All functions will be controlled via touch-screen wall plates located at the front of the Event Spaces. Equipment will be installed in wall rack in an adjacent Storage Room.

C. System shall sense position of folding partition and automatically combine or separate Event Space AV functions and inputs. Provide an output contact for the building automation system to inform it of the partition position. In addition, Crestron system shall be able to effect combination manually in the event of a sensor failure.

D. When a patron plugs into an HDMI jack at a wall plate or a floor box, the projector will automatically turn on and show video, **the screen will lower,** and the audio amplifier will turn on and broadcast audio without help from staff.

E. When a patron plugs an audio source into a 3.5 mm jack at a wall plate, the audio amplifier will automatically turn on and broadcast audio without help from staff.

F. These functions shall be available from the Crestron touch-screens:
1. Raise/lower Lutron shades.
2. Raise/lower projection screens.
3. Power-on projector.
4. Select sound source.
5. Select volume level.
6. Combine or separate room halves.

1.04 QUALITY ASSURANCE

A. See Section 27 41 00.

1.05 SUBMITTALS

A. See Section 27 41 00.

B. Bidder Qualifications
1. See Section 27 41 00.

PART 2 - PRODUCTS

2.01 BILL OF MATERIAL

A. See plans including sheets T701 through T704 for materials.

PART 3 – EXECUTION

3.01 GENERAL PROVISIONS

A. Contractor shall furnish all required equipment whether or not specifically mentioned in these specifications or on the drawings. Such devices shall include but not be limited to hardware, fasteners, rack screws, rack brackets, power supplies, grille covers, impedance matching devices, transformers, line pads, line amplifiers, relay and LED power supplies, and other devices as necessary to interface, control, or balance the AV systems.

B. All devices shall be capable of being shut down except the control system itself.

3.02 WIRING

A. All wiring shall be run in conduit.

B. Manufacturers minimum bend radius specifications shall be observed in all instances.

3.03 EQUIPMENT GROUNDING

A. See Section 26 05 26.

3.04 EQUIPMENT RACKS

A. All interface plates and panels must be permanently labeled or engraved. Rack blanks and vented panels shall be used in rack spaces that do not have equipment occupying them.

3.05 WORK INCLUDED

A. The following shall be the responsibility of the Contractor:
   1. Furnish and install all equipment, panels, and devices associated with the AV systems.
   2. Termination of all AV systems wiring.
   3. AC 120-volt power and wiring within AV systems equipment racks.
   4. Preparation of AV design, shop drawings, maintenance manuals, wiring diagrams and other submittals required by the individual AV system specification sections.
   5. Tests, balancing, trouble shooting, adjustments and other similar work as may be required to insure complete operating AV systems.
   6. AV training.
   7. Warranty work associated with the building audio-visual systems.

3.06 MAINTENANCE AND OPERATION MANUALS

A. See Section 27 41 00.

3.07 COMMISSIONING

A. See Section 27 41 00.

3.08 WARRANTY

A. See Section 27 41 00.

END OF SECTION

SECTION 27 51 16
LIBRARY AUDIO VISUAL SYSTEM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.

B. This section includes furnishing and installing AV systems including speakers, controls and other equipment required for complete operating systems.
   1. Local programming and Zoom-room system for the Community Room 107.
   2. Local programming and Zoom-room system for Classroom 109.

1.02 RELATED REQUIREMENTS

A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.

B. **Section 26 05 29 - Electrical Hangers and Supports**

C. **Section 26 05 33.13 - Conduit for Electrical Systems**

D. **Section 26 05 33.16 - Boxes for Electrical Systems**

E. **Section 26 05 33.23 - Surface Raceways for Electrical Systems**

F. **Section 27 00 05 - Communications Cabling**

G. **Section 27 41 00 - Professional Audio/Video Systems**

1.03 REFERENCE STANDARDS

A. NFPA 70 - National Electrical Code Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SYSTEM DESCRIPTION

A. Community Room 107
   1. Provide voice lift for local meetings.
   2. Play program material from patrons' devices on overhead speakers and flat screen displays.
   3. Participate via Zoom in remote meetings using audio from overhead ceiling microphone arrays, **wireless microphones** and a local camera.
   4. ~~Allow setup by patrons via wireless room controller.~~
   5. Facilitate future upgrade toType 1 meetings and civic engagement.
   6. These functions shall be available from the Crestron touch-screens:
      a. ~~Raise/lower Lutron shades~~
      b. Power-on flat screens
      c. Initiate Zoom meeting
      d. Select sound sources
      e. **Select device input**
      f. Select volume level

B. Classroom 109
   1. Provide voice lift for local meetings.
   2. Play program material from patrons' devices on overhead speakers and flat screen display.
   3. Participate via Zoom in remote meetings using audio from overhead ceiling microphone arrays, a wireless microphone, and local cameras.
   4. ~~Allow setup by patrons via wireless room controller.~~
   5. These functions shall be available from the Crestron touch-screen:
      a. Power-on flat screen
      b. Select sound source
      c. Select volume level
      d. Initiate Zoom meeting

C. Input components:
1. Community Room 107
a. Body pack microphones.
b. Handheld microphones.
c. Overhead ceiling microphone arrays and a local camera when in Zoom mode.
d. Patrons' devices via HDMI connection **or B connection**.
2. Classroom 109
a. ~~Handheld~~**Bodypack** microphones.
b. Overhead ceiling microphone array and local cameras when in Zoom mode.
c. Patrons' devices via HDMI connection **or USB connection**.

1.05 SUBMITTALS

A. See Section 27 41 00 - Professional Audio/Video Systems.

1.06 QUALITY ASSURANCE

A. See Section 27 41 00 - Professional Audio/Video Systems .

B. Products: Listed, classified, and labeled as suitable for the purpose intended.

1.07 BIDDER QUALIFICATIONS

A. See Section 27 41 00 - Professional Audio/Video Systems.

PART 2 PRODUCTS

2.01 BILL OF MATERIAL - COMMUNITY ROOM 107

A. See plans including sheets T701 through T704 for materials.

B. See plans including sheets T701 through T704 for materials.

2.02 BILL OF MATERIAL - CLASSROOM 109

A. Dante enabled.

2.03 AMPLIFICATION AND CONTROL EQUIPMENT

A. Microphone Inputs: Two low impedance inputs with 600 microvolt sensitivity and noise level at least 55 dB below rated output.

B. System Frequency Response: 50 to 15,000 Hz, plus or minus 2 dB.

C. System Distortion: Less than 1.5 percent, 100 to 100,000 Hz at rated power.

D. System Output: 4 ohms 25 volts.

E. Volume Controls: One for each input and one master volume.

F. Bass Control: Plus 8 dB to minus 12 dB at 50 Hz.

G. Treble Control: Plus 8 dB to minus 12 dB at 10,000 Hz.

H. Program Selector: Provide program , listen-talk, and mode selector switches.

I. System Cabinet: Console mounted.

2.04 COMPONENTS

A. Speakers: 8 inch coaxial speaker with integral crossover circuit.
1. Power Rating: 20 watts.
2. Frequency Range: 45 to 18,000 Hz.
3. Sound Pressure Level: 95 dB at 3 feet with 1 watt input.
4. Magnet: Ceramic; 10 ounces low frequency unit; 3 ounces high frequency unit.
5. Dispersion: Minus 3 dB at 90 degrees, minus 5 dB at 110 degrees.

B. Speaker Baffles and Enclosure: Round, painted steel, with uniform perforations.
1. Size: 12 inch.

2. Finish: White.
3. Speaker Backbox: Insulated with sound-deadening material.

C. Matching Transformers: Tapped from 0.5 to 4 watts in 1 watt steps, with primary/secondary ratio to match amplifier to speaker impedances.

D. Volume Pads: Transformer type rated 10 watts.

E. Microphone Cord: 20 AWG stranded copper conductor, 600 volt insulation, rated 60 degrees C, two conductor shielded cable with rubber jacket.

2.05 WIRE AND CABLE

A. Speaker Wire and Cable: 22 AWG copper conductor, 300 volt insulation, rated 60 degrees C, paired conductors twisted together shielded and covered with a PVC jacket.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Mounting Heights: Coordinate locations of outlet boxes specified in Section 26 05 33.16 to obtain mounting heights indicated.

C. Splice cable only in accessible junction boxes or at terminal block units.

D. Make cable shields continuous at splices and connect speaker circuit shield to equipment ground only at amplifier.

E. Install input circuits in separate cables and raceways from output circuits.

F. Provide protection for exposed cables where subject to damage.

G. Use armored cable for outside speaker circuits.

H. Support cables above accessible ceilings to keep them from resting on ceiling tiles. Use spring metal clips or plastic cable ties to support cables from structure for ceiling suspension system. Include bridle rings or drive rings.

I. Use suitable cable fittings and connectors.

J. Connect reproducers to amplifier with matching transformers.

K. Ground and bond equipment and circuits in accordance with Section 26 05 26.

3.02 FIELD QUALITY CONTROL

A. See Section 27 41 00.

B. Adjust transformer taps for appropriate sound level.

3.03 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. See Section 27 41 00.

3.04 CLOSEOUT ACTIVITIES

END OF SECTION

SECTION 27 51 23
FLAT SCREENS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flat screen displays in various locations to display owner generated content via the local area network.

B. NUC's to provide HDMI outputs for the displays.

C. Cabling.

D. Licenses.

E. ~~Install a City-furnished~~**At each display, provide a** ~~-~~Brightsign player and connect to displays.

1.02 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping.

B. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.

C. Section 26 05 26 - Grounding and Bonding for Electrical Systems.

D. Section 26 05 33.13 - Condit for Electrical Systems,

E. Section 26 05 53 - Identification of Electrical Systems.

F. Section 27 00 05 - Communications Cabling

G. Section 27 41 00 - Professional Audio/Video Systems

1.03 SUBMITTALS

A. Shop Drawings: Indicate cable routing and connections.

B. Product Data: For each item of equipment.

1.04 QUALITY ASSURANCE

A. Products: Listed, classified, and labeled as suitable for the purpose intended.

B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 DISPLAYS

A. Manufacturers:
   1. Samsung 65" PM-H (basis of design).
   2. Sharp.
   3. Sony
   4. Christie
   5. NEC.
   6. Philips.
   7. Panasonic.
   8. ~~Substitutions: See Section 01 60 00 - Product Requirements.~~

B. Specifications:
   1. Diagonal size: 65".
   2. Operations hours: 24/7.
   3. Resolution: 1920 x 1080 (full HD)..
   4. Type: 60 Hz E-LED BLU.
   5. Brightness: 500 nit.
   6. Viewing angle: 178:178.
   7. Contrast ratio: 4000:1.

8. Pixel pitch: 0.21 mm x 0.63 mm.
9. Display colors: (10 bit dithering) - 1.07 Billion.
10. Built-in speaker.
11. Inputs: RGB, HDMI 2.0 (2), HDCP, USB 2.0 (2).

C. Provide similar for 55" displays.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work.

B. Verify field measurements are as indicated on drawings.

C. Verify that required utilities are available, in proper location, and ready for use.

D. Beginning of installation means installer accepts conditions.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Wiring Method:
1. Use listed plenum rated cables in spaces used for environmental air.
2. Install wiring in conduit where required for rough-in, where required by authorities having jurisdiction, and where exposed to damage.
3. Conduit: Comply with Section 26 05 33.13.
4. Conceal all cables unless specifically indicated to be exposed.
5. Cables in the following areas may be exposed, unless otherwise indicated:
   a. Equipment closets.
   b. Within joists in areas with no ceiling.
6. Route exposed cables parallel or perpendicular to building structural members and surfaces.

C. Provide grounding and bonding in accordance with Section 26 05 26.

D. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

E. Identify system wiring and components in accordance with Section 26 05 53.

F. Provide all licenses necessary for displays.

G. Provide all components necessary to interface displays with Owner's program source.

3.03 FIELD QUALITY CONTROL

A. See Section 01 45 16 - Field Quality Control Procedures for City of Madison additional requirements.

B. Perform operational test on completed installation to verify proper operation.

C. Replace equipment, components, and wiring to eliminate audible noise, clicks, pops, or hum when system is in standby or operation.

3.04 ADJUSTING

A. Adjust controls and configuration switches for operation as indicated.

3.05 DEMONSTRATION

A. Provide systems demonstration and instructions. Allow minimum of one (1) hours.

END OF SECTION

SECTION 32 33 00
SITE FURNISHINGS

PART 1 GENERAL

1.01 DESCRIPTION

A. Exterior site furnishings, materials, and assemblies.

1.02 RELATED WORK AND REQUIREMENTS

A. Applicable provisions of Division 01 shall govern Work of this Section.

B. Section 03 30 00 - Cast-in-Place Concrete: for formed and poured concrete walls, backings and/or other constructions that the work in this section attaches to or relies on cast-in-place concrete for footings and/or foundations.

C. Section 13 34 16 - Pre-Engineered Structures – Solar Forma: for coordination of infrastructure for ~~future~~ solar tree.

D. Section 32 14 13.13 - Miscellaneous Landscape Surfaces: for coordination with aggregate paths and aggregate base materials and installations.

E. Section 32 13 13 - Concrete Paving: for flatwork concrete pavement surfaces that site furnishings will attach to or install on.

1.03 SUBMITTALS

A. Product Data: Manufacturer's cut sheet for each different type of premanufactured site furnishing or product listed in this section, including all components. Cut sheet should indicate final style selection, colors choices, materials, etc. consistent with this section and shall indicate if any additional selections are required of the Landscape Architect prior to ordering.

B. Warranty Certificates: For all site furnishings and products listed in this section.

C. Maintenance Data: For site furnishings and products listed in this section to include in O&M manuals.

D. Submit markup of project construction details indicating any proposed deviations from the Working Drawings; obtain approval of markups prior to construction.

1.04 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of site furnishing(s) through one source from the manufacturer indicated in this section.

B. Installer Qualifications: The installer of all site furnishings must have a minimum of 2 years of proven construction experience, be capable of assembling and building from manufacturer's assembly instructions, plan drawings and details, determine elevations and properly handle materials, including custom assemblies and constructions requiring close coordination with other contractors (for lighting, metals, concrete, etc.). All work must comply with the project drawings and approved shop drawings.

C. Preinstallation Conference: Conduct conference at Project site to verify final location and orientation of all site furnishings with Landscape Architect and City of Madison Representative in attendance prior to installation. Obtain Landscape Architect or City of Madison Representative's written sign-off prior to final installation and anchoring/placing each individual site furnishing unit.

D. Refer to each individual manufacturer for information on delivery, storage, handling, and quality assurance and conform the work of this section to any and all specific conditions of those sections.

1.05 COORDINATION

A. Coordinate installation of all site furnishings with all local codes and ordinances.

B. Coordinate with other contractors working on adjacent portions of the site and/or those whose work affects any of the custom assemblies and constructions (i.e., electrical).

C. Coordinate the ordering and delivery of all products so as to cause no delays in the overall project schedule, the work of others, or the occupancy of the project.

PART 2 PRODUCTS

2.01 MISCELLANEOUS HARDWARE

A. Anchors, Fasteners, Fittings, and Hardware: Stainless steel grade 316; commercial quality; tamperproof, vandal and theft resistant.

2.02 BIKE RACK

A. Basis of Design: Complying with the requirements, provide the following bike racks from Madrax (www.madrax.com), or approved equal:
   1. Model: PIN-2-SF. "Pin" Bike Rack, 2-bike capacity. Round tubing. 2'-2" L.
   2. Mounting Type: Surface mounted.
   3. Finish: Powdercoated by manufacturer.
   4. Color: As selected by Landscape Architect from manufacturer's standard full range.

B. Hardware: Provide manufacturer's supplied tamper-resistant stainless-steel anchors or comparable contractor-supplied stainless-steel anchors. Size shall be coordinated with pre-punched opening size for hardware in pre-manufactured units and length coordinated with the minimum embedment depths into concrete pavement

2.03 BIKE REPAIR STATION WITH PUMP

A. Bike Repair Station Basis of Design: Complying with the requirements, provide the following bike repair station from Saris Infrastructure (www.sarisinfrastructure.com), or approved equal:
   1. Model: Delux Public Work Stand, #26347BLK.
   2. Mounting Type: Surface mounted.
   3. Finish: Powdercoated by manufacturer.
   4. Color: Black.

B. Pump Accessory: Complying with the requirements, provide the following bike pump from Saris Infrastructure (www.sarisinfrastructure.com), or approved equal:
   1. Model: Outdoor Public Bike Pump with Gauge and "Long Hose" option, #26246.
   2. Finish / Color: Stainless steel, standard manufacturer's SS finish.
   3. Mounting Type: Surface mounted (floor mount) independently from the bike repair station.

C. Hardware: Contractor-supplied, tamper-resistant stainless-steel concrete anchors. Size shall be coordinated with pre-punched opening size for hardware in pre-manufactured units and length coordinated with the minimum embedment depths into concrete pavement.

2.04 GRILL, SMALL

A. Basis of Design: Complying with the requirements, provide the following small grills from Anova (www.anovafurnishings.com), or approved equal:
   1. Small Grill Model: #100PRG-SM. 10" (ht) x 20" (w) x 15" (d) firebox, heavy-duty, single adjustable rack, adjustable ADA steel park grill with 300 square inches of cooking surface and steel post with surface mount base with 360-degree swivel, and theft-proof post-to-top locking device. 34" total height when assembled (from grade).
   2. Finish / Color: Non-toxic black powdercoat.

B. Hardware: Hardware: Contractor-supplied, tamper-resistant stainless-steel concrete anchors. Size shall be coordinated with pre-punched opening size for hardware in pre-manufactured units and length coordinated with the minimum embedment depths into concrete pavement.

2.05 GRILL, MEDIUM

A. Basis of Design: Complying with the requirements, provide the following large grills from Anova (www.anovafurnishings.com), or approved equal:
   1. Medium Grill Model: #150PRG. 10" (ht) x 20" (w) x 32" (d) firebox, heavy-duty, double adjustable racks, steel park grill with 600 square inches of cooking surface and steel post supposed by a heavy-duty 4" square gusseted post and base for surface mounting. 34 1/8" total height when assembled (from grade).

2. Finish / Color: Non-toxic black powdercoat.

B. Hardware: Contractor-supplied, tamper-resistant stainless-steel concrete anchors. Size shall be coordinated with pre-punched opening size for hardware in pre-manufactured units and length coordinated with the minimum embedment depths into concrete pavement.

2.06 ASH URN

A. Basis of Design: Complying with the requirements, provide the following coal/ash urns from Petersen Manufacturing Co. (www.petersenmfg.com), or approved equal:
1. Model: #500-0715 w/ Center Anchor Hole. 35" (ht) x 22" (sq.), 30-gallon, reinforced concrete receptacle with removable steel grate and steel door for emptying; includes standard (4) 1" diameter drainage holes in bottom and a 12" square "Hot Ash Only" sign integrated into the urn.
2. Customization: Contractor shall indicate that manufacturer is required to customize the standard unit to include a full-depth, ½" dia. opening, centered in base (bottom) of each precast ash urn unit.
3. Color/Finish: Sand Tan-Smooth Concrete.

B. Hardware: Hardware: Contractor-supplied, tamper-resistant stainless-steel concrete anchors. Size shall be coordinated with pre-punched opening size for hardware in pre-manufactured units and length coordinated with the minimum embedment depths into concrete pavement.

2.07 PRECAST CONCRETE BENCHES

A. Basis of Design: Complying with the requirements, provide the following Urbastyle series, pebble-shaped precast concrete benches from Wausau Tile (www.wausautile.com), or approved equal:
1. Model: Galet, in the following size/configurations as indicated in the drawings:
   a. PCB-1: ZB.GL.01. 50" (l) x 50" (w) x 16" (ht). Color/Finish: A22 – Sand.
   b. PCB-2: ZB.GL.02. 63" (l) x 63" (w) x 19.5" (ht). Color/Finish: A23 – Grey.
   c. PCB-3: ZB.GL.03. 94" (l) x 52" (w) x 17" (ht). Color/Finish: A20 – White.
   d. PCB-4: ZB.GL.04. 96" (l) x 70" (w) x 17" (ht). Color/Finish: A26 – Charcoal.
   e. PCB-6: ZB.GL.06. 72" (l) x 72" (w) x 17 1/2" (ht). A21 – Buff.
2. Mounting Type: Freestanding (no hardware or anchors)
3. Finish: Acid wash.
4. Color: As selected by Landscape Architect from manufacturer's standard full range. Note: multiple colors may be selected.

B. Hardware: n/a.

2.08 PICNIC TABLE

A. Basis of Design: Complying with the requirements, provide the following freestanding picnic tables from Thomas Steele (www.thomas-steele.com), or approved equal:
1. Model: "Monona" freestanding picnic table, in the following size/configurations as indicated in the drawings:
   a. PT: MNTFS-8. Dining Height. 8-foot length. Metal frame with recycled plastic top. Standard configuration.
   b. PT-HC: MNTFS-8HC. Dining Height. 8-foot length. Metal frame with recycled plastic top. Accessible wheelchair configuration.
2. Mounting Type: Freestanding (no hardware or anchors)
3. Metal Finish and Color: Powdercoated finish by manufacturer. Color: Bronze.
4. Recycled Plastic Size and Color: 3" x 4" profile, recycled plastic slats. Color: Mahogany.

B. Hardware: n/a.

2.09 MOVEABLE TABLE, LARGE

A. Basis of Design: Complying with the requirements, provide the following large, moveable tables from Thomas Steele (www.thomas-steele.com), or approved equal:
1. Model: CFT-42-P-DSK 'Cafe' table, 42" diameter, with solid steel top and disk base.

2. Mounting Type: Freestanding (no hardware or anchors)
3. Finish: Powdercoated by manufacturer.
4. Color: As selected by Landscape Architect from manufacturer's standard full range.

B. Hardware: n/a.

2.10 MOVEABLE TABLE, SMALL

A. Basis of Design: Complying with the requirements, provide the following small, moveable tables from Thomas Steele (www.thomas-steele.com), or approved equal:
1. Model: TET-30-P 'Terrace' table, 30" diameter, with solid steel top and disk base.
2. Mounting Type: Freestanding (no hardware or anchors)
3. Finish: Powdercoated by manufacturer.
4. Color: As selected by Landscape Architect from manufacturer's standard full range.

B. Hardware: n/a.

2.11 MOVEABLE CHAIRS

A. Basis of Design: Complying with the requirements, provide the following stackable metal chairs with arms from Landscape Forms (www.landscapeforms.com), or approved equal:
1. Model: 'Chair 21', with arms. 25.5" x 25.75" x 32.75", stackable. Include manufacturer's bumpers/glides at each leg to resist damage from dragging on rough surfaces.
2. Mounting Type: Freestanding (no hardware or anchors)
3. Finish: Powdercoated by manufacturer.
4. Color: As selected by Landscape Architect from manufacturer's standard full range.

B. Hardware: n/a.

2.12 LITTER RECEPTACLE

A. Basis of Design: Complying with the requirements, provide the following litter receptacles from Thomas Steele (www.thomas-steele.com), or approved equal:
1. Model: 'Windsor' Receptacle.
   a. LR-T: WNTR-32-P & LID-ED-P 'Windsor' receptacles for trash with elevated dome lid. Include standard decal for trash receptacles; letter color to be selected by Landscape Architect from manufacturer's standard full range.
   b. LR-R: WNTR-32-P & LID-F-P 'Windsor' receptacles for recycling with flat lid. Include standard decal for recycling receptacles; letter color to be selected by Landscape Architect from manufacturer's standard full range
2. Mounting Type: Freestanding (no hardware or anchors).
3. Finish: Powdercoated by manufacturer.
4. Color: As selected by Landscape Architect from manufacturer's standard full range. Note: Separate colors may be selected for body of receptacles and each lid type (trash or recycling).

B. Hardware: n/a.

2.13 BOLLARD, DECORATIVE

A. Basis of Design: Complying with the requirements, provide the following decorative bollards from Forms + Surfaces (www.forms-surfaces.com), or approved equal:
1. Model: LBLHO-603-N. 'Helio', Series 600, non-illuminated outdoor bollard.
2. Mounting Type: Surface mounted with J-bolts per manufacturer's standard product offerings Finish: Powdercoated by manufacturer.
3. Color: As selected by Landscape Architect from manufacturer's standard full range.

B. Hardware: Contractor may be required to furnish and install additional stainless-steel hardware to install each bollard unit fully and completely in compliance with manufacturer's written and graphic installation instructions.

2.14 BOLLARD, UTILITY

A. Provide 6” o.d. x 8-foot length Schedule 40 galvanized steel pipe, filled with concrete and set into concrete footing at each location indicated in the drawings.

B. Polyethylene Cover: Provide high-density, 1/8” thick polyethylene bollard cover for 6” o.d. pipe.
   1. Color: Submit manufacturer’s standard full range of colors and colored/reflective tape options for final selections by Landscape Architect.
   2. Optional reflective tape and/or colored tape to be added at the request of City of Madison Representatives and/or Landscape Architect at no additional cost to the project. Up to two (2) reflective or colored strips per bollard.

C. Concrete: Refer to Section 03 30 00, “Cast-in-Place Concrete” for concrete footings.

2.15 BOLLARD, SAFETY

A. Provide 4.5” o.d. x 48" ht. steel bollard constructed of 10 ga. steel with integrally welded 8" x 8" x 1/4" steel mounting plate for surface mounting.

B. Basis of Design: Complying with the requirement, provide the following safety bollards from Global Industrial (www.globalindustrial.com), or approved equal.
   1. Model #T9F337327R, Steel Safety Bollard w/ Black Hazard Tape.
   2. Color: Safety Yellow with Black Hazard Tape.

C. Hardware: Furnish and install stainless steel anchoring hardware to match pre-drilled mounting holes in base plate of each bollard. Qty. 4 per bollard. Hardware length shall provide min. 3" embed and be specifically designed for concrete anchoring.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
   1. Proceed with installation only after unsatisfactory conditions have been corrected.
   2. Report any damage to adjacent surfaces. Do not proceed with installation until all unsatisfactory or damaged adjacent conditions have been documented and corrected.

3.02 INSTALLATION, GENERAL

A. Place or otherwise demarcate the location and orientation for each individual site furnishing unit on site and request field review from City of Madison Representative and Landscape Architect of orientation and location for all site furnishings prior to installation or placement.

B. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of all site furnishings, custom assemblies, and constructions.

C. Supply and install all hardware associated with full and complete product unit installations.

D. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed. Ensure that concrete has fully cured prior to installing any site furnishings into or setting on top of concrete pavements.

E. Install site furnishings level, plumb, true, and securely anchored (only anchoring if indicated) at locations indicated on Drawings.

F. For all surface-mounted site furnishings, ensure that furnishings are placed such that the minimum distance between anchoring hardware and edge of concrete slab is no less than 4-inches to ensure that anchoring doesn't compromise concrete pavement integrity.

3.03 INSTALLATION, PRECAST CONCRETE BENCHES

A. For Precast Concrete Benches in Landscape Areas: Prepare subgrades and aggregate base course in accordance with Section 32 14 13.13 - Miscellaneous Landscape Surfaces; Subgrade and Aggregate Base Preparation, Method A or B as indicated in the drawings.

B. For Precast Concrete Benches in Paved Areas: Examine concrete to ensure that it has fully cured.

C. Place precast concrete benches on top of prepared aggregate base or concrete pavement, depending on location, after obtaining sign off of final placement and orientation.

D. Ensure benches are level, stable and do not rock, tip or otherwise move.

3.04 PROTECTION AND REPAIR

A. Project all adjacent pavements, surfaces and landscapes from damage at all times during site furnishings storage, assembly, and installation.

B. Any and all damage to site furnishings shall be reviewed by City of Madison Representative and Landscape Architect to determine whether field repairs can be performed sufficiently to correct the damage or whether the furnishing shall be removed and replaced. Contractor is responsible for removal and replacement of any and all furnishings deemed to be damaged beyond repair at no additional cost to the City.

C. Field repair of any precast concrete units is unacceptable; contractor will be required to replace damaged precast concrete units with new units.

3.05 CLEANING

A. After completing site furnishing, custom assemblies, and constructions installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION

ADDENDUM-1
CHECKLIST

Department of Public Works
Engineering Division
James M. Wolfe, P.E., City Engineer

City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703
Phone: (608) 266-4751
Fax: (608) 264-9275
engineering@cityofmadison.com
www.cityofmadison.com/engineering

Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.

Deputy Division Manager
Kathleen M. Cryan

Principal Engineer 2
Janet Schmidt, P.E.

Principal Engineer 1
Kyle Frank, P.E.
Mark D. Moder, P.E.
Fadi El Musa Gonzalez, P.E.
Andrew J. Zwieg, P.E.

Financial Manager
Steven B. Danner-Rivers

BID SUBMITTAL CHECKLIST FOR CONTRACTOR

DO NOT ATTACH TO CONTRACT

- This bid submittal checklist is included to ensure all required documents for a complete bid submittal are present and signed as required.
- You must be prequalified prior to the bid opening date. Applications for prequalification must be submitted one week prior to the bid opening date.

Your bid submittal MUST include ALL the following applicable information completely filled out or it may be disqualified after bid opening.

☐ SECTION B: Proposal Page

☐ SECTION C: Targeted Business Enterprise Compliance Report Cover Sheet

☐ SECTION C: Targeted Business Enterprise Compliance Report Summary Sheet

☐ SECTION C: Targeted Business Enterprise Compliance Report Contact Report

☐ SECTION E: Bidder Acknowledgement (including acknowledgement of addendum/addenda if any)

☐ SECTION F: Best Value Contracting

☐ SECTION G: Bid Bond

Pursuant to Wis. Stat. Sec. 62.15(3) and Standard Specifications Sec. 102.5, no proposal shall be considered unless either (i) it is accompanied by a Bid Deposit of the character and amount described in the Advertisement for Bids or (ii) a Biennial bid bond in an amount and form acceptable to the City of Madison has been previously submitted.

Bid Deposits *SHALL* include a Bid Bond on the City of Madison Bid Bond form unless Biennial bid bond is on file with the City of Madison or unless the Bid Deposit is made by certified check. Failure to use the City of Madison Bid Bond form may be considered as sufficient for rejection of the bidder as non-responsive.

City of Madison Bond forms may be found in:

- Bid Bond: Section G of the Bid Express advertisement
- Biennial Bid Bond: link on web page http://www.cityofmadison.com/business/pw/forms.cfm

☐ SECTION H: AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS

☐ SECTION H: COMPLIANCE WITH SPECIFICATIONS/SCOPE OF WORK

☐ SECTION H: DEBARMENT AND SUSPENSION CERTIFICATION (LOWER TIER COVERED TRANSACTION)

☐ SECTION H: DEBARMENT AND SUSPENSION CERTIFICATION – PRIMARY

☐ SECTION I: ATTACHMENT 2 to ADDENDUM A: CERTIFICATION REGARDING LOBBYING

For assistance in completing any of these forms, the following staff in the Department of Public Works, Engineering Division are available to help:

Alane Boutelle, (608) 267-1197; email: aboutelle@cityofmadison.com
Johanna Johnson, (608) 264-9274; email: jjohnson@cityofmadison.com