A D D E N D U M N O. 2

PHM Science and Space Exploration Center

Penn-Harris-Madison School Corporation
Mishawaka, Indiana

Project No. 225001.00

Index of Contents

Addendum No. 2, 2 items, 1 page
Revised Drawing Sheets: A-601, AF11A, AF602, E-001, ED100, EL110, EP110, EF100, E-501, E-601, E-602, E-701, and E-702

August 21, 2025

I hereby certify that this Addendum was prepared by me or under my direct supervision and that I am a duly registered Architect/Engineer under the Laws of the State of Indiana.

FANNING/HOWEY ASSOCIATES, INC.
ARCHITECTS/ENGINEERS/CONSULTANTS

Paul A. Miller, License No. AR10800161
Expiration Date: 12/31/2025

TO: ALL BIDDERS OF RECORD

ADDENDUM NO. 2 to Drawings and Project Manual, dated June 30, 2025, for Penn-Harris-Madison School Corporation, 55900 Bittersweet Road, Mishawaka, Indiana 46545; as prepared by Fanning/Howey Associates, Inc., Indianapolis, Indiana.
This Addendum shall hereby be and become a part of the Contract Documents the same as if originally bound thereto.

The following clarifications, amendments, additions, revisions, changes, and modifications change the original Contract Documents only in the amount and to the extent hereinafter specified in this Addendum.

Each bidder shall acknowledge receipt of this Addendum in his proposal or bid.

NOTE: Bidders are responsible for becoming familiar with every item of this Addendum. (This includes miscellaneous items at the very end of this Addendum.)

RE: ALL BIDDERS

ITEM NO. 1. PROJECT MANUAL, SECTION 08 71 00 – DOOR HARDWARE

A. Article 3.05: Replace Door Hardware Group No. 18 as follows:

Hardware Group No. 18

For use on Door #(s):
101

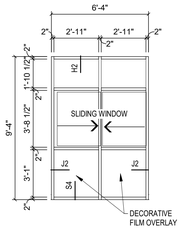
Provide each OPENING with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
2	EA	CONT. HINGE	112XY		628	IVE
1	SET	DEADBOLT, 2-PT, ALD	MS1850S X 4085 HEADER BOLT		628	ADA
1	EA	MORTISE ADA CYL TURN, AR CAM	09-9XX NH 118 XB11-720(ADA) B502-292(AR CAM) X COLLAR AS REQ'		626	SCH
~~2~~	~~EA~~	~~MORTISE CYL HOUSING (SFIC)~~	~~80-110 (W/ DISP CONST CORE)~~		~~626~~	~~SCH~~
1	EA	MORTISE CYL HOUSING (SFIC), AR CAM	80-111 (W/ DISP CONST CORE)		626	SCH
1 ~~(2)~~	EA	PERMANENT CORE	MATCH EXISTING SYSTEM		626	MBS
2	EA	DOOR PULL, 3/4" RND	8102HD 6" STD (MOUNT BELOW DEADBOLT)		630	IVE
2	EA	OH STOP	100S		630	GLY

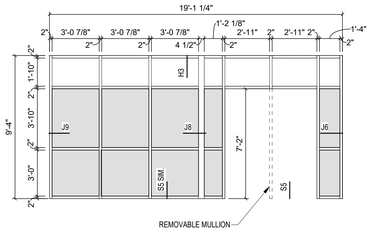
ITEM NO. 2. REVISED DRAWING SHEETS:

A. Drawing Sheets: A-601, AF11A, AF602, E-001, ED100, EL110, EP110, EF100, E-501, E-601, E-602, E-701, and E-702 have been revised, dated 8/21/25, and are included with and hereby made a part of this Addendum. These Drawings supersede the original documents.

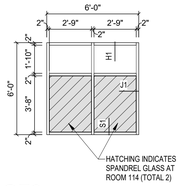
END OF ADDENDUM



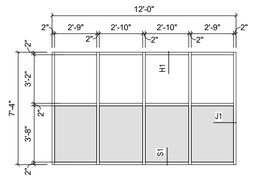
SF1
SCALE: 1/4" = 1'-0"



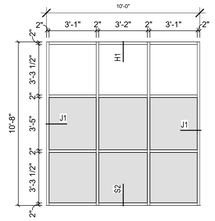
SF2
SCALE: 1/4" = 1'-0"



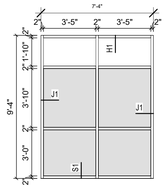
SF3
SCALE: 1/4" = 1'-0"



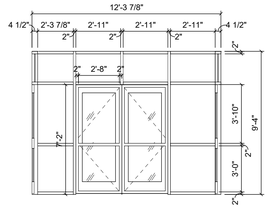
SF4
SCALE: 1/4" = 1'-0"



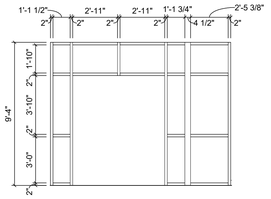
SF5
SCALE: 1/4" = 1'-0"



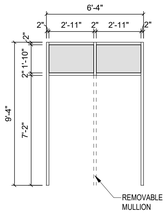
SF6
SCALE: 1/4" = 1'-0"



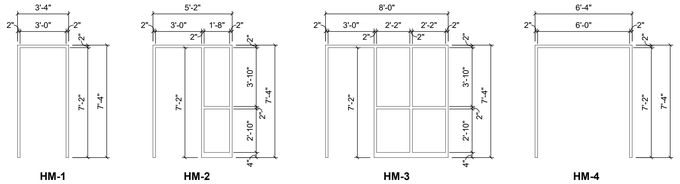
SF7
SCALE: 1/4" = 1'-0"



SF8
SCALE: 1/4" = 1'-0"



SF9
SCALE: 1/4" = 1'-0"

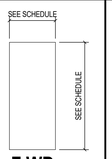


(HM) HOLLOW METAL FRAME ELEVATIONS
SCALE: 1/4" = 1'-0"

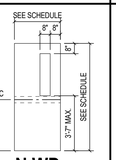
DOOR AND FRAME SCHEDULE

DOOR MARK	DOORS		FRAME						FIRE RATING	HARDWARE		REMARKS	DOOR MARK
	DOOR SIZE (WxH)	DOOR TYPE	FRAME MATERIAL	FRAME ELEVATION	JAMB DEPTH	DETAILS HEAD	DETAILS JAMB	DETAILS SILL		SET NO.	KEYSIDE ROOM		
100	PR 3'-0" x 7'-2"	FGAL2	AL	SF2	4 1/2"	H3	J6,J8,J9	S2,S5		14	EXT	ELECTRONIC ACCESS, REMOVEABLE MULLION	100
100A	PR 3'-0" x 7'-2"	FGAL2	AL	SF8	4 1/2"	H2	J2	S4		01	103		100A
101	PR 3'-0" x 7'-2"	FGAL	AL	SF7	4 1/2"	H8	J7, J8	S4		18	100		101
102	3'-0" x 7'-2"	F WD	HM	HM-3	8 3/8"	H5	J3	S6		05	103		102
103	3'-0" x 7'-2"	FG2 WD	HM	HM-2	9"	H5	J3	S6		13	103	ELECTRONIC ACCESS	103
104	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			12	103	ELECTRONIC ACCESS	104
105	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			04	110		105
106	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			04	110		106
108	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			04	110		108
109	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			04	110		109
111A	3'-6" x 7'-2"	F WD	HM	-	5 3/4"	H4	-	-		02	111	SEE SPECS AND KEYNOTE 3 ON SHEET A-11A	111A
111B	3'-6" x 7'-2"	F WD	HM	-	5 3/4"	H4	-	-		02	111	SEE SPECS AND KEYNOTE 3 ON SHEET A-11A	111B
112	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			09	110		112
113	3'-0" x 7'-2"	F WD	HM	HM-1	5 3/4"	H5	J3			08	113		113
114	PR 3'-0" x 7'-2"	F FRP	AL	SF9	4 1/2"	H1	J1	S5		15	EXT	ELECTRONIC ACCESS, REMOVEABLE MULLION	114
115	3'-0" x 7'-2"	F HM	HM	HM-1	1'-0 3/4"	H7	J5		3 -HR	16	115		115
115A	3'-0" x 7'-2"	F HM	HM	HM-1	1'-0 3/4"	H7	J5		3 -HR	06	112		115A
115B	3'-0" x 7'-2"	F WD	HM	HM-1	8 3/8"	H5	J3	-		13	116	ELECTRONIC ACCESS	115B
116A	PR 2'-10" x 7'-2"	F HM	HM	HM-4	1'-0 3/4"	H6	J4		3 -HR	17	EXT	ELEC WALL MAGS	116A
201A	3'-0" x 7'-0"	F HM	HM	HM-1	1'-0 3/4"	H7	J5		3-HR	07	201		201A
203	PR 3'-0" x 7'-2"	F HM	HM	HM-4	5 3/4"	H5	J3			03	201		203
204	PR 3'-0" x 7'-2"	F HM	HM	HM-4	5 3/4"	H5	J3			11	201		204

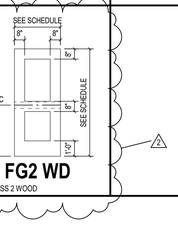
WOOD DOORS



F WD
FLUSH DOOR

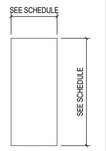


N WD
NARROW LITE



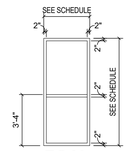
FG2 WD
FULL GLASS 2 WOOD

FRP DOORS

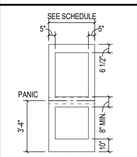


F FRP
FLUSH DOOR

ALUMINUM DOORS

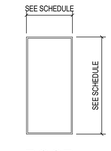


FGAL
FULL GLASS

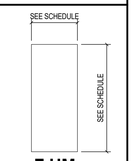


FGAL2
FULL GLASS 2

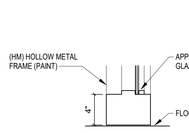
OTHER



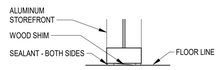
DCGD
DISPLAY CASE GLASS DOOR



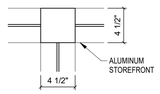
F HM
FLUSH DOOR (HOLLOW METAL 3-HR)



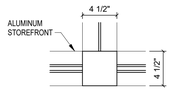
S6 SILL - HOLLOW METAL
SCALE: 1 1/2" = 1'-0"



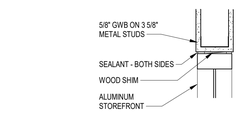
S4 SILL - STOREFRONT
SCALE: 1 1/2" = 1'-0"



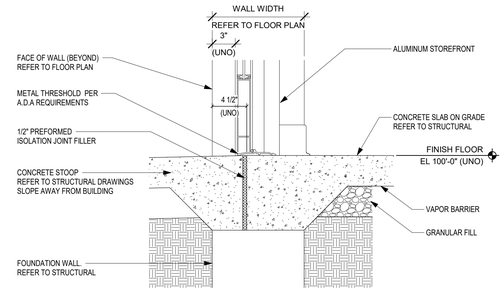
J7 JAMB - STOREFRONT
SCALE: 1 1/2" = 1'-0"



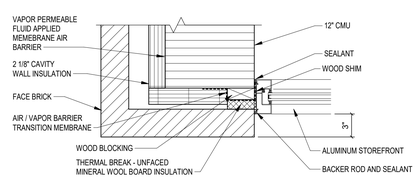
J8 JAMB - STOREFRONT
SCALE: 1 1/2" = 1'-0"



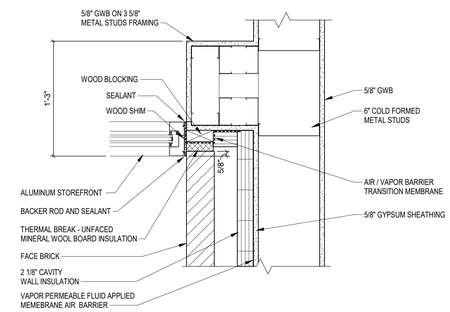
H8 HEAD - STOREFRONT
SCALE: 1 1/2" = 1'-0"



S5 JAMB - STOREFRONT
SCALE: 1 1/2" = 1'-0"



J9 JAMB - STOREFRONT
SCALE: 1 1/2" = 1'-0"



J6 JAMB - STOREFRONT
SCALE: 1 1/2" = 1'-0"

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORTATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300, INDIANAPOLIS, IN 46204

CONSTRUCTION DOCUMENTS

PAUL A. MILLER REGISTERED No. AR10800161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: MKS
DRAWN BY: AMS,BS,RLG
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

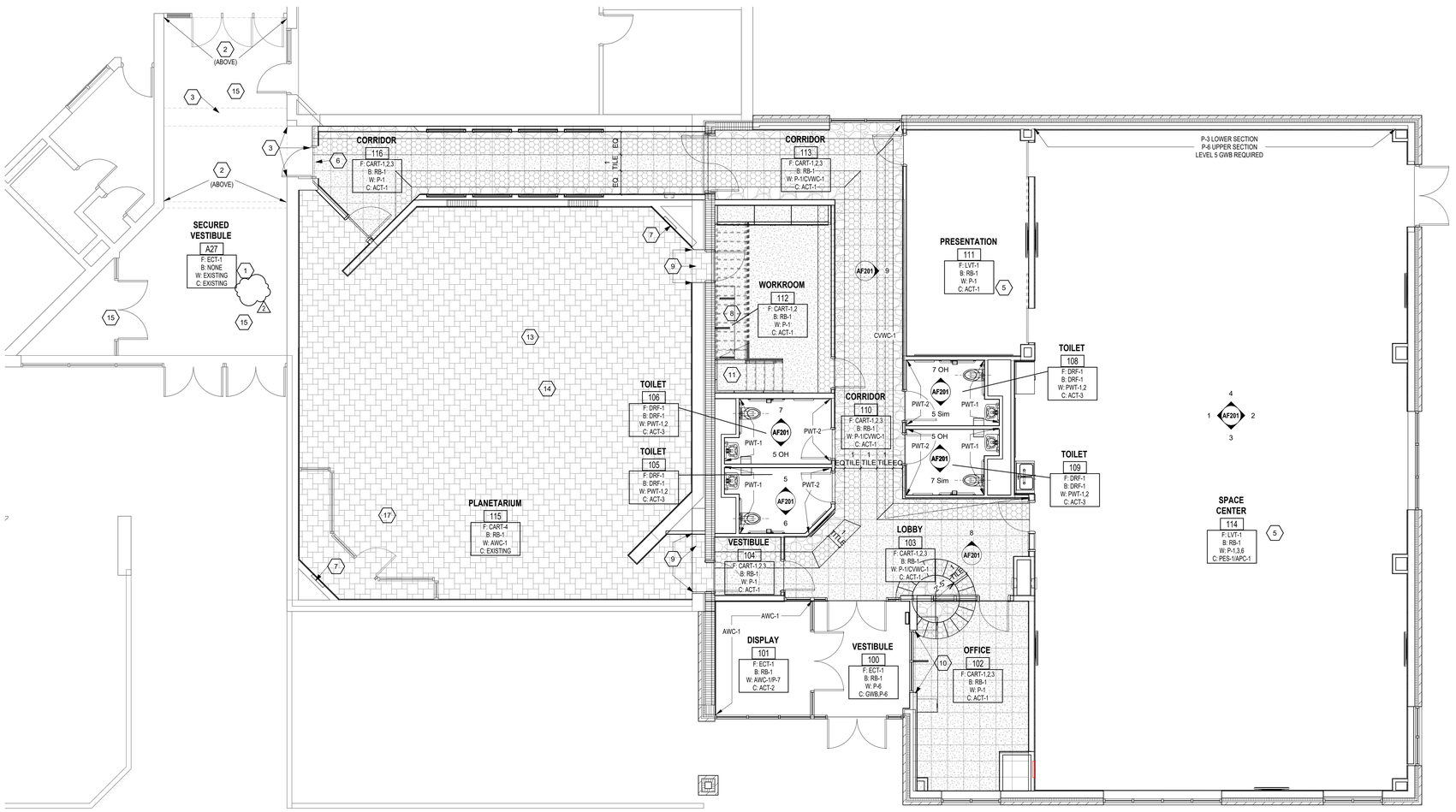
REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	08/7/2025

DOOR AND FRAME SCHEDULE

A-601

ROOM LEGEND

ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
100		VESTIBULE	117 SF
101		DISPLAY	113 SF
102		OFFICE	204 SF
103		LOBBY	222 SF
104		VESTIBULE	40 SF
105		TOILET	63 SF
106		TOILET	66 SF
108		TOILET	57 SF
109		TOILET	57 SF
110		CORRIDOR	206 SF
111		PRESENTATION	284 SF
112		WORKROOM	223 SF
113		CORRIDOR	135 SF
114		SPACE CENTER	2,553 SF
115		PLANETARIUM	1,495 SF
116		CORRIDOR	271 SF
A26		OFFICE	694 SF
A27		SECURED VESTIBULE	503 SF
A28		CONFERENCE	172 SF
A29		PRINCIPAL	150 SF
A32		PE STORAGE	287 SF
A33		TOILET	46 SF
A34		PE OFFICE	103 SF
A38		COURTYARD	796 SF



GENERAL FINISH NOTES

A. FIXED CASEWORK AND TACKBOARDS SHALL REMAIN IN PLACE (UNO). NEW WALL FINISHES SHALL BE INSTALLED AROUND THESE ITEMS.
B. SEALANT SHALL BE APPLIED AT ALL MATERIAL TRANSITIONS, BACKSPLASHES, AND DOOR FRAMES. ALL LOCATIONS WHERE NEW FINISH ABUTS A DISSIMILAR MATERIAL.
C. REMOVE AND REINSTALL EXISTING DEVICE FACEPLATES, SWITCH FACEPLATES, TECHNOLOGY FACEPLATES, AND CLOCKS.
D. EXISTING ITEMS TO REMAIN AND NEW FINISHES APPLIED AROUND INCLUDE BUT NOT LIMITED TO THERMOSTATS, AND FIRE EXTINGUISHER CABINETS (UNO).
E. RESILIENT TRANSITION STRIP BETWEEN NEW FLOOR FINISH AND EXISTING FLOOR FINISH.
F. PROVIDE NEW RESILIENT TRANSITION STRIPS AT EXPOSED EDGE OF NEW FLOOR FINISH TO EXISTING FLOOR FINISH.
G. PAINT ALL SIDES (VERT. AND HORZ.) OF BULKHEAD/SOFFIT COLOR INDICATED (UNO).
H. EXISTING INTERIOR DOOR FRAMES ARE TO REMAIN. DO NOT PAINT, UNLESS NOTED OTHERWISE.
I. PAINT ALL NEW INTERIOR DOOR FRAMES TO MATCH EXISTING DOOR FRAME COLOR. PAINT ON ALL FACES (PAINT CODE #5.12).
J. PATCH AND REPAIR ALL HOLES AND IMPERFECTIONS, TO RECEIVE NEW FINISHES.

FLOOR PATTERN/FINISH KEY NOTES

(X)

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

NO.	DESCRIPTION
1	PAINT ALL EXISTING CONDUIT IN THIS ROOM TO MATCH ADJACENT SURFACE.
2	EXISTING MURAL TO REMAIN. DO NOT PAINT.
3	REPAINT ALL SIDES OF GWB BULKHEAD P-5. IF MURAL IS PRESENT DO NOT PAINT OVER MURAL.
4	NO FINISH WORK.
5	ALTERNATE: FLOORING TO BE POLISHED CONCRETE.
6	PAINT THIS SIDE OF FRAME P-2.
7	PAINT OUTSIDE AND VISIBLE PORTION OF INSIDE OF MECHANICAL CHASE P-7.
8	CONTINUE CART-1 UNDER STAIRS.
9	WRAP AWC AROUND ALL SIDES AND TOP OF OPENING. CARPET TRANSITION TO OCCUR UNDER DOOR.
10	DFO. SEE 5/AQ11A.
11	INSTALL RTR/RFT/RSA AT STAIRS.
12	PAINT THIS SIDE OF DOOR AND FRAME P-6.
13	REMOVE EXISTING SEATING AND REINSTALL AFTER FLOOR FINISH IS COMPLETED.
14	COORDINATE FLOOR FINISH WITH EXISTING FLOOR BOXES TO REMAIN.
15	PROVIDE SELF-LEVELING UNDERLAYMENT TO FLUSH EXISTING QUARRY TILE FLOOR FOR ECT INSTALLTION.
16	NOT USED. (2)
17	AWC TO ABUT EXISTING DISPLAY FRAME TO REMAIN.

FLOOR PATTERN LEGEND

- CART-1
- CART-2
- CART-3
- CART-4

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORTATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300, INDIANAPOLIS, IN 46204

CONSTRUCTION DOCUMENTS

PAUL A. MILLER REGISTERED No. AR10800161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: MKS
DRAWN BY: MKH
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	08/??/2025

FIRST FLOOR FINISH PLAN - UNIT A

AF11A

1 FIRST FLOOR FINISH PLAN - UNIT A

SCALE: 3/16" = 1'-0"

LIST OF FINISHES

REFER TO AF&AQ DWG. SHEETS

FLOOR MATERIALS

CARPET TILE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
CART-1 (FIELD)	INTERFACE "FLAT ROCK"	107318 NATURAL TRAIL, 50CMx50CM
CART-2 (TRANSITION)	INTERFACE "BRIDGE CREEK"	107322 NATURAL EDGE, 50CMx50CM
CART-3 (EDGE)	INTERFACE "MOUNTAIN ROCK"	107326 NATURAL PEAK, 50CMx50CM
CART-4 (PLANETARIUM)	INTERFACE "MILE ROCK"	107315 FOSSIL MICA, 50CMx50CM

- CART-2 IS DIRECTIONAL AND SHALL BE INSTALLED TO TRANSITION.
- ALL CARPET BACKING TO HAVE A MOISTURE RESISTANT BARRIER.
- INSTALLATION METHOD TO BE MONOLITHIC.
- SUBMIT INSTALLATION DRAWINGS INDICATING LAYOUT OF CARPET TILE PRIOR TO INSTALLATION FOR APPROVAL.

ENTRANCE CARPET TILE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
ECT-1	INTERFACE "SR899"	104938 SMOKE, 50CMx50CM

- INSTALLATION METHOD TO BE MONOLITHIC.

DECORATIVE RESINOUS FLOORING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
DRF-1	REFER TO SPECIFICATIONS	MATCH SHERWIN WILLIAMS "METEOR SHOWER"

- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- COORDINATE COLOR SELECTION/VERIFICATION WITH ARCHITECT.
- MANUFACTURER TO SUBMIT ACTUAL PRODUCT SAMPLES AFTER SELECTION OF ALL DRF COLORS FOR VERIFICATION AND APPROVAL.

RESILIENT TREADS & RISERS/ RUBBER FLOOR TILE/ RESILIENT STAIR ACCESSORIES

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
RTR/ RFT/ RSA-1	JOHNSONITE	BURNT UMBER, RAISED SQUARE

- VISUALLY IMPAIRED CONTRASTING STRIP ON TREADS TO BE PHOTOLUMINESCENT AND HAVE A SMOOTH, NON-GRIT FINISH.
- RUBBER TILE TO HAVE A RAISED SQUARE TEXTURE.

POLISHED CONCRETE FLOORING (ALTERNATE)

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
PCF-1 (CLEAR)	REFER TO SPECIFICATIONS	SALT & PEPPER, SATIN FINISH

SEALED CONRETE FLOORING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
FS-1	REFER TO SPECIFICATIONS	CLEAR

RESILIENT TILE FLOORING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
LVT-1	INTERFACE "SCORPIO"	A01713 PEBBLE, 50CMx50CM

BASE MATERIALS

RESILIENT BASE (COVE BASE)

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
RB-1	JOHNSONITE	BURNT UMBER
	FLEXCO	MATCH JOHNSONITE
	NORA	MATCH JOHNSONITE
	ROUNDEL	MATCH JOHNSONITE

DECORATIVE RESINOUS FLOORING (INTEGRAL COVE BASE)

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
DRF-1	REFER TO SPECIFICATIONS	MATCH DRF-1 FLOORING

CEILING FINISHES

ACOUSTICAL CEILING TILE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
ACT-1 (WHITE)	REFER TO SPECIFICATIONS	2'X2', WHITE, SQUARE EDGE
ACT-2 (BLACK)	REFER TO SPECIFICATIONS	2'X2', BLACK, SQUARE EDGE
ACT-3 (RESTROOMS)	REFER TO SPECIFICATIONS	2'X2', WHITE, SQUARE EDGE

ACOUSTICAL PANEL CEILING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
APC-1	ARMSTRONG "FELTWORKS PANELS"	BLACK, 2", REFER TO DRAWINGS FOR PANEL SIZE
	AUTEX "QUIETSPACE PANEL"	BLACK WITH VERTIFACE COLOR OVERLAY, REFER TO DRAWINGS FOR PANEL SIZE

PAINTED EXPOSED STRUCTURE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
PES-1 (DARK)	SHERWIN WILLIAMS	TO BE SELECTED
PES-2 (WHITE)	SHERWIN WILLAIMS	TO BE SELECTED

WALL FINISHES

PAINT

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
P-1 (FIELD)	SHERWIN WILLIAMS	SW7029 AGREEABLE GREY
P-2 (FRAMES)	SHERWIN WILLIAMS	SW7674 PEPPERCORN
P-3 (PROJECTION)	SHERWIN WILLIAMS (FLAT)	SW7006 EXTRA WHITE
P-4 (MARKER)	- NOT UESED -	
P-5 (CEIL/BULK)	SHERWIN WILLIAMS	TO BE SELECTED
P-6 (DARK)	SHERWIN WILLIAMS	TO BE SELECTED
P-7 (MATCH AWC)	SHERWIN WILLIAMS	TO BE SELECTED

PORCELAIN WALL TILE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
PWT-1 (GREY)	DALTILE "SCRAPBOOK"	SB38 MEMORY GRAY ASANOHA, 8"x8" HEX
PWT-2 (WHITE)	DALTILE "SCRAPBOOK"	SB30 ALBUM WHITE, 8"x8" HEX

CUSTOM VINYL WALL COVERING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
CVWV-1	LEVEL WALL COVERING	L14-1603MW STARRY NIGHT - OYSTER TURQUOISE TYPE II SMOOTH SILVER VINYL WALLCOVERING SAGAN QUOTE

ACOUSTICAL WALL COVERING

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
AWC-1	MOMENTUM "TRANQUILITY WC"	2ATR-54 SILHOUETTE

MISCELLANEOUS FINISHES

INTERIOR WOOD DOORS/ INTERIOR WOOD TRIM

- STAIN ALL WOOD DOORS, WOOD TRIM, ETC. TO MATCH EXISTING FROM MANUFACTURER'S STANDARD COLORS. 2
- WOOD SPECIES TO BE PLAIN SLICED RED OAK.
- PROVIDE WOOD STAIN SAMPLES FOR VERIFICATION.

GROUT

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
GT-1 (PWT-1)	LATICRETE MAPEI TEC HYDROMENT	ARCHITECT TO SELECT FROM MANUFACTURER'S FULL RANGE OF STANDARD AND DESIGNER COLORS

RESILIENT MOLDING ACCESSORIES

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
RMA-1	JOHNSONITE	BURNT UMBER
	NORA	MATCH JOHNSONITE
	FLEXCO	MATCH JOHNSONITE
	ROUNDEL	MATCH JOHNSONITE

DECORATIVE WINDOW FILM

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
DFO-1	3M FILMS FASARA	MILKY - WHITE

EQUIPMENT MATERIALS

HP PLASTIC LAMINATE

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
PL-1	FORMICA	CITADEL MICRODOT 1097-MC

SOLID SURFACE MATERIAL

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
SSM-1 (COUNTERS)	LG HI-MACS	TERRAZZO LUNA Q004
SSM-2 (SILLS)	LG HI-MACS	TERRAZZO LUNA Q004

ROLLER WINDOW SHADES

MATERIAL ABBREVIATION	MATERIAL/MANUFACTURER	COLOR SELECTION
RWS-1	REFER TO SPECIFICATIONS "3% OPEN"	ARCHITECT TO SELECT FROM MANUFACTURER'S FULL RANGE OF STANDARD AND DESIGNER COLORS
ERWS-1	REFER TO SPECIFICATIONS "BLACKOUT"	ARCHITECT TO SELECT FROM MANUFACTURER'S FULL RANGE OF STANDARD AND DESIGNER COLORS

MARKER WALL

WHITE, PROJECTABLE AND INTERACTIVE PROJECTION COMPATIBLE. MAGNETIC. SATIN-GLOSS, SIGNAL WHITE FRAME

KICKPLATES

STAINLESS STEEL

MATERIAL & FINISH GENERAL NOTES

GENERAL

A. REFER TO FINISH PLAN DRAWINGS AND DETAILS (AF SERIES) FOR MATERIALS, PATTERNS AND COLORS.
B. REFER TO AF601 FOR TRANSITION DETAILS.

FLOORING

A. CENTER FLOORING TILE AND PATTERN IN ROOM UNLESS OTHERWISE INDICATED ON FINISH PLANS.
B. ALIGN EDGE OF FINISHED FLOOR MATERIAL WITH EDGE OF WALL OR CASEWORK.
C. FLOOR FINISH MATERIAL TRANSITIONS SHALL OCCUR UNDER THE CENTER OF THE DOOR UNLESS OTHERWISE INDICATED, WHERE THE FLOORING MATERIAL CHANGES FROM ROOM TO ROOM.
D. EXTEND FLOOR MATERIAL AND PATTERN UNDER ALL OPEN TO THE FLOOR CASEWORK AND FURNITURE.
E. COORDINATE CONTROL JOINTS IN CONCRETE SLAB WITH STRUCTURAL DRAWINGS AND FINISH FLOORING INSTALLER.
F. REFER TO FLOOR PLANS, RESTROOM ENLARGED PLANS, PLUMBING DRAWINGS, ETC. FOR FLOOR DRAIN LOCATIONS.
G. PROVIDE RSA ON ALL STAIRS. INCLUDE SQ (RAISED SQUARE FINISH) ON ALL STAIR LANDINGS. REFER TO FINISH PLANS FOR MATERIAL/COLOR TO BE INSTALLED.
H. AT BUILDING EXPANSION JOINTS (IF APPLICABLE) PROVIDE PRE-FABRICATED MOVEMENT PROFILE SYSTEM IN MORTAR BED. PROVIDE SCHLUTER DILEX-EDP OR APPROVED EQUAL. TYPICAL AT ALL LOCATIONS.

RESILIENT TILE

A. ALL RESILIENT TILE PATTERNS TO BE INSTALLED ASHLAR.

CARPET TILE

A. ALL CARPET TILE TO BE INSTALLED MONOLITHICALLY FOR ALL SPECIFIED TYPES/COLORS.

PORCELAIN WALL TILE

A. WALL TILE PATTERN SHOULD INCLUDE TILE CUTS ONLY AT WALL BENDS/CORNERS.
B. USE SCHLUTER QUADEC AT ALL OUTSIDE CORNERS WITH TILE WALLS.

WALL BASE

A. RUBBER BASE (RB-1) TO BE INSTALLED AT ALL RESILIENT TILE, CART, RT, PCF, ECT AND FS LOCATIONS UNLESS OTHERWISE INDICATED. ALL RB BASE TO BE COVED.

PAINT & STAIN

A. PAINT ALL WALLS UNLESS OTHERWISE INDICATED ON FINISH PLANS.
B. PAINT ONCE MOCK-UP CLASSROOM TO RECEIVE ARCHITECT'S APPROVAL PRIOR TO ORDERING PAINT FOR THE ENTIRE BUILDING.

PAINT TYPE GENERAL NOTES

A. UNDER SECTION 099123 - INTERIOR PAINTING, PAINT EXPOSED PIPES, DUCTWORK, BREACHING, CONDUIT, INSULATED PIPES, CONDUIT HANGERS, SUPPORTS, BRACING, ETC., WHICH OCCURS IN SPACES DESIGNATED TO BE PAINTED IN PART OR WHOLE.
B. PAINTING AND FINISHING OF EXTERIOR SURFACES AS DESIGNATED. DETAILS SHALL BE UNDER THE WORK SECTION 0991113 - EXTERIOR PAINTING.
C. ALL GYPSUM BOARD WALLS SHALL BE PAINTED WITH INTERIOR PAINT TYPE #9.22 (EGGSHELL) UNLESS OTHERWISE INDICATED.
D. ALL GYPSUM BOARD CEILINGS AND SOFFITS SHALL BE PAINTED WITH PAINT TYPE #9.21 (FLAT) UNLESS OTHERWISE INDICATED.
E. PAINT ALL NON-INTEGRALLY COLORED CMU WALLS WITH INTERIOR PAINT TYPE #4.14 (SEMI-GLOSS), UNLESS OTHERWISE INDICATED.
F. IN THE FOLLOWING ROOMS PAINT WITH PAINT CODE #9.212 (EPOXY-SEMI-GLOSS). REFER TO SECTION 099600 - HIGH PERFORMANCE COATINGS. **[100,103,104,110,113,116]**
G. ALL FERROUS METAL (EXCLUDING STRUCTURE) SHALL BE PAINTED INTERIOR PAINT TYPE #5.12.
H. ALL GALVANIZED METAL (EXCLUDING STRUCTURE) SHALL BE PAINTED INTERIOR PAINT TYPE #5.32.
I. ALL EXPOSED STEEL (FERROUS) STRUCTURE SHALL BE PAINTED INTERIOR PAINT TYPE #5.11.
J. ALL EXPOSED GALVANIZED-METAL STRUCTURE SHALL BE PAINTED INTERIOR PAINT TYPE #5.31.
K. ALL WALLS ARE TO RECEIVE AN EGGSHELL FINISH AND ALL CEILINGS/BULKHEADS ARE TO RECEIVE A FLAT FINISH.

PAINT COLOR GENERAL NOTES

A. ALL INTERIOR WALLS SHALL BE PAINTED P-1, UNLESS OTHERWISE INDICATED ON FINISH PLANS OR INTERIOR ELEVATIONS.
B. PAINT ALL EXPOSED STEEL ON STAIRS, RAILS, AND STRINGERS P-2.
C. PAINT ALL GWB SOFFITS P-5 UNLESS OTHERWISE NOTED ON FINISH PLANS OR INTERIOR ELEVATIONS.
D. PAINT ALL SIDES (HORIZ. AND VERT.) OF SOFFIT INDICATED COLOR, UNLESS OTHERWISE NOTED.
E. PAINT ALL PAINTED EXPOSED CEILINGS AND GYPSUM BOARD CEILINGS P-5 UNLESS OTHERWISE NOTED ON FINISH PLANS, CEILING PLANS, OR INTERIOR ELEVATIONS.
F. ALL INTERIOR HOLLOW METAL FRAMES AND DOOR FRAMES TO BE PAINTED P-2 UNLESS OTHERWISE NOTED.
G. ALL EXPOSED INTERIOR STEEL COLUMNS SHALL BE PAINTED TO MATCH ADJACENT WALL COLOR, UNLESS OTHERWISE INDICATED ON INTERIOR ELEVATIONS OR FINISH PLANS.
H. STAIN ALL WOOD TRIM/ RAILS/ DOORS/ ETC. TO MATCH EXISTING WOOD DOORS.

EQUIPMENT MATERIAL & FINISH GENERAL NOTES

A. EDUCATION CASEWORK FINISHES ARE AS FOLLOWS:
   - HIGH PRESSURE PLASTIC LAMINATE COUNTERTOPS AND WORKSURFACES ARE TO BE SSM-1, UNLESS OTHERWISE NOTED.
   - HIGH PRESSURE PLASTIC LAMINATE CABINETS/VERTICAL SURFACES ARE TO BE PL-1, UNLESS OTHERWISE NOTED.
   - INTERIOR MELAMINE TO BE WHITE
   - 3MM AND 1MM PVC EDGES ON CASEWORK ARE TO MATCH PL-1.
   - HANDLES TO BE BRUSHED CHROME.
   - HINGES TO BE BRUSH CHROME.
   - GROMMETS TO BE GRAY.

B. PROVIDE POWDER COAT FRAME AND FABRIC FINISHED TACKABLE WALL SURFACE IN CARNEGIE XOREL METEOR 6427 766 (TB-1), IN ALL DISPLAY CASES.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORTATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300, INDIANAPOLIS, IN 46204

CONSTRUCTION DOCUMENTS

PAUL A. MILLER REGISTERED No. AR10800161 STATE OF INDIANA ARCHITECT

PROJECT MANAGER: MKS
DRAWN BY: MKH
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	ADDENDUM 2	08/??/2025

LIST OF FINISHES

AF602

ELECTRICAL ABBREVIATIONS

ABBREVIATIONS USED ON THE CONTRACT DOCUMENTS, INCLUDE BUT ARE NOT LIMITED TO THOSE LISTED BELOW

#	NUMBER
(N)P(N)W	NUMBER OF POLES, NUMBER OF WIRES
ACU	AIR CONDITIONING UNIT
AF	AMP FRAME
AFC	ABOVE FINISHED COUNTERTOP
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLER UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AID	ADDRESSABLE INTERFACE DEVICE
AR	AS REQUIRED
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
A/V	AUDIO VISUAL
B	BLANK
BPS	BOLTED-PRESSURE CONTACT SWITCH
C	CONDUIT (GENERIC TERM FOR RACEWAY, PROVIDE AS SPECIFIED)
CAM	CAMERA
Cd	CANDELA
CKT	CIRCUIT
CL	LIGHTING CONTACTOR
CLG	CEILING MOUNTED
COL	COLUMN
CMF	COMBINATION MOTOR FUSIBLE STARTER
CUH	CABINET UNIT HEATER
D	DEMO TABLE
DC	DIRECT CURRENT
DED	DEDICATED DEVICE ON INDIVIDUAL BRANCH CIRCUIT
DF	DUAL FACE
DIA	DIAMETER
DISTR	DISTRIBUTION
DPST	DOUBLE POLE SINGLE THROW
DPDT	DOUBLE POLE DOUBLE THROW
DT	DUST-TIGHT
EBJ	EQUIPMENT BONDING JUMPER ON LOAD SIDE OF AN OVER-CURRENT DEVICE
EC	ELECTRICAL CONTRACTOR
EM	WIRED ON EMERGENCY CIRCUIT
EOL	END OF LINE
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EX	EXISTING
F	FLUSH
F@	FUSED AT
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS
FCU	FAN COIL UNIT
FDN	FOUNDATION
FPB	FAN POWERED BOX
FRE	FIBERGLASS REINFORCED EPOXY CONDUIT
FS	FLOW SWITCH
H-O-A	HAND-OFF-AUTO
HTP	HEAT PUMP
KEC	KITCHEN EQUIPMENT CONTRACTOR
K/O	KNOCK-OUT
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
LS	LIMIT SWITCH
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT TRIP ADJUSTMENTS TO BE PROVIDED ON A CIRCUIT BREAKER
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TV
MBJ	MAIN BONDING JUMPER
MC/ER	MAIN CROSS-CONNECT/EQUIPMENT ROOM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
M.H.	MANHOLE (ON SITE PLAN)
MH	MOUNTING HEIGHT (ON PLAN), ALL MOUNTING HEIGHTS FOR DEVICE BOXES ARE FROM FINISHED FLOOR TO BOTTOM OF BOX, UNO. VERIFY OUTLET LOCATIONS WITH OTHER TRADES BEFORE ROUGH-IN
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DISCONNECT SWITCH
MOCP	MAXIMUM OVER-CURRENT PROTECTION
MSB	MAIN SWITCHBOARD
MSC	MOTOR STARTER CENTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MZU	MULTI-ZONE HVAC UNIT
N	GROUNDED CIRCUIT CONDUCTOR (NEUTRAL)
+N	INDICATES MOUNTING HEIGHT (N) TO BOTTOM OF DEVICE FROM FINISH FLOOR, UNO
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NFS	NONFUSIBLE SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NM	NONMETALLIC SHEATHED CABLE
NO	NORMALLY OPEN
NRTL	NATIONALLY RECOGNIZED TESTING LAB
NTS	NOT TO SCALE
OC	ON CENTER
OCPD	OVER-CURRENT PROTECTIVE DEVICE
PA	PUBLIC ADDRESS SYSTEM
PB	PULL BOX
PE	PNEUMATIC/ELECTRIC
PH	PROPELLER HEATER
PIV	POST INDICATING VALVE
PR	PAIR
PUH	PROPELLER UNIT HEATER
R	RELEASE
RAF	RETURN AIR FAN
RT	RAIN-TIGHT
RVS	REDUCE VOLTAGE STARTER
S	SURFACE
SBJ	SYSTEM BONDING JUMPER
SIG	SIGNAL
SN	SOLID NEUTRAL
SP	SPARE
SPL	SPLICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SSBJ	SUPPLY-SIDE BONDING JUMPER
ST	SHUNT TRIP
STP	SHIELDED TWISTED PAIR
STL	CARBON STEEL
SUSP	SUSPENDED
SW	SWITCH
SWBD	SWITCHBOARD
TC	TELEPHONE CABINET
TCP	TEMPERATURE CONTROL PANEL
TEL/DATA	TELEPHONE/DATA
TEL	TELEPHONE
TERM	TERMINAL(S)
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TTB	TELEPHONE TERMINATION BOARD
UEF	UTILITY EXHAUST FAN
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VG	VANDAL GUARD
VIF	VERIFY IN FIELD
VT	VAPOR-TIGHT
WG	WIRE GUARD
WH	WATTHOUR
WM	WALL MOUNTED
WP	WEATHERPROOF
WT	WATER-TIGHT
XFMR	TRANSFORMER

\\data1\citrixprofiles$\aedenburn\my documents\2023_ELEC_Bittersweet ES_aedenburn.rvt
8/13/2025 3:52:15 PM

POWER SYMBOLS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT TO BOTTOM
	CONDUIT CONCEALED ABOVE CEILING OR IN WALL	
	CONDUIT CONCEALED IN OR BELOW FLOOR, OR UNDER GROUND	
X 1AL1-1	20 AMP, 125 VOLT, NEMA 5-20R DUPLEX RECEPTACLE WITH COMMON COVER PLATE MOUNTED VERTICALLY +16" TO BOTTOM. LETTER(S) IN FRONT INDICATES LOAD TYPE, SEE BELOW. SINGLE LINE INDICATES HORIZONTAL MOUNTING, DOUBLE LINE INDICATE QUAD, DARK CENTER INDICATES ABOVE COUNTERTOP MOUNTING (44") NEMA 5-20R, UNO. CIRCUIT NUMBER (e.g. "1AL1-1") ADJACENT TO THE SYMBOL ON PLANS INDICATES PANELBOARD/CIRCUIT NUMBER SERVING RECEPTACLE, UNO. GF GROUND FAULT CIRCUIT INTERRUPTING TYPE M MONITOR - 60" AFF T TECHNOLOGY RACK VP WALL MOUNTED VIDEO PROJECTOR, 96" AFF UNO WC ELECTRIC WATER COOLER. FEED FROM 5 mA GFCI BREAKER IN PANELBOARD. WF WASHFOUNTAIN/LAVATORY. CONNECT TO NEAREST THROUGH FEED GFCI RECEPTACLE. WP WEATHER RESISTANT GFCI WITH IN-USE TYPE WEATHERPROOF COVER HINGED AT TOP	
	20 AMP SINGLE RECEPTACLE, NEMA 5-20R	16"
30	SINGLE STRAIGHT BLADE RECEPTACLE, 30A, 125 VOLT, NEMA 5-30R	16"
C	15 AMP SINGLE RECEPTACLE, SEMI-RECESSED WALL MOUNTED WITH CLOCK HANGER, NEMA 5-15R	76"
	20 AMP DUPLEX RECEPTACLE FLUSH CEILING MOUNTED , NEMA 5-20R	CLG
U	SINGLE FLUSH BOX WITH FOUR USB CHARGING PORTS, WITH DECORA STYLE COVER PLATE; MOUNTED ABOVE COUNTERTOP HEIGHT, UNO	44"
	SPECIAL POWER RECEPTACLE, AMPS, VOLTS AND NEMA CONFIGURATION AS DEFINED ON PLANS BY CODED NOTE	16"
	SINGLE STRAIGHT BLADE, SPECIAL RECEPTACLE, 20A, 125/250 VOLT, 3P, 4W, NEMA 14-20R	16"
W	SINGLE STRAIGHT BLADE, WELDING RECEPTACLE, 60A, 250 VOLT, 3P, 3W, NEMA 15-60R	44"
R	SINGLE STRAIGHT BLADE, RANGE RECEPTACLE, 50A, 125/250 VOLT, 3P, 4W, NEMA 14-50R	8"
D	SINGLE STRAIGHT BLADE, GROUNDED DRYER RECEPTACLE, 30A, 125/250 VOLT, 3P, 4W, NEMA 14-30R	32"
T	30 AMP, 120 VOLT, SINGLE TWIST LOCK RECEPTACLE, UNO, NEMA L5-30R	16"
F	20 AMP DUPLEX RECEPTACLE IN FLUSH FLOOR MOUNTED BOX,NEMA 5-20R. USE A CAST BOX AT GRADE LEVEL, USE A STAMPED STEEL BOX FOR UPPER FLOORS. REFER TO SPECIFICATIONS FOR REQUIREMENTS.	-
T	20 AMP DUPLEX RECEPTACLE IN FIRE RATED POKE-THRU FLOOR DEVICE, NEMA 5-20R. REFER TO SPECIFICATIONS FOR REQUIREMENTS.	-
P	20 AMP DUPLEX RECEPTACLE IN PEDESTAL MOUNTED ABOVE FLOOR SERVICE FITTING, NEMA 5-20R. REFER TO SPECIFICATIONS FOR REQUIREMENTS.	-
	HIGH CAPACITY FLOOR BOX WITH 4 DUPLEX RECEPTACLES, NEMA 5-20R, UNO FOR POWER AND DATA. REFER TO SPECIFICATIONS FOR REQUIREMENTS.	-
	COMMUNICATIONS/POWER POLE PRE-WIRED WITH 2 DUPLEX RECEPTACLES, WITH TWO J BOX ABOVE CEILING. REFER TO SPECIFICATIONS FOR REQUIREMENTS.	-
	TWO 20 AMP DUPLEX RECEPTACLES IN BOX WITH COVER PLATE, PENDANT MOUNTED WITH 3/C, SJO CORD AND STRAIN RELIEF GRIPS.	84"
	2 CHANNEL MULTIOUTLET SURFACE RACEWAY ASSEMBLY WITH DUPLEX RECEPTACLES AND DATA OUTLETS. SEE TECHNOLOGY DRAWINGS. QUANTITY AS SHOWN OR PER SPEC.	-
	SINGLE CHANNEL MULTIOUTLET SURFACE RACEWAY PRE-WIRED ASSEMBLY WITH SINGLE RECEPTACLES. QUANTITY PER SPEC.	-

FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION	MH
AID	ADDRESSABLE INTERFACE DEVICE	-
H	HEAT DETECTOR, 190 DEGREES F FIXED TEMPERATURE (UNO), CEILING MOUNTED	CLG
P D	ROUND INDICATES CEILING MOUNTED,SQUARE INDICATES DUCT MOUNTED, PHOTOELECTRIC SMOKE DETECTOR	
FAA	FIRE ALARM ANNUNCIATION PANEL	56"
FAPS	FIRE ALARM POWER SUPPLY	-
FAP	FIRE ALARM CONTROL PANEL	-
F F	AUDIBLE AND VISIBLE NOTIFICATION APPLIANCE (HORN/STROBE), CEILING MOUNTED, EXTRA LINE INDICATES WALL MOUNTING AT 80" AFF	CLG
S S	VOICE/ALARM COMMUNICATION AUDIBLE AND VISIBLE NOTIFICATION DEVICE (SPEAKER/STROBE), CEILING MOUNTED, EXTRA LINE INDICATES WALL MOUNTING AT 80" AFF	CLG
V V	VISIBLE NOTIFICATION APPLIANCE (STROBE), CEILING MOUNTED, EXTRA LINE INDICATES WALL MOUNTING AT 80" AFF	CLG
L L	VOICE/ALARM COMMUNICATIONS LOUDSPEAKER, CEILING MOUNTED, EXTRA LINE INDICATES WALL MOUNTING AT 96" AFF	CLG
F	MANUAL FIRE ALARM PULL STATION, AND AUDIBLE AND VISIBLE NOTIFICATION APPLIANCE ABOVE (HORN/STROBE), WALL MOUNTED	44"/80"
F	MANUAL FIRE ALARM PULL STATION, WALL MOUNTED	44"
S S	VOICE/ALARM COMMUNICATIONS HORN TYPE LOUDSPEAKER, CEILING MOUNTED, EXTRA LINE INDICATES WALL MOUNTING AT 96" AFF	CLG
T	SMOKE DETECTOR BEAM TRANSMITTER	-
R	SMOKE DETECTOR BEAM RECEIVER	-
SD	SMOKE DAMPER ACTUATOR AND ASSOCIATED SMOKE DETECTOR, TYPE PER PLANS	-
FS	WATER FLOW SWITCH CONNECTION	-
SV	SUPERVISORY VALVE TAMPER SWITCH CONNECTION	-
FH	SURFACE FIRE ALARM MAGNETIC DOOR HOLDER	6" BELOW TOP OF DOOR
SH	SURFACE SECURITY ALARM MAGNETIC DOOR HOLDER	6" BELOW TOP OF DOOR
S	ELECTRONIC RELEASE DOOR CLOSER	-
B	FIRE ALARM BELL, WALL MOUNTED, WEATHERPROOF WHERE EXTERIOR MOUNTED	96"
KH	MICRO SWITCH IN KITCHEN HOOD FOR FIRE SUPPRESSION SYSTEM. SUPPLIED BY OTHERS, WIRED BY EC.	HOOD
PV	POST INDICATOR VALVE TAMPER SWITCH	-

POWER SYMBOLS

SYMBOL	DESCRIPTION	MH
	DISTRIBUTION PANEL, SEE ONE LINE DIAGRAM	-
	SURFACE CIRCUIT BREAKER PANELBOARD, SEE ONE LINE DIAGRAM	-
	FLUSH MOUNTED CIRCUIT BREAKER PANELBOARD, SEE ONE LINE DIAGRAM	-
M	UTILITY METER	-
	RECESSED ADA PUSH BUTTON FOR AUTOMATIC DOOR OPERATOR, FURNISHED BY OTHERS, INSTALLED BY DIV. 26	44"
	RECESSED ADA DOUBLE PUSH BUTTON FOR DUAL AUTOMATIC DOOR OPERATORS, FURNISHED BY OTHERS, INSTALLED BY DIV. 26	44"
	RED MUSHROOM ABORT SWITCH, WALL MOUNTED	44"
B	CIRCUIT BREAKER DISCONNECT SWITCH, 30A - 3 POLE, UNO	48"
	NON-FUSED DISCONNECT, 3 POLE, NEMA 1, UNO. 30 AMP UNO. -WP SUFFIX DESIGNATES NEMA 3R ENCLOSURE. -WP4X SUFFIX DESIGNATES NEMA 4X STAINLESS STEEL ENCLOSURE.	48"
F 100A-3P	FUSED DISCONNECT, 3 POLE, NEMA 1, UNO. 30 AMP UNO. -WP SUFFIX DESIGNATES NEMA 3R ENCLOSURE. -WP4X SUFFIX DESIGNATES NEMA 4X STAINLESS STEEL ENCLOSURE.	48"
	MAGNETIC STARTER, 30 AMP - 3 POLE, NEMA SIZE 1, UNO WITH H.O.A. SWITCH AND RED PILOT LIGHT (RUNNING).	48"
	COMBINATION MAGNETIC MOTOR STARTER, WITH 30 AMP - 3 POLE CIRCUIT BREAKER DISCONNECT SWITCH, NEMA SIZE 1, UNO WITH H.O.A. SWITCH AND RED PILOT LIGHT (RUNNING).	48"
	COMBINATION MAGNETIC MOTOR STARTER, WITH 30 AMP - 3 POLE MOTOR CIRCUIT PROTECTOR (MCP) DISCONNECT SWITCH, NEMA SIZE 1, UNO WITH H.O.A. SWITCH AND RED PILOT LIGHT (RUNNING).	48"
	COMBINATION MAGNETIC MOTOR STARTER, WITH 30 AMP - 3 POLE FUSED DISCONNECT SWITCH, NEMA SIZE 1, UNO, WITH H.O.A. SWITCH AND RED PILOT LIGHT (RUNNING).	48"
MP	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION AND PILOT LIGHT, UNO. FLUSH MOUNTED IN FINISH SPACES.	44"
M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION, UNO. FLUSH MOUNTED IN FINISH SPACES.	44"
C	CONTROL SWITCH FOR DEVICES SUCH AS MOTORIZED SHADES, SOLAR LIGHT TUBES, PROJECTION SCREENS, ETC. FURNISHED BY OTHERS, INSTALLED FLUSH MOUNTED WITH COVER PLATE AND WIRED BY DIV. 26	44"
C	ELECTRICALLY HELD CONTACTOR WITH H-O-A SWITCH, 30A - 3P, UNO. REFER TO SPECIFICATION FOR REQUIREMENTS.	48"
C	COMBINATION ELECTRICALLY HELD CONTACTOR, WITH H-O-A SWITCH AND 30 AMP - 3P CIRCUIT BREAKER DISCONNECT SWITCH, UNO. REFER TO SPECIFICATION FOR REQUIREMENTS.	48"
TC	DIGITAL TIME CLOCK SWITCH	60"
ATS	AUTOMATIC TRANSFER SWITCH, REFER TO SINGLE LINE DIAGRAM. COORDINATE FINAL MOUNTING HEIGHT. REFER TO SPECIFICATIONS FOR REQUIREMENTS	60"
T	THERMOSTAT	-
	MOTOR	-
T	DRY TYPE TRANSFORMER	-
SPD	SURGE PROTECTIVE DEVICE. REFER TO SPECIFICATION FOR REQUIREMENTS.	-
J J	JUNCTION BOX, PIGTAIL INDICATED FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT	-

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION	MH
HB	OCCUPANCY SENSOR - CEILING MOUNTED (UNO), HIGH BAY INFRARED, 360 DEGREE PATTERN, 36' DIA. COVERAGE PATTERN (MIN.) AT 20' MOUNTING HEIGHT. PROVIDE WITH RELAY OPTION.	CLG
H	OCCUPANCY SENSOR - CEILING MOUNTED, ULTRASONIC AND INFRARED SENSOR FOR CORRIDOR & HALLWAY APPLICATIONS, 56'x16' (MIN.) RECTANGULAR SHAPED COVERAGE PATTERN. PROVIDE WITH RELAY OPTION. "Λ" PORTION OF SYMBOL INDICATES AIMING OF ULTRASONIC SENSORS.	CLG
CT	OCCUPANCY SENSOR - CEILING MOUNTED, DUAL TECHNOLOGY, 360 DEGREE PATTERN, 2000 S.F. COVERAGE. PROVIDE WITH RELAY OPTION. "Λ" PORTION OF SYMBOL INDICATES AIMING OF ULTRASONIC SENSORS.	CLG
CI	OCCUPANCY SENSOR - CEILING MOUNTED, INFRARED, DIRECTIONAL/180 DEGREE PATTERN, 1200 S.F. COVERAGE (MIN.). PROVIDE WITH RELAY OPTION. PROVIDE WITH CEILING MOUNTING BRACKET ACCESSORY IF NOT SUPPLIED AS STANDARD WITH SENSOR. "Λ" PORTION OF SYMBOL INDICATES AIMING.	CLG
WT	OCCUPANCY SENSOR - WALL MOUNTED, DUAL TECHNOLOGY, 180 DEGREE PATTERN, 1200 S.F. COVERAGE (MIN.). PROVIDE WITH RELAY OPTION.	96"
WI	OCCUPANCY SENSOR - WALL MOUNTED, INFRARED, 180 DEGREE PATTERN, 1200 S.F. COVERAGE (MIN.). PROVIDE WITH RELAY OPTION.	96"
ST	OCCUPANCY SENSOR - WALL SWITCH TYPE, DUAL TECHNOLOGY WITH MANUAL OVERRIDE SWITCH	44"
SI	OCCUPANCY SENSOR - WALL SWITCH TYPE,INFRARED WITH MANUAL OVERRIDE SWITCH	44"
DS	DAYLIGHT SENSOR	CLG
K	KEY OPERATED SWITCH, NUMBER INDICATES NUMBER OF POLES, 277V, 20A, FLUSH UNO	44"
3	SWITCH, NUMBER INDICATES NUMBER OF POLES, 277V, 20A, FLUSH UNO	44"
a	SINGLE POLE SWITCH, 277V, 20A, FLUSH UNO TYPICAL, SUBSCRIPT a, b, c INDICATES WHICH LUMINAIRE THAT WILL BE CONTROLLED VIA SWITCH LEG	44"
D	WALL BOX DIMMER 277V, 1200 WATT MINIMUM, FLUSH, UNO. PROVIDE WATTAGE SIZE TO EXCEED CIRCUIT LOAD	44"
LC	LIGHTING CONTACTOR, MECHANICALLY HELD, 30A - 3P WITH H-O-A SWITCH, UNO	48"
LC	COMBINATION LIGHTING CONTACTOR, MECHANICALLY HELD, WITH H-O-A SWITCH AND 30A - 3P CIRCUIT BREAKER, UNO	48"
LRP	LIGHTING RELAY PANEL	-
	DOWNLIGHT LUMINAIRE, APPROXIMATE SIZE INDICATED	-
	DOWNLIGHT LUMINAIRE CONNECTED TO EMERGENCY SYSTEM AS INDICATED	-
	WALL SCONCE LUMINAIRE	-
	WALL MOUNTED EXIT SIGN, DIRECTIONAL ARROWS AS SHOWN	96"
	CEILING MOUNTED EXIT SIGN, SHADED PORTION(S) INDICATES SINGLE OR DOUBLE FACE	CLG
	TRACK HEAD LUMINAIRE	-
	EMERGENCY LIGHTING UNIT WITH 2 HEADS	76"
	WALL-BRACKET LUMINAIRE, APPROXIMATE SIZE INDICATED	-
	WALL-BRACKET LUMINAIRE CONNECTED TO EMERGENCY SYSTEM AS INDICATED	-
	RECESSED LUMINAIRE, APPROXIMATE SIZE INDICATED. ("NL", INDICATES NIGHT LIGHT FIXTURES)	CLG
	RECESSED LUMINAIRE CONNECTED TO EMERGENCY SYSTEM AS INDICATED	CLG
	SURFACE OR PENDANT MOUNTED LUMINAIRE, APPROXIMATE SIZE INDICATED	CLG
	SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY SYSTEM AS INDICATED	CLG
	PENDANT LUMINAIRE, APPROXIMATE SIZE INDICATED	CLG
	PENDANT LUMINAIRE CONNECTED TO EMERGENCY SYSTEM AS INDICATED	CLG
	AIMABLE LUMINAIRE, CARROT INDICATING DIRECTION OF AIMING	-

ELECTRICAL GENERAL NOTES

1. THE TERM "PROVIDE" INDICATES CONTRACTOR SHALL FURNISH AND INSTALL ITEMS AND CONNECT AS REQUIRED TO OBTAIN A COMPLETE AND OPERABLE SYSTEM.
2. COORDINATE DEVICE LOCATIONS WITH ARCHITECTURAL PLANS, CASEWORK, WINDOWS, WALL FINISHES, EQUIPMENT, AND OTHER TRADES PRIOR TO ROUGH IN. DEVICES ARE INTENDED TO BE ACCESSIBLE, DO NOT INSTALL BEHIND CASEWORK, DOORS OR EQUIPMENT UNLESS INDICATED ON PLANS. NOTIFY ARCHITECT IN WRITING OF CONFLICTS PRIOR TO PROCEEDING WITH WORK.
3. WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE AND NATIONAL CODES INCLUDING, BUT NOT LIMITED TO NFPA 70 (NATIONAL ELECTRIC CODE), NFPA 72, NFPA 101, INTERNATIONAL BUILDING CODE, ETC.
4. CONFLICTS BETWEEN THE APPLICABLE CODES, STANDARDS, AND THE PLANS AND SPECIFICATIONS SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH WORK.
5. REFER TO TECHNOLOGY PLANS FOR COMMUNICATIONS, SECURITY AND ACCESS CONTROL.
6. CONTRACTOR SHALL FOLLOW SEISMIC RESTRANT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES WITH ALL AMENDMENTS AS ADOPTED.
7. ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.
8. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.
9. INITIATING WORK CONSTITUTES CONTRACTOR ACCEPTANCE OF THE EXISTING CONDITIONS ASSOCIATED WITH THE WORK IN QUESTION.
10. CONTRACTOR SHALL CONTACT UTILITIES AND VERIFY UTILITY REQUIREMENTS PRIOR TO COMMENCING CONSTRUCTION. CONFLICTS BETWEEN UTILITY REQUIREMENTS AND THE PLANS OR SPECIFICATIONS SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING PRIOR TO PROCEEDING WITH WORK. CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE UTILITY COMPANY TO REVIEW REQUIREMENTS. INCOMING SERVICE CONDUITS AND SUBSTRUCTURES SHALL BE INSTALLED PER UTILITY COMPANY STANDARDS.
11. THESE DRAWINGS AND SPECIFICATIONS DO NOT INDICATE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFE PRACTICES.
12. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND CANNOT SHOW EVERY CONNECTION, JUNCTION BOX, WIRE, AND CONDUIT, ETC. THE EXACT LOCATIONS AND ARRANGEMENT OF PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES. ITEMS NOT INDICATED ON DRAWINGS REASONABLY INFERRED TO BELONG TO THE WORK DESCRIBED SHALL BE FURNISHED AND INSTALLED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
13. WORK SHALL BE COORDINATED WITH EXISTING CONDITIONS, NEW CONSTRUCTION, OWNER'S VENDORS, OTHER TRADES, AND THEIR DOCUMENTS. THE CONTRACTOR SHALL VISIT THE SITE BEFORE SUBMITTING HIS BID. CONTRACTOR SHALL CONTACT OWNER FOR AN APPOINTMENT TO VISIT THE SITE.
14. AN INSULATED GROUND CONDUCTOR SIZED PER NEC SHALL BE PROVIDED WITH EACH FEEDER AND BRANCH CIRCUIT.
15. PROVIDE A DEDICATED NEUTRAL FOR EACH LINE TO NEUTRAL CIRCUIT. MULTI-WIRE BRANCH CIRCUITS ARE NOT PERMITTED UNLESS SPECIFICALLY INDICATED ON PLANS.
16. MINIMUM WIRE SIZE IS #12 AWG. SEE SPECIFICATIONS FOR MINIMUM CONDUIT SIZE.
17. CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE ABOVE CEILINGS, INSIDE WALLS, OR UNDER FLOOR SLAB WHERE SHOWN ON DRAWINGS. IN AREAS WITH NO CEILING, RUN EXPOSED CONDUIT AS HIGH AS POSSIBLE AND PARALLEL TO NEARBY SURFACES OR EXISTING RACEWAYS. CONDUIT SHALL NOT BE INSTALLED IN FLOOR SLAB UNLESS SPECIFICALLY INDICATED ON PLANS AND WHERE APPROVED BY STRUCTURAL ENGINEER. DO NOT INSTALL MC CABLE IN EXPOSED LOCATIONS.
18. CONTRACTOR SHALL PROVIDE RIGID METAL SLEEVES TO FACILITATE PATHWAYS THROUGH FULL HEIGHT WALLS FOR ELECTRICAL AND TELECOMMUNICATION WIRING.
19. PROVIDE TEMPORARY OR PERMANENT END CAPS FOR STUBBED CONDUITS. PROVIDE INSULATED THROAT BUSHINGS FOR CONDUITS INTENDED TO REMAIN OPEN ENDED.
20. SEE ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE RATED ASSEMBLIES AND SMOKE BARRIERS. SEAL PENETRATIONS IN ACCORDANCE WITH UL AND PROJECT SPECIFICATIONS.
21. MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO BOTTOM OF DEVICE UNO. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UNO.
22. PROVIDE SOUND INSULATING PUTTY AROUND DEVICES INSTALLED ON OPPOSITE SIDES OF A WALL IN THE SAME VERTICAL CHANNEL. IF DEVICES ARE LOCATED AT LEAST 8" HORIZONTALLY APART NO SOUND INSULATING PUTTY IS REQUIRED.
23. COORDINATE CEILING MOUNTED DEVICES WITH MECHANICAL AND ARCHITECTURAL REFLECTED CEILING PLANS. NOTIFY ARCHITECT IN WRITING OF CONFLICTS PRIOR TO PROCEEDING WITH WORK.
24. JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
25. CONDUITS DESIGNATED AS EMPTY OR FUTURE SHALL BE PROVIDED WITH A #12 PULL LINE. OPEN ENDED CONDUITS SHALL BE PROVIDED WITH INSULATED THROAT BUSHINGS.
26. FOR LUMINAIRES, CIRCUIT NUMBER IS SHOWN ONLY ONCE IN EVERY ROOM. PROVIDE CIRCUIT INDICATED TO EVERY LIGHT FIXTURE INDICATED IN SAME ROOM UNLESS OTHERWISE INDICATED.
27. QUANTITY AND LOCATION OF TAMPER AND FLOW SWITCHES IS FOR BIDDING PURPOSES ONLY. VERIFY EXACT QUANTITY AND LOCATIONS WITH SPRINKLER CONTRACTOR PRIOR TO FIRE ALARM SHOP DRAWING SUBMITTAL.
28. ELECTRICAL PANELS INCLUDING BUT NOT LIMITED TO FIRE ALARM CONTROL PANELS, LIGHTING CONTROL PANELS, POWER DISTRIBUTION WILL HAVE A MAX DEVICE HEIGHT OF 72" AFF.
29. PROVIDE GROUNDING TYPE EXPANSION FITTINGS OR OTHER APPROVED METHODS TO ALLOW FOR EXPANSION, CONTRACTION, AND DEFLECTION WHERE CONDUITS CROSS BUILDING EXPANSION JOINTS.
30. PROVIDE SEPARATE RACEWAY FOR EMERGENCY SYSTEM WIRING PER NEC ARTICLE 700. MINIMUM WIRE SIZE #10AWG.
31. ALL CONDUITS SHALL INCLUDE AN INSULATED GROUND WIRE, SIZED PER N.E.C.
32. AUTODOORS AND WHEELCHAIR LIFT PROVIDED AND INSTALLED BY OTHERS. PROVIDE CONDUIT AND BOX ROUGH-INS FOR MOTORS AND PUSHBUTTONS. MAKE FINAL POWER CONNECTIONS. ALL CONTROL WIRING BY OTHERS.
33. **MASONRY LOAD-BEARING WALLS AND MASONRY SHEAR WALLS**: DO NOT PENETRATE CMU WALLS INDICATED AS BEARING WALLS AND SHEAR WALLS ON STRUCTURAL DRAWINGS UNLESS NOTED OTHERWISE ON PLAN. DO NOT CORE THROUGH CMU BOND BEAMS OR LINTELS. DO NOT CUT ANY VERTICAL REINFORCING IN CMU WALLS. OBTAIN PRIOR APPROVAL FROM ENGINEER BEFORE PENETRATING ANY OF THE STRUCTURAL ELEMENTS LISTED ABOVE.
34. **CONCRETE BEARING WALLS AND BEAMS:** DO NOT PENETRATE CONCRETE WALLS INDICATED AS BEARING WALLS AND SHEAR WALLS ON STRUCTURAL DRAWINGS UNLESS NOTED OTHERWISE ON PLAN. DO NOT CORE THROUGH CONCRETE BEAMS , GIRDERS, OR COLUMNS. DO NOT CUT ANY VERTICAL REINFORCING IN CONCRETE WALLS. OBTAIN PRIOR APPROVAL FROM STRUCTURAL ENGINEER BEFORE PENETRATING ANY OF THE STRUCTURAL ELEMENTS LISTED ABOVE.
35. **STEEL FRAMING:** DO NOT CUT OR CORE THROUGH ANY STRUCTURAL STEEL BEAMS, GIRDERS, OR COLUMNS UNLESS NOTED OTHERWISE ON PLAN. NOTIFY ENGINEER OF POTENTIAL CONFLICTS BETWEEN FRAMING AND ELECTRICAL WORK.
36. **CONCRETE FLOOR SYSTEMS (APPLIES TO CONCRETE BLDG. OR STEEL WITH CONCRETE DECK, MASONRY W/ CONC. FLOOR):** DO NOT CUT HOLES OR CORE THROUGH CONCRETE FLOOR SLAB UNLESS NOTED OTHERWISE ON PLAN OR IN TYPICAL STRUCTURAL DETAILS. PENETRATIONS THROUGH EXISTING SLABS SHALL BE X-RAYED PRIOR TO CORING HOLES. NO EXISTING REINFORCEMENT SHALL BE CUT WITHOUT PERMISSION OF THE STRUCTURAL ENGINEER. PENETRATIONS THROUGH EXISTING BEAMS AND COLUMNS IS NOT PERMITTED.
37. PROVIDE THE FOLLOWING ADDITIONAL DEVICES. INSTALL WHERE DIRECTED BY ARCHITECT/ENGINEER. INCLUDE CONDUIT AND WIRE AND CONNECT TO NEAREST PANELBOARD OR APPLICABLE SYSTEM AS REQUIRED. PROVIDE CUTTING AND PATCHING, AND ALL REQUIRED ACCESSORIES. AT PROJECT COMPLETION, TURN OVER ALL UNUSED DEVICES FROM LIST BELOW AND INCLUDE ON OWNER SIGN-OFF RECEIPT FOR EXTRA MATERIALS.
    a. (1) FIRE-ALARM SYSTEM MANUAL FIRE-ALARM BOXES.
    b. (1) FIRE-ALARM SYSTEM SMOKE OR HEAT DETECTORS.
    c. (1) FIRE-ALARM SYSTEM DUCT SMOKE DETECTORS.
    d. (1) FIRE-ALARM SYSTEM VISIBLE NOTIFICATION APPLIANCES.
    e. (1) FIRE-ALARM SYSTEM COMBINATION HORN AND VISIBLE NOTIFICATION APPLIANCES.
    f. (1) FIRE-ALARM SYSTEM ADDRESSABLE INTERFACE DEVICES AND CONNECT TO INITIATE OR MONITOR DEVICES OR EQUIPMENT AS REQUIRED.
    g. (2) 20 AMP CIRCUITS WITH 8 RECEPTACLES EACH, CONDUIT, WIRE, COVER PLATES, DEVICE BOXES AND CIRCUIT BREAKERS CONNECTED WITH 4#10, 3/4-INCH CONDUIT LOCATED WITHIN 120-FEET OF NEAREST 120V PANELBOARD.
    h. (2) MOTOR CONNECTIONS, EACH WITH 30A, 2 POLE FUSIBLE SWITCH, WITH 120-FEET 3#10 IN 3/4-INCH CONDUIT.
    i. (1) EXIT SIGNS.
    j. (1) OCCUPANCY SENSORS, ANY TYPE AS DIRECTED BY ARCHITECT/ENGINEER.

PHM Science and Space Exploration Center

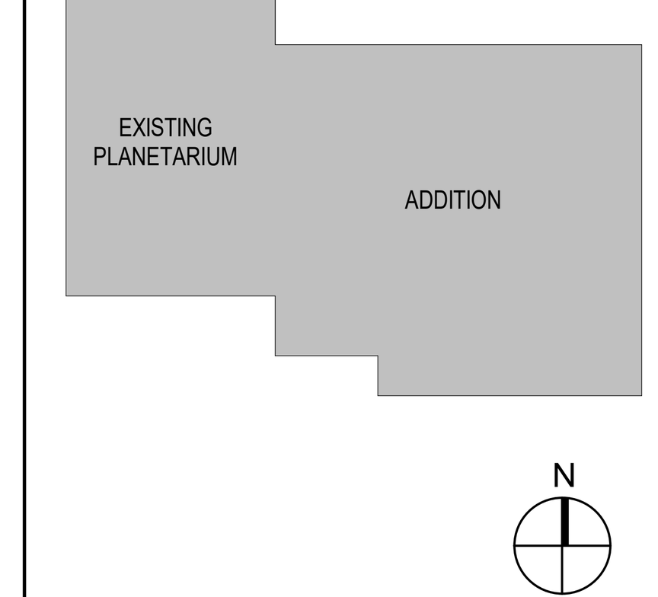
55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

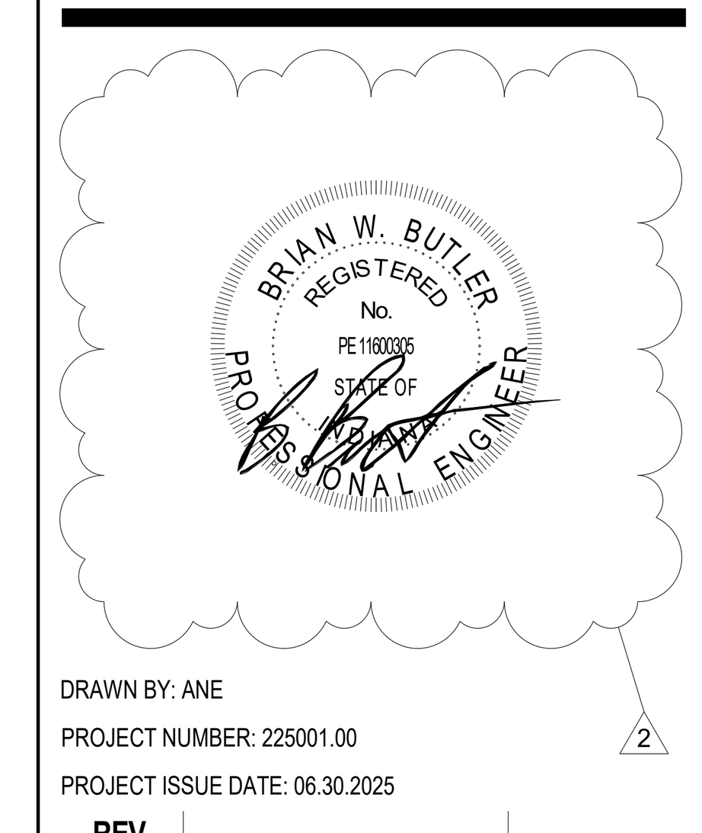
PENN-HARRIS-MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204



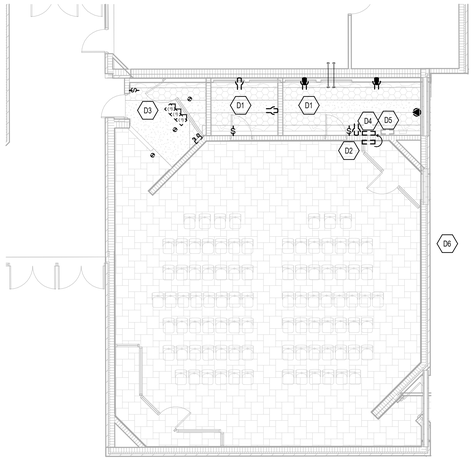


DRAWN BY: ANE
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

ELECTRICAL SYMBOLS & ABBREVIATIONS

E-001



FIRST FLOOR ELECTRICAL DEMOLION PLAN

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

DEMOLITION PLAN GENERAL NOTES

1. REFER TO ELECTRICAL SPECIFICATION SECTION 260005 "ELECTRICAL DEMOLITION" FOR ADDITIONAL REQUIREMENTS REGAURDING THIS DRAWING SHEET.

DEMOLITION PLAN NOTES

(X)

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

SHEET KEYNOTES

D1	DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES, RECEPTACLES, AND THE ASSOCIATED LIGHT SWITCH IN THIS ROOM. REMOVE ALL CONDUCTORS AND CONDUITS BACK TO SOURCE.
D2	DISCONNECT AND REMOVE SWITCHES FOR THE PLANETARIUM IN EXISTING WORKROOM AND EXTEND CONDUCTORS TO NEW LOCATION ON OPPOSITE SIDE OF THE WALL. SEE SHEET "EL110" FOR NEW LOCATION.
D3	DISCONNECT AND REMOVE ALL EXISTING LIGHT FIXTURES, RECEPTACLES, AND LIGHT SWITCHES IN THIS ENTRYWAY THAT WILL BECOME A CORRIDOR. REMOVE ALL CONDUCTORS AND CONDUITS BACK TO SOURCE.
D4	DISCONNECT AND REMOVE EXISTING PANELBOARDS "P" AND "P-1". EXTEND EXISTING FEEDERS TO NEW PANELBOARD LOCATIONS. SEE SHEET "EP110" FOR NEW LOCATIONS.
D5	REMOVE EXISTING 12 INCH DEEP PULL BOX. RELOCATE PULL BOX ADJACENT TO NEW PANELBOARD "P" AND "P-1" LOCATIONS. EXTEND EXISTING CIRCUITS AND CONDUITS TO NEW LOCATION CONCEALED WITHIN NEW STUD WALL.
D6	DISCONNECT AND REMOVE ANY EXISTING RECEPTACLES ON EAST-FACING EXTERIOR WALL OF PLANETARIUM. REMOVE ALL CONDUCTORS AND CONDUITS BACK TO SOURCE.
D7	DISCONNECT AND REMOVE ALL WIRING TO EXISTING LIGHT POLE AT THIS LOCATION. REMOVE LIGHT FIXTURE AND POLE AND DISPOSE OF IN ACCORDANCE WITH SPEC SECTION 26 00 05. REMOVE POLE FOUNDATION AND CONDUIT TO 1'-0" BELOW GRADE. REMOVE ALL CONDUIT FROM SOURCE TO BUILDING PENETRATION. CAP AND ABANDON CONDUIT IN PLACE. MARK EXISTING BREAKER AS SPARE AND UPDATE PANEL DIRECTORY.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

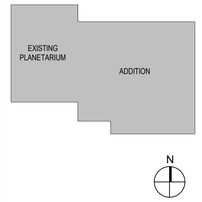
PENN-HARRIS-MADISON SCHOOL CORPORATION

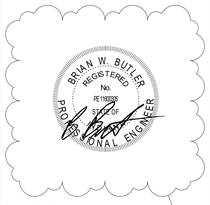
ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204





DRAWN BY: ANE

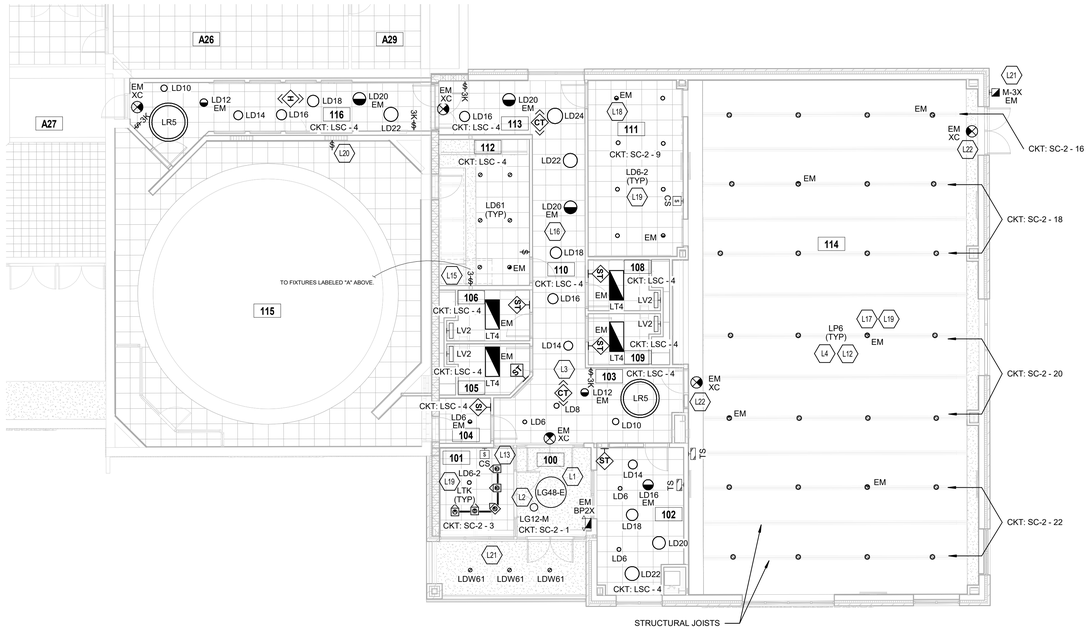
PROJECT NUMBER: 225001.00

PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

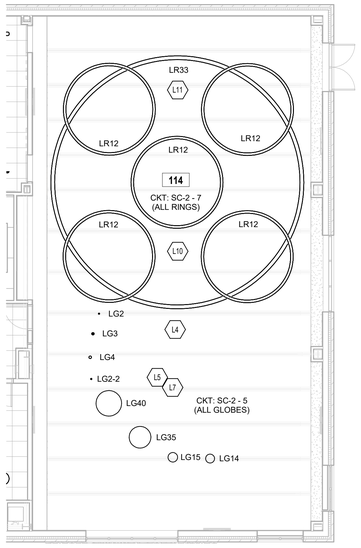
ELECTRICAL DEMOLITION PLAN

ED100



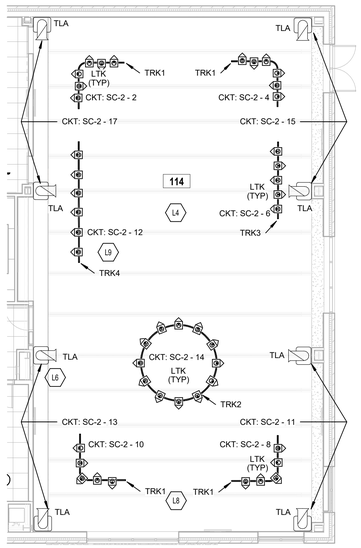
1 FIRST FLOOR LIGHTING PLAN

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



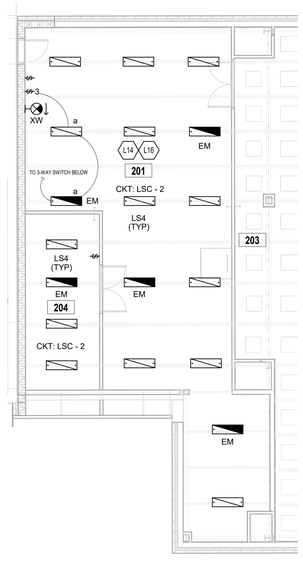
2 SPACE CENTER - DECORATIVE LIGHTING PLAN

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



3 SPACE CENTER - SPOT LIGHTING PLAN

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



4 MEZZANINE LIGHTING PLAN

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

ROOM LEGEND

ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
100		VESTIBULE	117 SF
101		DISPLAY	113 SF
102		OFFICE	204 SF
103		LOBBY	222 SF
104		VESTIBULE	40 SF
105		TOILET	63 SF
106		TOILET	66 SF
108		TOILET	57 SF
109		TOILET	57 SF
110		CORRIDOR	206 SF
111		PRESENTATION	284 SF
112		WORKROOM	223 SF
113		CORRIDOR	135 SF
114		SPACE CENTER	2553 SF
115		PLANETARIUM	1495 SF
116		CORRIDOR	271 SF
201		STORAGE	1037 SF
202		STORAGE	136 SF
203		DISPLAY	177 SF
204		MECHANICAL	222 SF
205		STORAGE	204 SF
A26		OFFICE	694 SF
A27		SECURED VESTIBULE	503 SF
A28		CONFERENCE	172 SF
A29		PRINCIPAL	150 SF
A34		PE OFFICE	103 SF
A38		COURTYARD	796 SF

LIGHTING PLAN GENERAL NOTES

1. GENERATOR TRANSFER DEVICE TO TAKE FIXTURE TO 100% IN EMERGENCY CONDITION.
2. FINALCONNECTION TO RECESSED LUMINAIRES SHALL BE WITH FLEXIBLE METALLIC CONDUIT, MC CABLE OR MANUFACTURED WIRING SYSTEM.
3. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATION OF LUMINAIRES. COORDINATE LOCATION OF LUMINAIRES, LOUDSPEAKERS, DIFFUSERS, GRILLES, AND OTHER CEILING INSTALLED ELEMENTS WITH THEIR RESPECTIVE INSTALLERS.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND ROOM FINISH SCHEDULE TO DETERMINE PROPER TYPE OF LUMINAIRE TRIM REQUIRED FOR CEILING TYPE PRIOR TO ORDERING LUMINAIRES. PROVIDE LUMINAIRES COMPATIBLE WITH CEILING TYPE.
5. RECESSED LUMINAIRE IN GRID CEILING SYSTEMS SHALL BE PROVIDED WITH SEISMIC CLIPS OR PROVIDE ATTACHMENT TO CEILING GRID SYSTEM AND SUPPORTED PER PROJECT MANUAL AND DETAIL ON SHEET **"E-501"**.
6. LUMINAIRE TYPE IS SHOWN ONLY ONCE, AS "TYP." IN EVERY ROOM. PROVIDE SAME TYPE OF LUMINAIRE THROUGH-OUT SAME ROOM UNLESS OTHERWISE INDICATED.
7. SWITCHES IN EACH ROOM TO CONTROL ALL FIXTURES IN THAT ROOM UNLESS OTHERWISE INDICATED.
8. CORRIDORS SHALL HAVE A 3-WAY SWITCH AT EACH END OF CORRIDOR.
9. PROVIDE NO. 10 AWG, MINIMUM, CONDUCTORS FOR EXIT SIGNS AND SECURITY LIGHT CIRCUITS.

LIGHTING PLAN NOTES

(X)

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

SHEET KEYNOTES

L1	LIGHT FIXTURE "LG48-E" TO BE MOUNTED TO STRUCTURAL STEEL ABOVE AT 9'-6" AFF. MOUNTING HEIGHT MEASURED FROM BOTTOM OF FIXTURE.
L2	LIGHT FIXTURE "LG15-M" TO BE MOUNTED TO STRUCTURAL STEEL ABOVE AT 8'-6" AFF. PROVIDE UNISTRUT TO ACHIEVE LOCATION INDICATED. MOUNTING HEIGHT MEASURED FROM BOTTOM OF FIXTURE.
L3	ALL ROUND AND RING SURFACE-MOUNTED LIGHT FIXTURES TO BE MOUNTED TO OCTAGONAL JUNCTION BOX WITH TILE BRIDGE.
L4	ALL LIGHTS IN THIS ROOM TO BE SUSPENDED FROM STRUCTURAL STEEL ABOVE UNLESS OTHERWISE NOTED.
L5	PROVIDE UNISTRUT FOR GLOBE LIGHTS IN THIS ROOM TO ACHIEVE INDICATED LOCATIONS.
L6	MOUNT ALL AUTOMATED FIXTURES "TLA" TO VERTICAL FACE OF COLUMNS AND EXTERIOR WALLS, 1'-0" UP FROM TOP OF LIGHT SHELF. MOUNT FIXTURES WITH UNI-BOLT AND P1000 SERIES UNISTRUT TO METAL STUDS.
L7	MOUNT ALL GLOBE LIGHT FIXTURES IN THISE ROOM AT 12'-0" AFF. MOUNTING HEIGHT MEASURED FROM CENTER OF GLOBE.
L8	MOUNT ALL "TRK1", "TRK2", AND "TRK3" LIGHT TRACKS AT 10'-8" AFF.
L9	MOUNT "TRK4" LIGHT TRACK AT 19'-6" AFF.
L10	MOUNT ALL "LR12" LIGHT FIXTURES IN THIS ROOM AT 15'-6" AFF.
L11	MOUNT LIGHT FIXTURE "LR33" AT 17'-0" AFF.
L12	MOUNT ALL "LP6" LIGHT FIXTURES IN THIS ROOM AT 17'-6" AFF. MOUNTING HEIGHT MEASURED FROM BOTTOM OF FIXTURE.
L13	MOUNT "TRK1" LIGHT TRACK AT 9'-0" AFF.
L14	MOUNT ALL "LS4" SUSPENDED LIGHT FIXTURES AT 8'-0" AFF FROM CONDUIT STEMS. COORDINATE EXACT LOCATION WITH OTHER DISCIPLINES TO AVOID EQUIPMENT.
L15	MEASURE SWITCH MOUNTING HEIGHT FROM STAIR LANDING.
L16	PROVIDE SAME FIXTURE AS NON-EMERGENCY FIXTURES, BUT CIRCUIT ALL EMERGENCY FIXTURES (MARKED "EM") IN CORRIDORS, BATHROOMS, OFFICE, WORKROOM, AND MEZZANINE TO EMERGENCY PANEL "SCX", CIRCUIT 1. INCLUDE ALL EXIT SIGNS, AND PROVIDE A GENERATOR TRANSFER DEVICE FOR THE CIRCUIT. SEE NOTE ON PANEL SCHEDULE.
L17	PROVIDE SAME FIXTURE AS NON-EMERGENCY FIXTURES, BUT CIRCUIT ALL EMERGENCY FIXTURES (MARKED "EM") IN THIS ROOM TO EMERGENCY PANEL "SCX", CIRCUIT 3 AND PROVIDE DMX FROM EMERGENCY BYPASS CONTROLLER "EBC". SEE NOTE ON PANEL SCHEDULE.
L18	PROVIDE SAME FIXTURE AS NON-EMERGENCY FIXTURES, BUT CIRCUIT ALL EMERGENCY FIXTURES (MARKED "EM") IN THIS ROOM TO EMERGENCY PANEL "SCX", CIRCUIT 4 ALONG WITH 0-10V CONTROL AND GENERATOR TRANSFER DEVICE. SEE NOTE ON PANEL SCHEDULE.
L19	LIGHTS IN THIS ROOM TO BE CONTROLLED VIA BUTTON STATION AND TIMECLOCK INSTEAD OF OCCUPANCY SENSOR. SEE DETAIL 1 ON SHEET "E-501".
L20	NEW LOCATION FOR REMOVED SWITCHES ON OPPOSITE SIDE OF WALL. REFER TO KEYNOTE "D2" ON SHEET "ED100".
L21	CONNECT NEW WALL-MOUNTED EXTERIOR LIGHT FIXTURE AND RECESSED UNDER CANOPY LIGHT FIXTURES TO CIRCUIT 2 OF PANEL "SCX". PROVIDE LIGHTING CONTACTOR AND CONTROLS COMPATIBLE WITH EXISTING BUILDING MANAGEMENT SYSTEM (BMS). CONTRACTOR SHALL CONNECT NEW FIXTURES SUCH THAT IN AUTOMATIC MODE THE BMS CONTROLS THE ON/OFF OPERATION OF THE EXTERIOR LIGHT FIXTURE THROUGH INTERFACE SIGNAL. DURING LOSS OF NORMAL POWER, FIXTURE WILL COME ON TO 100% OUTPUT.
L22	MOUNT EXIT SIGN TO BOTTOM OF LIGHT SHELF.

SWITCHLEG AND BRANCH CIRCUIT CONNECTIONS SHOWN GRAPHICALLY ON DRAWINGS ONLY WHERE NECESSARY FOR CLARITY. ALL LIGHT FIXTURES IN EACH ROOM ARE CONTROLLED BY SWITCH(ES) AND OCCUPANCY SENSOR(S) LOCATED IN ROOM, UNLESS OTHERWISE INDICATED. CONNECT LIGHT FIXTURES TO BRANCH CIRCUIT INDICATED BY CIRCUIT DESIGNATION IN EACH ROOM ON THE DRAWINGS, UNLESS OTHERWISE INDICATED.

DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN ON DRAWINGS. LOCATIONS OF DEVICES SHALL BE COORDINATED WITH OTHER ELECTRICAL DEVICES/CASEWORK/ARCHITECTURAL FEATURES AND OTHER TRADES PRIOR TO ROUGH-IN. IF RELOCATION OF DEVICES IS REQUIRED DUE TO LACK OF COORDINATION BETWEEN ELECTRICAL DRAWINGS AND OTHER TRADES, ANY ASSOCIATED COSTS SHALL BE RESPONSIBILITY OF ELECTRICAL CONTRACTOR.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

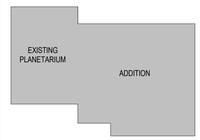
PENN-HARRIS-MADISON SCHOOL CORPORTATION

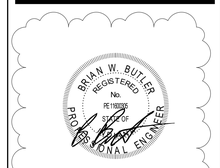
ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204





DRAWN BY: ANE

PROJECT NUMBER: 225001.00

PROJECT ISSUE DATE: 06.30.2025

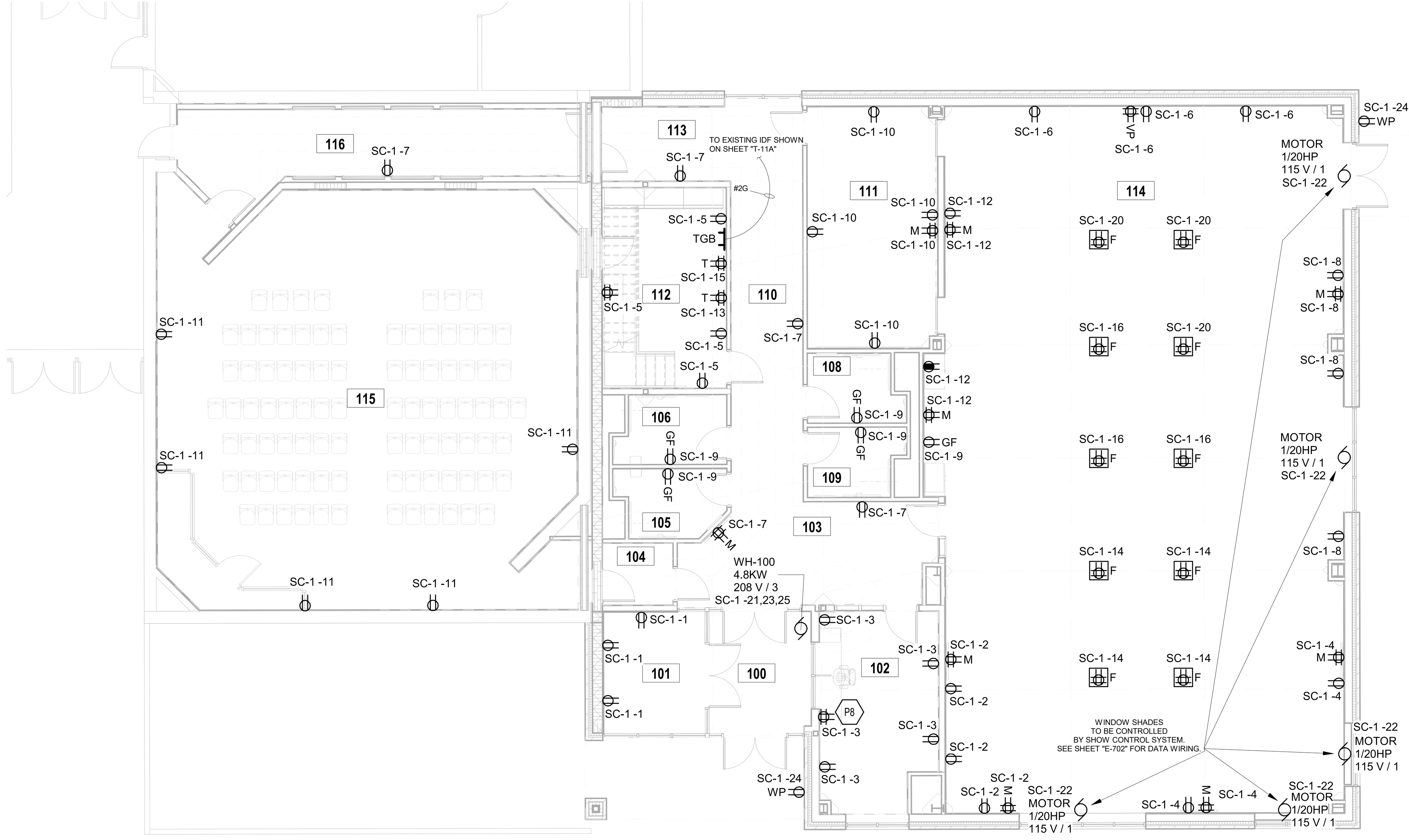
REV. NO.	DESCRIPTION	DATE
1	Addendum 1	08/12/2025
2	Addendum 2	08/21/2025

LIGHTING PLANS

EL110

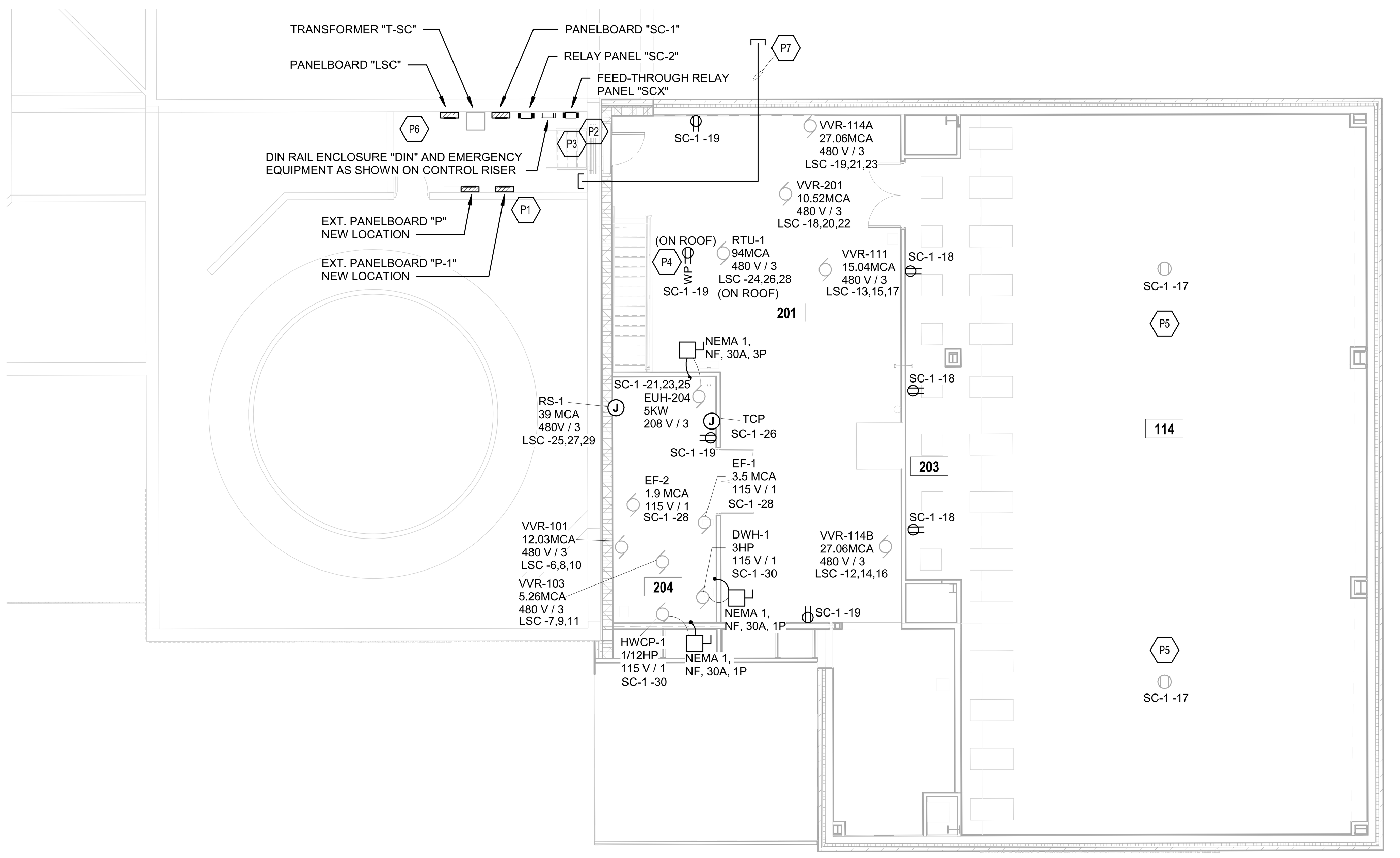
ROOM LEGEND

ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
100		VESTIBULE	117 SF
101		DISPLAY	113 SF
102		OFFICE	204 SF
103		LOBBY	222 SF
104		VESTIBULE	40 SF
105		TOILET	63 SF
106		TOILET	66 SF
108		TOILET	57 SF
109		TOILET	57 SF
110		CORRIDOR	206 SF
111		PRESENTATION	284 SF
112		WORKROOM	223 SF
113		CORRIDOR	135 SF
114		SPACE CENTER	2553 SF
115		PLANETARIUM	1495 SF
116		CORRIDOR	271 SF
201		STORAGE	1037 SF
202		STORAGE	136 SF
203		DISPLAY	177 SF
204		MECHANICAL	222 SF
205		STORAGE	204 SF
A26		OFFICE	694 SF
A27		SECURED VESTIBULE	503 SF
A28		CONFERENCE	172 SF
A29		PRINCIPAL	150 SF
A34		PE OFFICE	103 SF
A38		COURTYARD	796 SF



FIRST FLOOR POWER PLAN

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



SECOND FLOOR POWER PLAN

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

\\data1\citrixprofiles$\aedenburn\my documents\2023_ELEC_Bittersweet ES_aedenburn.rvt
8/13/2025 3:52:30 PM

POWER PLAN GENERAL NOTES

1. PROVIDE REVISED TYPED PANELBOARD DIRECTORIES FOR EACH PANELBOARD ADDED OR MODIFIED DURING CONSTRUCTION. FIELD VERIFY EXISTING CIRCUIT INFORMATION WITH OWNER'S ASSISTANCE TO ENSURE FINAL DIRECTORY IS ACCURATE. UNUSED SPARE BREAKERS SHALL BE IN THE OFF POSITION.
2. VIDEO PROJECTOR RECEPTACLE TO BE MOUNTED ABOVE WALL MOUNTED PROJECTOR BRACKET, 96" A.F.F. UNO.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS. SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.
4. LABEL EACH RECEPTACLE WITH THE PANEL NAME AND CIRCUIT NUMBER ON THE FACE OF EACH COVER PLATE WITH A TYPED LAMINATED LABEL.
5. PROVIDE "GFCI PROTECTED" LABEL ON COVER PLATE FOR ANY GFCI PROTECTED DEVICE.
6. CONTRACTOR SHALL INCREASE CIRCUIT CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP DUE TO EXCESSIVE CIRCUIT LENGTHS. IN NO CASE SHALL VOLTAGE DROP EXCEED NFPA 70 (N.E.C.) REQUIREMENTS.
7. REFER TO MECHANICAL PLANS FOR LOCATION OF MECHANICAL EQUIPMENT. LOCATE DISCONNECT SWITCHES PER NEC.
8. REFER TO "CONTROL SCHEMATICS" MECHANICAL DRAWINGS FOR ADDITIONAL CONTROL WIRING AND CONTROL CONNECTIONS.
9. ALL DEVICES, EQUIPMENT, FIXTURES, AND THE LIKE, SHALL BE BONDED WITH A PROPERLY SIZED EQUIPMENT GROUNDING CONDUCTOR. MAINTAIN MECHANICAL/ELECTRICAL BONDS OF METALLIC RACEWAY SYSTEM.

POWER PLAN NOTES (X)

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

SHEET KEYNOTES

P1	MOUNT PANELBOARD "P-1" ABOVE PANELBOARD "P".
P2	FEED FROM NEXT AVAILABLE CIRCUIT FROM PANELBOARD INDICATED ON SCHEDULE.
P3	MOUNT PANELBOARD "SCX" ABOVE DIN RAIL ENCLOSURE "DIN".
P4	MOUNT ROOFTOP SERVICE RECEPTACLE TO STURT AT 1'-0" AFF.
P5	MOUNT CEILING RECEPTACLES TO BOTTOM OF STRUCTURAL JOISTS.
P6	SHELVING IN THIS AREA TO BE REMOVED.
P7	EXTEND TWO (2) 1" CONDUITS FROM MEZZANINE TO 5'-0" OUTSIDE OF WALL AND CAP BELOW GROUND FOR FUTURE USE.
P8	MOUNT QUADRUPLEX RECEPTACLE UNDER DESK TO THE RIGHT OF ADJACENT CASEWORK AND LEFT OF STOREFRONT FRAME.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

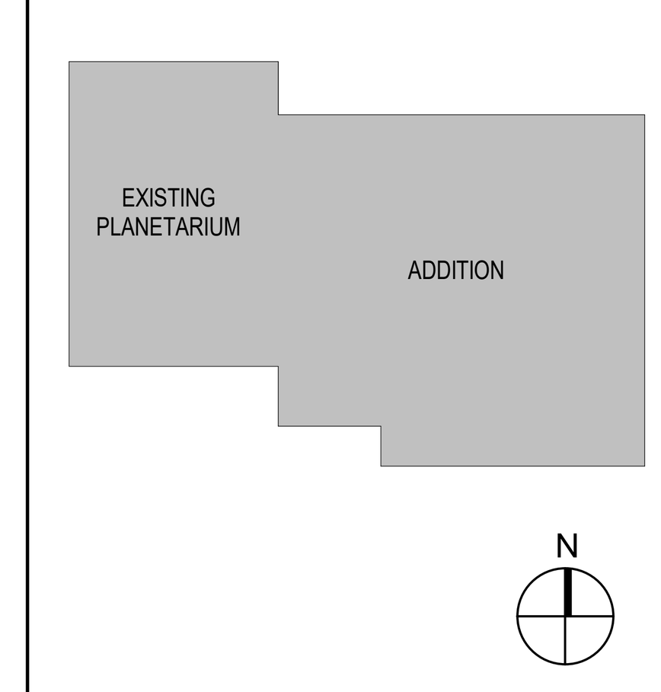
PENN-HARRIS-MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204



BRIAN W. BUTLER REGISTERED No. PE 11600305 STATE OF INDIANA PROFESSIONAL ENGINEER

DRAWN BY: ANE

PROJECT NUMBER: 225001.00

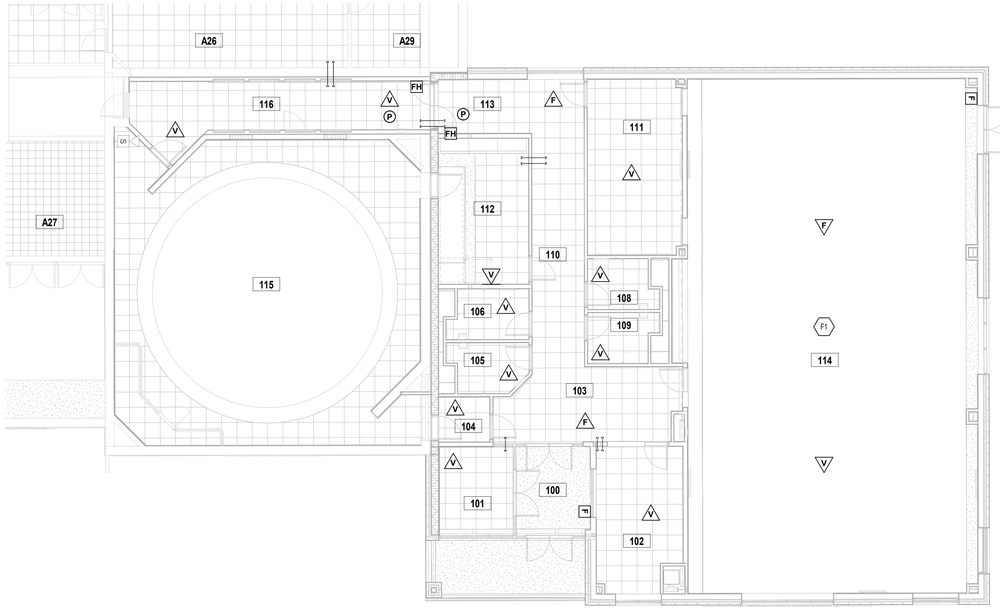
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

POWER PLANS

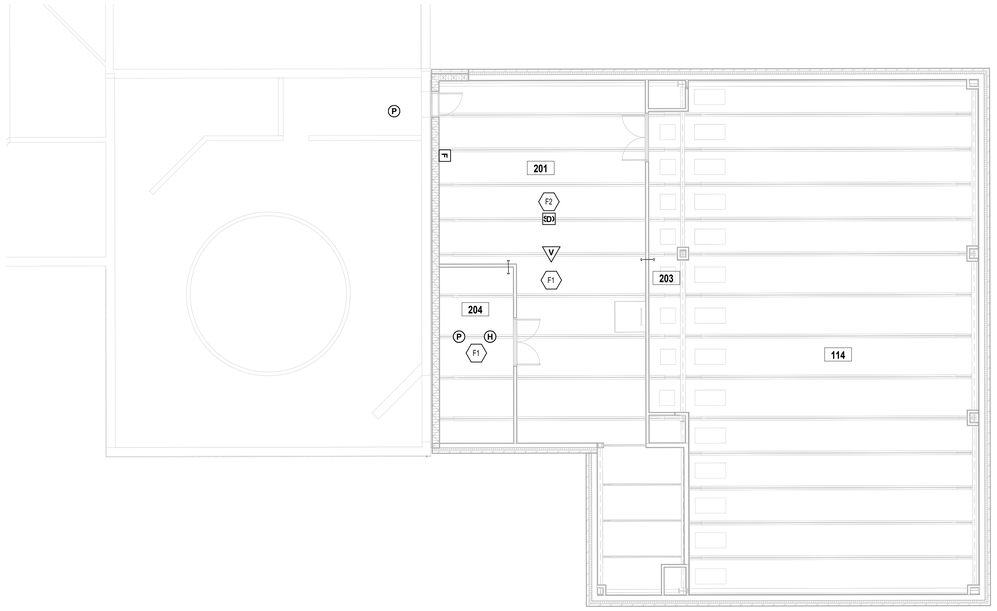
EP110

ROOM LEGEND			
ROOM NO.	OWNER ROOM NO.	ROOM NAME	AREA (SF)
100		VESTIBULE	117 SF
101		DISPLAY	113 SF
102		OFFICE	204 SF
103		LOBBY	222 SF
104		VESTIBULE	40 SF
105		TOILET	63 SF
106		TOILET	66 SF
108		TOILET	57 SF
109		TOILET	57 SF
110		CORRIDOR	206 SF
111		PRESENTATION	284 SF
112		WORKROOM	223 SF
113		CORRIDOR	135 SF
114		SPACE CENTER	2553 SF
115		PLANETARIUM	1495 SF
116		CORRIDOR	271 SF
201		STORAGE	1037 SF
202		STORAGE	136 SF
203		DISPLAY	177 SF
204		MECHANICAL	222 SF
205		STORAGE	204 SF
A26		OFFICE	694 SF
A27		SECURED VESTIBULE	503 SF
A28		CONFERENCE	172 SF
A29		PRINCIPAL	150 SF
A34		PE OFFICE	103 SF
A38		COURTYARD	796 SF



1 FIRST FLOOR FIRE ALARM PLAN

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



2 SECOND FLOOR FIRE ALARM PLAN

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

FIRE ALARM PLAN GENERAL NOTES

1. QUANTITY AND LOCATION OF TAMPER AND FLOW SWITCHES IS FOR BIDDING PURPOSES ONLY. VERIFY EXACT QUANTITY AND LOCATIONS WITH SPRINKLER CONTRACTOR PRIOR TO FIRE ALARM SHOP DRAWING SUBMITTAL.
2. NEW FIRE ALARM DEVICES TO BE CONNECTED TO EXISTING SIMPLEX FIRE ALARM PANEL.

FIRE ALARM NOTES

(X)

(ALL NOTES MAY NOT BE INDICATED ON THIS SHEET)

SHEET KEYNOTES	
F1	MOUNT FIRE ALARM DEVICES IN THIS ROOM TO BOTTOM OF STRUCTURAL JOISTS.
F2	PROVIDE DUCT DETECTOR IN SUPPLY DUCT OF RTU-1. COORDINATE FINAL LOCATION WITH DIVISION 23 CONTRACTOR.

VERIFICATION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS.

SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

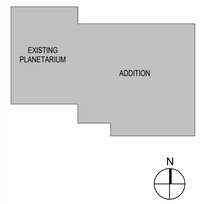
PENN-HARRIS-MADISON SCHOOL CORPORTATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204



BRIAN W. BUTLER
REGISTERED
No.
PE10000
STATE OF
PROFESSIONAL ENGINEER

DRAWN BY: ANE

PROJECT NUMBER: 225001.00

PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

FIRE ALARM PLANS

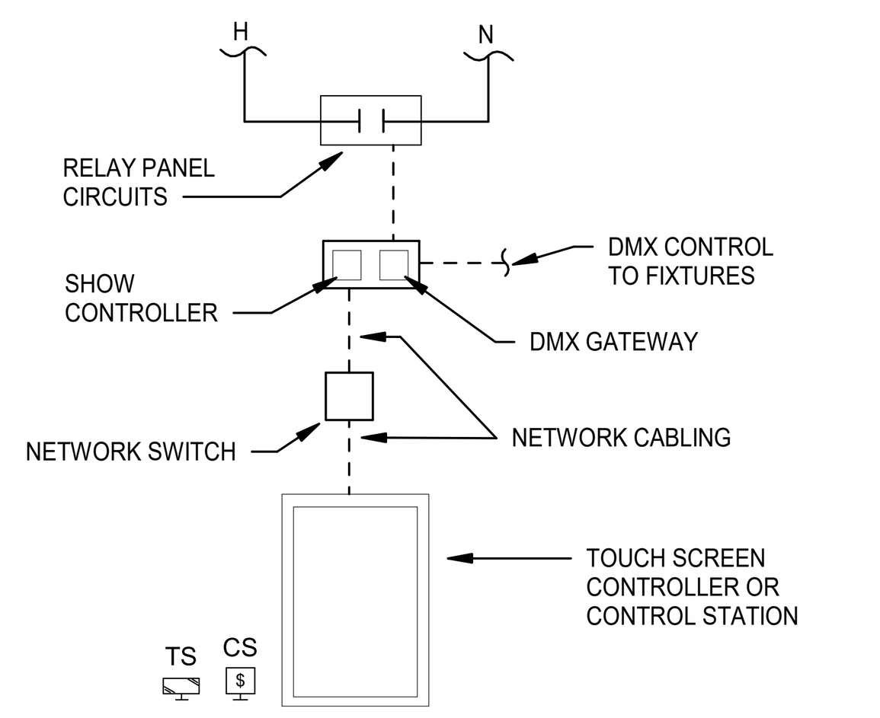
EF100

LIGHTING SEQUENCE OF OPERATIONS NOTES:

1. PROVIDE RELAY PACKS AS REQUIRED TO PERFORM NECESSARY SEQUENCE OF OPERATIONS FOR EACH LISTED.
2. PROVIDE LOW VOLTAGE WIRING PER MANUFACTURERS RECOMMENDATION.
3. ALL SWITCHES SHALL BE DECOR STYLE.
4. WHERE MULTIPLE CONTROL SWITCHES ARE IN THE SAME LOCATION, THEY SHALL BE IN THE SAME BACK BOX WITH SINGLE FACE PLATE
5. QUANTITY OF OCCUPANCY/VACANCY SENSORS, DAYLIGHT SENSORS, AND SWITCHES SHALL BE PER PLANS.

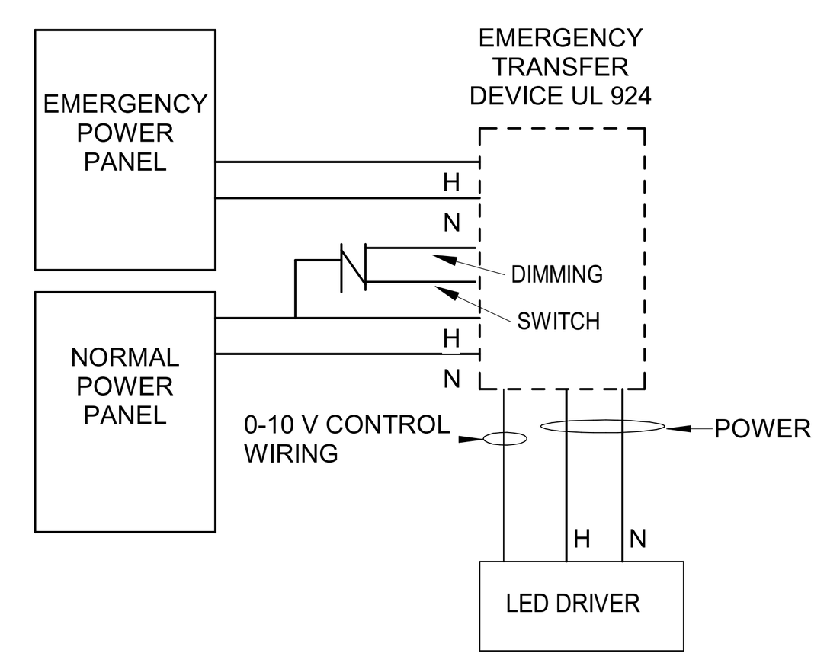
NOTE:
THE LIGHTING IN THE SPACE CENTER (ROOM 114) ARE CONSIDERED SPECIALIZED AND ARE CONTROLLED SEPARATELY FROM THE OTHER ARCHITECTURAL LIGHTS.

1. SYSTEM SHALL BE SET UP SUCH THAT LIGHTING IS CONTROLED BY A TIMECLOCK, ALLOWING FOR AUTOMATIC SHUT OFF OF FIXTURES OVERNIGHT. EXACT TIMES TO BE COORDINATED WITH OWNER.
2. A DEFAULT PRESET WILL BE SET IN COORDINATION WITH THE OWNER, AND ADDITIONAL PRESETS AND SEQUENCES WILL BE PLAYABLE VIA THE TOUCH SCREENS AND CONTROL STATIONS.
3. EMERGENCY FIXTURES SHALL OPERATE AS DESCRIBED ABOVE DURING NORMAL OPERATIONS. IN EMERGENCY SCENARIO TRIGGERED BY NORMAL POWER LOSS, FIXTURES WILL COME ON AT 100% OUTPUT. THIS WILL BE ACHEIVED WITH AN EMERGENCY BYPASS DETECTION KIT AND CONTROLLER AS SHOWN IN THE LIGHTING CONTROL RISER DIAGRAM ON SHEET "E-702".



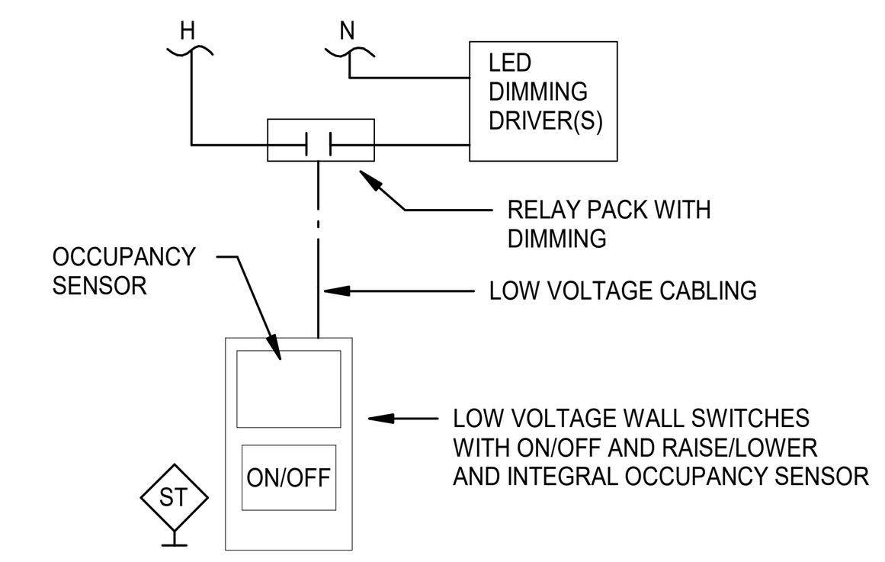
1 LIGHTING CONTROLS - SPACE CENTER
NOT TO SCALE

1. SYSTEM SHALL BE SET UP SUCH THAT LIGHTING SHALL OPERATE WITH THE CONTROLS OF THE NORMAL LIGHTING IN THE SPACE. IN AN EMERGENCY SCENARIO TRIGGERED BY NORMAL POWER LOSS, THE EMERGENCY FIXTURES WILL COME ON AT 100%.
2. THE DIAGRAM BELOW INDICATES WIRING FOR EMERGENCY FIXTURES NOT CONTROLLED BY THE SPACE CENTER SHOW CONTROL SYSTEM SHOWN ON SHEET "E-702".



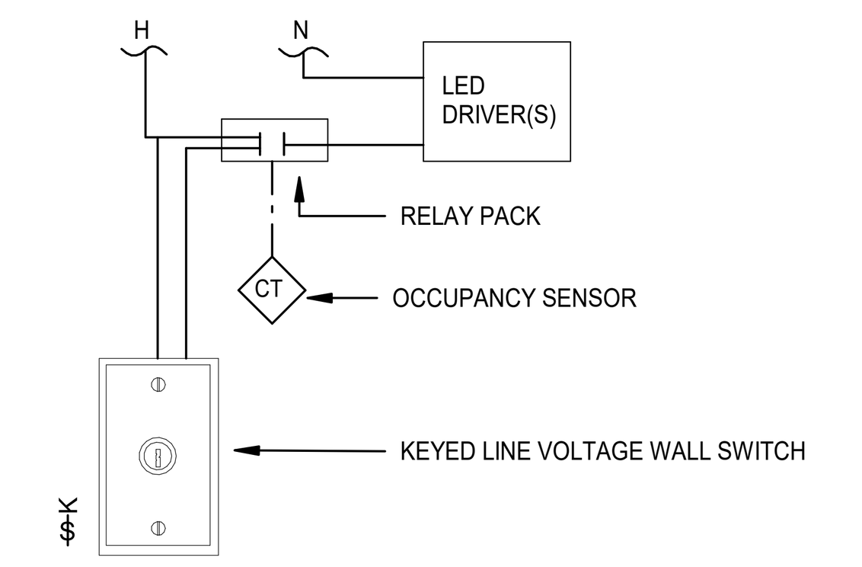
2 LIGHTING CONTROLS - EMERGENCY
NOT TO SCALE

1. SYSTEM SHALL BE SET UP SUCH THAT LIGHTING IS AUTOMATICALLY SWITCHED ON BY OCCUPANCY SENSOR THEN SWITCHED OFF BY OCCUPANCY SENSOR AFTER 15 MINUTES OF ROOM VACANCY.
2. WALL SWITCH SHALL OVERRIDE FIXTURES ON/OFF FOR 15 MINUTES, AT WHICH TIME OCCUPANCY SENSORS WILL REGAIN PRECEDENCE.
3. ONCE LIGHTING IS SWITCHED ON, LIGHTS MAY BE DIMMED THROUGH RAISE/LOWER BUTTONS ON WALL SWITCH.
4. EMERGENCY FIXTURES SHALL OPERATE AS DESCRIBED ABOVE DURING NORMAL OPERATIONS. IN AN EMERGENCY SCENARIO TRIGGERED BY NORMAL POWER LOSS, FIXTURES WILL COME ON AT 100% OUTPUT. THIS SHALL BE ACHIEVED WITH FULL CIRCUIT GENERATOR TRANSFER DEVICE.

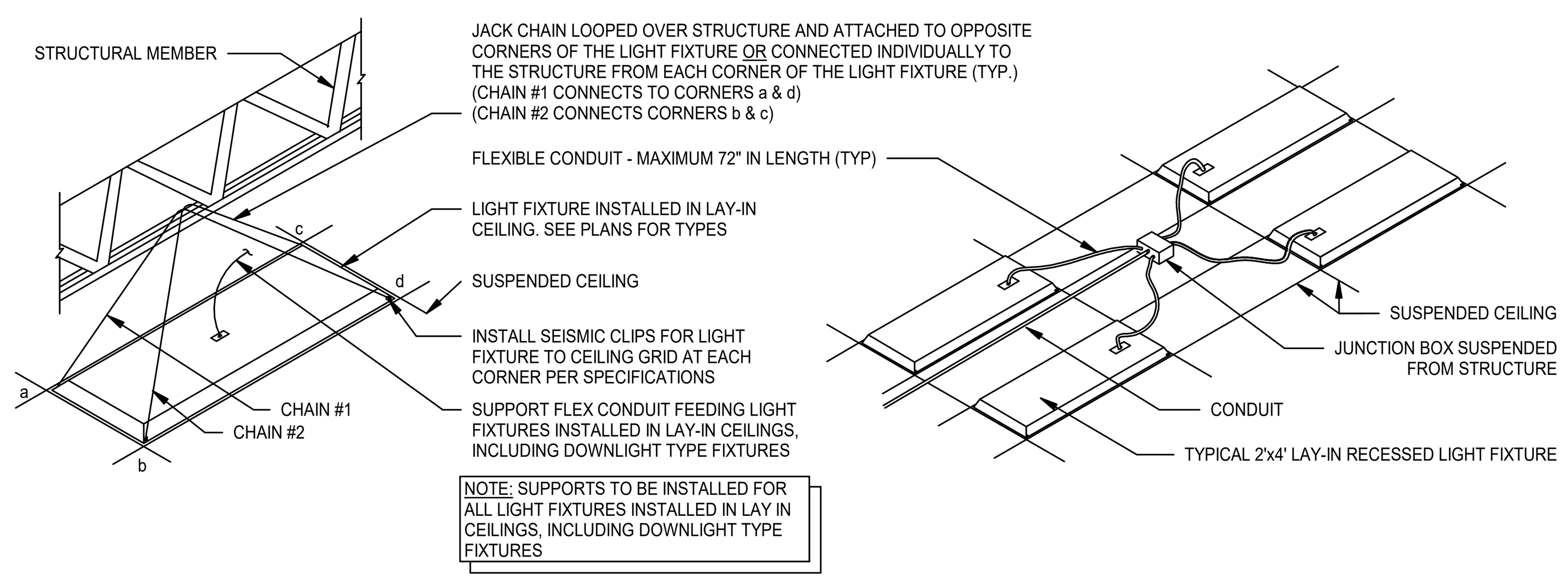


3 LIGHTING CONTROLS - OFFICES
NOT TO SCALE

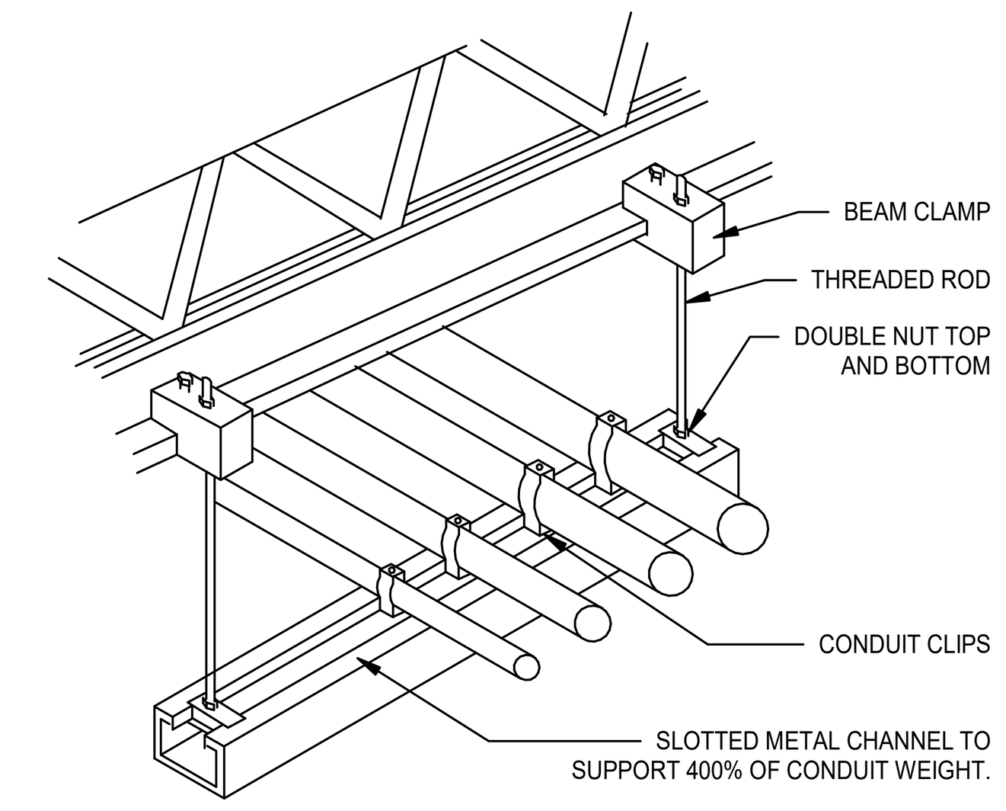
1. SYSTEM SHALL BE SET UP SUCH THAT LIGHTING IS AUTOMATICALLY SWITCHED ON BY OCCUPANCY SENSOR THEN SWITCHED OFF AFTER 15 MINUTES OF VACANCY.
2. HALLWAY LIGHTS SHALL BE CONTROLLED IN ZONES WITH ONE OCCUPANCY SENSOR PER ZONE.
3. WALL SWITCH SHALL OVERRIDE FIXTURES ON/OFF FOR 15 MINUTES, AT WHICH TIME OCCUPANCY SENSORS WILL REGAIN PRECEDENCE.
4. EMERGENCY FIXTURES SHALL OPERATE AS DESCRIBED ABOVE DURING NORMAL OPERATIONS. IN AN EMERGENCY SCENARIO TRIGGERED BY NORMAL POWER LOSS, FIXTURES WILL COME ON AT 100% OUTPUT. THIS CAN BE ACHIEVED WITH FULL CIRCUIT GENERATOR TRANSFER DEVICE.



4 LIGHTING CONTROLS - CORRIDORS & LOBBIES
NOT TO SCALE



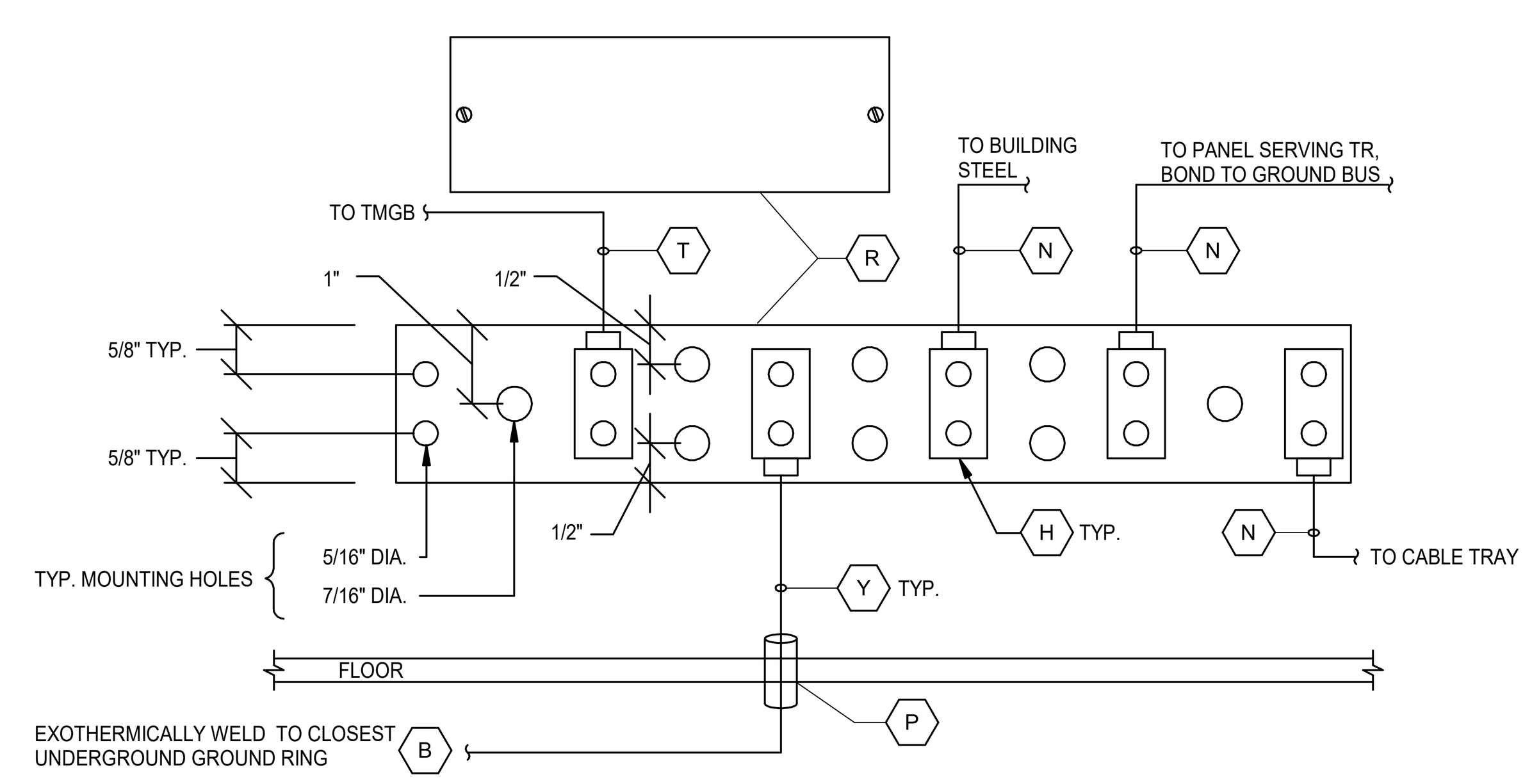
5 RECESSED LIGHT FIXTURE SUPPORT
NOT TO SCALE



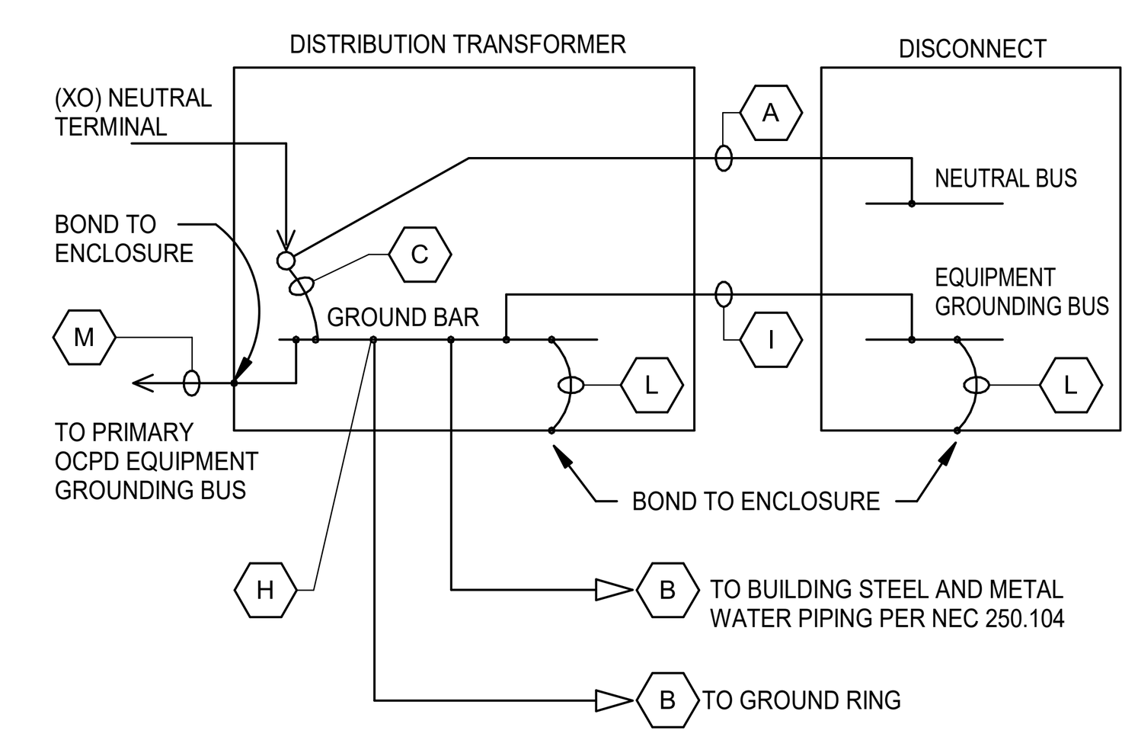
6 2.5" & UP CONDUIT SUPPORT DETAIL
NOT TO SCALE

GROUNDING CODED NOTES:

#	NOTE
A	GROUNDING ELECTRODE CONDUCTOR. BARE, TINNED, STRANDED, COPPER-CONDUCTOR. (30 INCHES BELOW GRADE, MIN.) (24 INCHES FROM FOUNDATION, MIN.) FOR ELECTRICAL SERVICE OF 800 AMP OR LESS USE #2/0 AWG. FOR ELECTRICAL SERVICE GREATER THAN 800 AMP USE #4/0 AWG.
B	GROUNDING CONDUCTOR. 2/0 AWG BARE, TINNED, STRANDED, COPPER-CONDUCTOR.
C	IRREVERSIBLE, COPPER, COMPRESSION CONNECTOR. (CABLE TO CABLE)
H	PROVIDE UL 467 LISTED COMPRESSION CONNECTORS, TWO-HOLE LUGS.
I	SYSTEM BONDING JUMPER CONDUCTOR. SYSTEM BONDING JUMPER CONDUCTOR TO BE RUN IN EACH CONDUIT CONTAINING PHASE CONDUCTORS BETWEEN TRANSFORMER AND MAIN SECONDARY DISCONNECT. (REFER TO ONE-LINE DIAGRAM FOR CONDUCTOR SIZE)
L	EQUIPMENT BONDING JUMPER STRANDED, BARE, COPPER. (<110A USE #6, <410A USE #2, <810A USE #2/0, <2100A USE #4/0) SCREW OF BUSBAR MAY BE USED WHEN PROVIDED AS PART OF LISTED SERVICE EQUIPMENT.
M	EQUIPMENT GROUNDING CONDUCTOR (REFER TO ONE LINE DIAGRAM FOR CONDUCTOR SIZE).
N	TELECOMMUNICATIONS BONDING BACKBONE: #4/0 AWG STRANDED BARE COPPER.
P	1" PVC SLEEVE FOR ALL GROUNDING CONDUCTORS THROUGH FLOOR SLABS. NEVER ROUTE GROUNDING CONDUCTORS IN A METAL CONDUIT.
R	PROVIDE UL 467 LISTED, ELECTRO-TIN-PLATED COPPER BUSBAR, 2" x 12" x 1/4" WITH (2) 2-INCH INSULATED STANDOFF SUPPORTS. PROVIDE ENGRAVED NAMEPLATE SCREWED TO WALL, 6" ABOVE GROUNDING BUS BAR WHICH READS, "IF THESE CONNECTORS OR CABLES ARE LOOSE OR MUST BE REMOVED, PLEASE CALL THE BUILDING TELECOMMUNICATIONS MANAGER".
T	CONTINUOUS, UNSPLICED BONDING CONDUCTOR FOR TELECOMMUNICATIONS: 2/0 AWG BARE, TINNED, STRANDED, COPPER-CONDUCTOR IN CABLE TRAYS.
Y	PROVIDE WRAP AROUND PLASTIC LABEL ON EACH CONDUCTOR AT GROUND BAR. IDENTIFY WHAT THE CABLE IS CONNECTED TO.



7 TYPICAL TR TELECOMMUNICATIONS GROUNDING BUSBAR (TGB) DETAIL
NOT TO SCALE



8 DISTRIBUTION TRANSFORMER GROUNDING DETAIL
NOT TO SCALE

\\data1\citrixprofiles$\aedenburn\my documents\2023_ELEC_Bittersweet ES_aedenburn.rvt
8/13/2025 3:52:36 PM

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

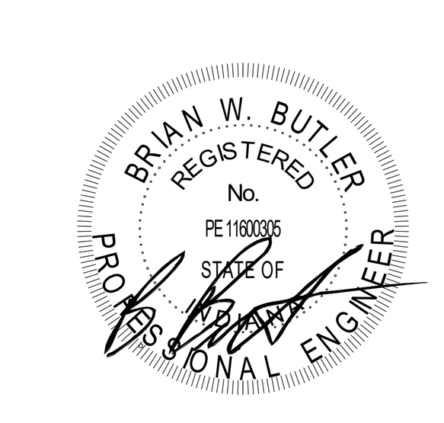
PENN-HARRIS-MADISON SCHOOL CORPORATION

PENN HARRIS MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204



DRAWN BY: ANE
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
1	Addendum 1	08/12/2025
2	Addendum 2	08/21/2025

ELECTRICAL DETAILS AND SEQUENCE OF OPERATIONS

E-501

LUMINAIRE SCHEDULE

LABEL	QTY	MOUNTING	DESCRIPTION	MANUFACTURER & SERIES	ACCESSORIES	FIXTURE SPECS LUMENS	VOLTAGE	VA LOAD
BP2X	1	SURFACE WALL	LED EMERGENCY LIGHTING UNIT WITH BARREL SHAPED ALUMINUM HOUSING AND SELF-DIAGNOSTICS. BLACK	SURE-LITES ATLITE SELAM OR A/E APPROVED EQUAL		0 lm	277 V	11 VA
LD6	4	SURFACE CEILING	6 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	20 VA
LD6-2	9	SURFACE CEILING	6 INCH DIAMETER ROUND DISC FIXTURE WITH 2" DEEP (MAX.) BASE AND FLAT ACRYLIC LENS, 90+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING MARK ARCHITECTURAL LIGHTING OR A/E APPROVED EQUAL	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	120 V	20 VA
LD8	1	SURFACE CEILING	8 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	20 VA
LD10	2	SURFACE CEILING	10 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	25 VA
LD12	2	SURFACE CEILING	14 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	25 VA
LD14	3	SURFACE CEILING	14 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	30 VA
LD16	4	SURFACE CEILING	16 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	35 VA
LD18	3	SURFACE CEILING	18 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	40 VA
LD20	4	SURFACE CEILING	20 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	55 VA
LD22	3	SURFACE CEILING	22 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	70 VA
LD24	1	SURFACE CEILING	24 INCH DIAMETER ROUND DISC FIXTURE WITH ALUMINUM BASE AND FLAT ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING HEINZ MARK ARCHITECTURAL LIGHTING	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	85 VA
LD61	6	RECESSED	6-INCH ROUND APERTURE OPEN REFLECTOR LED DOWNLIGHT, MEDIUM DISTRIBUTION, CLEAR SPECULAR FINISH, SELF-FLANGED, 4000K CCT, 80+ CRI, 0-10VDC DIMMING	PORTFOLIO LS6C LITHONIA LDN6	BAR HANGER ACCESSORY	2000 lm	277 V	22 VA
LDW61	3	RECESSED	6-INCH ROUND APERTURE LED WET RATED LIGHT WITH REGRESSED LENS REFLECTOR, BLACK REFLECTOR AND TRIM, SELF-FLANGED, IP65 WET LOCATION LISTED.	PORTFOLIO LS6C LITHONIA LDN6		1500 lm	277 V	15 VA
LG2	1	PENDANT	2 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR ORANGE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	500 lm	120 V	5 VA
LG2-2	1	PENDANT	2 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR RED TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	500 lm	120 V	5 VA
LG3	1	PENDANT	3 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR WARN WHITE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	500 lm	120 V	5 VA
LG4	1	PENDANT	4 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR BLUE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	500 lm	120 V	5 VA
LG12-M	1	PENDANT	1FT DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR WARM WHITE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	1000 lm	120 V	15 VA
LG14	1	PENDANT	14 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR BLUE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	1000 lm	120 V	25 VA
LG15	1	PENDANT	15 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR COOL WHITE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	1000 lm	120 V	25 VA
LG35	1	PENDANT	35 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR YELLOW TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	2000 lm	120 V	120 VA
LG40	1	PENDANT	40 INCH DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR ORANGE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	2000 lm	120 V	150 VA
LG48-E	1	PENDANT	4FT DIAMETER LED GLOBE FIXTURE, STEM HUNG, RGBW OR BLUE TINTED DIFFUSER, 90+ CRI, DMX OR 1% 0-10VDC DIMMING.	CAMMAN LIGHTING MASON II	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	4000 lm	120 V	160 VA
LP6	28	PENDANT	6-INCH DIAMETER LED CYLINDER DOWNLIGHT, WIDE DISTRIBUTION, RGBW CAPABLE, DMX CONTROLLED.	AQUARII VIANITE OR A/E APPROVED EQUAL	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	4000 lm	120 V	100 VA
LR5	2	SURFACE CEILING	5FT DIAMETER LED RING DOWN LIGHT WITH ALUMINUM BASE AND ACRYLIC LENS, 80+ CRI, 4000K CCT, 0-10VDC DIMMING.	CAMMAN LIGHTING AVALON 4	ABOVE CEILING JUNCTION BOX TILE BRIDGE	2000 lm	277 V	50 VA
LR12	5	SUSPENDED	12FT DIAMETER LED SUSPENDED RING DOWN LIGHT. RGBW CAPABLE, DMX DRIVER	TMB FLOPPYFLEX LARGE CAMMAN LIGHTING AVALON 4	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	15000 lm	120 V	75 VA
LR33	1	SUSPENDED	33FT DIAMETER LED SUSPENDED RING DOWN LIGHT. RGBW CAPABLE, DMX DRIVER	TMB FLOPPYFLEX LARGE CAMMAN LIGHTING AVALON 4	ALL CABLE AND EQUIPMENT NECESSARY FOR COMPLETE INSTALLATION	40000 lm	120 V	120 VA
LS4	19	SUSPENDED	4-FOOT WRAP AROUND FIXTURE, ACRYLIC PRISMATIC DIFFUSER, 0-10VDC DIMMING.	METALUX 4AWS LITHONIA SBL		4000 lm	277 V	48 VA
LT4	4	RECESSED	2 BY 4 FOOT LED FLAT PANEL FIXTURE WITH SATIN WHITE LENS, ALUMINUM FRAME, 4000K CCT, 80+ CRI, ADJUSTABLE LUMEN OUTPUT, 0-10VDC DIMMING	METALUX CGT LITHONIA CPX	(2) JACK CHAINS SEISMIC CLIPS	3900 lm	277 V	45 VA
LTK	50	TRACK	MINI LED ZOOM SPOT TRACK FIXTURE WITH FRAMING. TRACK LENGTHS AND CONFIGURATIONS AS SHOWN ON DRAWINGS.	ETC IRIDEON FPZ	ONETRACK ADAPTER	1000 lm	120 V	25 VA
LV2	4	SURFACE WALL	2FT ALUMINUM WALL BRACKET, 50% UP, 50% DOWN, VANITY LIGHT,80+ CRI, 4000K CCT, 0-10 VDC DIMMING.	LIGHTWAY CWPQ-LED LITHONIA VANITY		2500 lm	277 V	12 VA
M-3X	1	SURFACE WALL	LED WALL MOUNTED LUMINAIRE, WEDGE SHAPED HOUSING, MEDIUM DISTRIBUTION, 4000K CCT, 80+ CRI, DARK BRONZE FINISH. VANDAL RESISTANT.	MCGRAW-EDISON GKO LITHONIA WDGE2	JUNCTION BOX FOR MOUNTING	3200 lm	277 V	32 VA
TLA	8	SURFACE WALL	AUTOMATED, MOVING HEAD, LED SPOT FIXTURE, BLACK.	HIGH END SYSTEMS MINISTAR	MOUNTING BRACKET (4) UNI-BOLTS (2) 2FT UNISTRUT P1000 SERIES CHANNELS POWER AND DATA CONNECTION CABLES CUSTOM GOBOS (SEE SPEC SECTION 26 55 00)	10000 lm	120 V	450 VA
XC	5	SURFACE CEILING	CAST ALUMINUM AC ONLY EXIT SIGN, SINGLE FACE, DIRECTIONAL ARROWS INDICATED, WHITE HOUSING. REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.	SURE-LITES CX LITHONIA SIGNATURE		0 lm	277 V	3 VA
XW	1	SURFACE WALL	CAST ALUMINUM AC ONLY EXIT SIGN, SINGLE FACE, DIRECTIONAL ARROWS INDICATED, WHITE HOUSING. REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.	SURE-LITES CX LITHONIA SIGNATURE		0 lm	277 V	3 VA

2

SHOW EQUIPMENT SCHEDULE

LABEL	QTY	DESCRIPTION	INCLUDE	MANUFACTURER	MODEL
Electrical Equipment					
DIN	1	14 INCH DIN RAIL ENCLOSURE WITH (2) HORIZONTAL RAILS	ENCLOSURE CONTENTS: NETWORK SWITCH MOSAIC CONTROLLER MOSAIC REMOTE AUDIO MOSAIC REMOTE I/O	ETC	DIN28
EBC	1	EMERGENCY BYPASS DMX CONTROLLER, SURFACE MOUNT		ETC	DEBC
EBD	1	EMERGENCY BYPASS DETENCTION		ETC	EBDK
SC-2	1	RELAY PANEL, 208Y/120V THREE-PHASE, 24 CIRCUIT	60A MAIN CIRCUIT BREAKER, 22kA SCCR BREAKERS AS INDICATED ON PANEL SCHEDULE SURFACE MOUNT DOOR 0-10V DIMMING CONTROL	ETC	SENSOR IQ 24 CKT
SCX	1	RELAY PANEL, MULTI-VOLT FEED-THROUGH, 4 CIRCUIT, SURFACE MOUNT	20A SINGLE-POLE BREAKERS 0-10V DIMMING CONTROL VOLTAGE DIVIDER KIT	ETC	FOUNDRY MINI PANEL
SNB	1	8-PORT NETWORK SWITCH IN SURFACE MOUNT ENCLOSURE		ETC	SNB
Lighting Devices					
CS	2	PUSH BUTTON LIGHTING CONTROL STATION, WHITE	LOCKING COVER OR PASSCODE LOCK	ETC	SMALL MOSAIC TOUCH SCREEN
TRK1	5	4FT BY 4FT "L" SHAPED TRACK, (2) 120V CIRCUITS, DMX DATA BUS, BLACK	ALL NECESSARY EQUIPMENT FOR COMPLETE STRUCTURAL STEEL SUSPENSION INSTALLATION	ETC	ONETRACK
TRK2	1	10FT DIAMETER CIRCULAR OR 8FT BY 8FT SQUARE TRACK, (2) 120V CIRCUITS, DMX DATA BUS,BLACK	ALL NECESSARY EQUIPMENT FOR COMPLETE STRUCTURAL STEEL SUSPENSION INSTALLATION	ETC	ONETRACK
TRK3	1	8FT LINEAR TRACK, (2) 120V CIRCUITS, DMX DATA BUS,BLACK	ALL NECESSARY EQUIPMENT FOR COMPLETE STRUCTURAL STEEL SUSPENSION INSTALLATION	ETC	ONETRACK
TRK4	1	12FT LINEAR TRACK, (2) 120V CIRCUITS, DMX DATA BUS,BLACK	ALL NECESSARY EQUIPMENT FOR COMPLETE STRUCTURAL STEEL SUSPENSION INSTALLATION	ETC	ONETRACK
TS	2	7 INCH TOUCH SCREEN LIGHTING CONTROL STATION	LOCKING COVER OR PASSCODE LOCK	ETC	MOSAIC TOUCH SCREEN

LUMINAIRE SCHEDULE - GENERAL NOTES

1. SEE SPECIFICATIONS FOR DRIVER REQUIREMENTS.
2. FOR ALL DOWNLIGHTING FIXTURES, PROVIDE REQUIRED MOUNTING HARDWARE FOR MOUNTING IN LAY-IN TYPE CEILINGS.
3. CONTRACTOR TO VERIFY TYPES AND QUANTITY OF LIGHT FIXTURES REQUIRING EMERGENCY TRANSFER DEVICES AND PROVIDE REQUIRED QUANTITY OF EMERGENCY TRANSFER DEVICES, LABOR, MATERIAL, ETC. IN THE PROJECT BID FOR FIELD INSTALLATION OF EMERGENCY TRANSFER DEVICES.
4. LIGHT FIXTURE SUBMITTALS TO INCLUDE DATA SHEETS FOR ALL FIXTURE TYPES, INCLUDING ADDITIONAL DATA SHEETS FOR DRIVER COMBINATIONS REQUIRED TO MEET THE INSTALLATION REQUIREMENTS OF THE VARIOUS FIXTURE TYPES INDICATED IN THE REMARKS COLUMN OF THE FIXTURE SCHEDULES OR ON THE DRAWINGS. SUBMITTALS SHALL ALSO INDICATE COLOR FOR ANY CUSTOM COLOR LIGHT FIXTURES.

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORATION

PENN HARRIS MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204

BRIAN W. BUTLER REGISTERED No. PE11600095 STATE OF INDIANA PROFESSIONAL ENGINEER

DRAWN BY: ANE
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

2

REV. NO.	DESCRIPTION	DATE
1	Addendum 1	08/12/2025
2	Addendum 2	08/21/2025

LUMINAIRE AND EQUIPMENT SCHEDULES

E-601

\\data1\cifsprofiles$\aedenburn\my documents\2023_ELEC_Bittersweet ES_aedenburn.rvt
8/20/2025 12:29:37 PM

Branch Panel: LSC

Location: STORAGE 202
Supply From: MSWB
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Main Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Transformer T-SC, 75 kVA	125 A	3	14222...	768 VA					1	20 A	MEZZANINE LTG	2
3	--	--	--			14116...	1048 VA			1	20 A	FIRST FLOOR LTG - All but SC	4
5	--	--	--					14362...	3334 VA	3	20 A	VVR-101, RM.204 (Note 1)	6
7	VVR-103, RM.204 (Note 1)	20 A	3	1458 VA	3334 VA					--	--	--	8
9	--	--	--			1458 VA	3334 VA			--	--	--	10
11	--	--	--					1458 VA	7499 VA	3	30 A	VVR-114B, RM.201 (Note 2)	12
13	VVR-111, RM.201 (Note 1)	20 A	3	4168 VA	7499 VA					--	--	--	14
15	--	--	--			4168 VA	7499 VA			--	--	--	16
17	--	--	--					4168 VA	2915 VA	3	20 A	VVR-201, RM.201 (Note 1)	18
19	VVR-114A, RM.201 (Note 2)	30 A	3	7499 VA	2915 VA					--	--	--	20
21	--	--	--			7499 VA	2915 VA			--	--	--	22
23	--	--	--					7499 VA	26019...	3	110 A	RTU-1, ROOF MOUNTED, RM.201 (Note 4)	24
25	RS-1, RM.201 (Note 3)	50 A	3	10720...	26019...					--	--	--	26
27	--	--	--			10720...	26019...			--	--	--	28
29	--	--	--					10720...	0 VA	1	20 A	SPARE	30
31	SPARE	20 A	3	0 VA	0 VA					1	20 A	SPARE	32
33	--	--	--			0 VA	0 VA			1	20 A	SPARE	34
35	--	--	--					0 VA	0 VA	1	20 A	SPARE	36
37	SPARE	20 A	3	0 VA	0 VA					1	20 A	SPARE	38
39	--	--	--			0 VA	0 VA			1	20 A	SPARE	40
41	--	--	--					0 VA	0 VA	1	20 A	SPARE	42
		Total Load:		78602 VA		78776 VA		77974 VA					
		Total Amps:		284 A		285 A		281 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	173735 VA	111.23%	193249 VA		
Other	34460 VA	100.00%	34460 VA	**Total Conn. Load:**	235351 VA
Spare	10 VA	100.00%	10 VA	**Total Est. Demand:**	253327 VA
Lighting	8646 VA	125.00%	10808 VA	**Total Conn.:**	283 A
Receptacle - Convenience	18500 VA	80.00%	14800 VA	**Total Est. Demand:**	305 A

Notes:
1. 4 #12, #12 G IN 3/4" C
2. 4 #10, #10 G IN 3/4" C
3. 4 #6, #10 G IN 3/4" C
4. 4 #1, #6 G IN 3/4" C

Branch Panel: SC-1

Location: STORAGE 202
Supply From: T-SC
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Main Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacles - Rm 101	20 A	1	540 VA	1340 VA					1	20 A	SC Receptacle - SW Corner	2
3	Receptacles - Office	20 A	1			1080 VA	1160 VA			1	20 A	SC Receptacles - SE Corner	4
5	Receptacles - Workroom	20 A	1					900 VA	1040 VA	1	20 A	SC Receptacles - N Wall	6
7	Receptacles - Corridor	20 A	1	1120 VA	940 VA					1	20 A	SC Receptacles - E Wall	8
9	Receptacles - Bathrooms	20 A	1			900 VA	1120 VA			1	20 A	SC Receptacles - Presentation	10
11	Receptacles - Planetarium	20 A	1					900 VA	1160 VA	1	20 A	SC Receptacles - Work Area	12
13	Receptacle - AV Rack	20 A	1	360 VA	1440 VA					1	20 A	SC Receptacles - S Floor	14
15	Receptacle - IDF	20 A	1			360 VA	1080 VA			1	20 A	SC Receptacles - Center Floor	16
17	Receptacles - Ceiling	20 A	1					360 VA	540 VA	1	20 A	Receptacle - Mezz. Display	18
19	Receptacles - Mezzanine	20 A	1	720 VA	1080 VA					1	20 A	SC Receptacles - N Floor	20
21	EUH-204, RM.204 (Note 2)	20 A	3			3267 VA	250 VA			1	20 A	WINDOW SHADES, RM.114 (Note 1)	22
23	--	--	--					3267 VA	360 VA	1	20 A	Receptacles - Exterior Wall	24
25	--	--	--	3267 VA	200 VA					1	20 A	TCP (Note 1)	26
27	PANEL FEED: SC-2 (Note 3)	60 A	3			2945 VA	1944 VA			1	20 A	EF-1, EF-2, RM. 204 (Note 1)	28
29	--	--	--					2770 VA	3065 VA	1	20 A	DWH-1, DWCP-1, RM.204 (Note 1)	30
31	--	--	--	3215 VA	0 VA					1	20 A	SPARE	32
33	THTR SENSE FEED	20 A	1			10 VA	0 VA			1	20 A	SPARE	34
35	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	36
37	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	38
39	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	40
41	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	42
		Total Load:		14222 VA		14116 VA		14362 VA					
		Total Amps:		119 A		118 A		120 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	15059 VA	108.30%	16309 VA		
Other	1480 VA	100.00%	1480 VA	**Total Conn. Load:**	42699 VA
Spare	10 VA	100.00%	10 VA	**Total Est. Demand:**	42162 VA
Lighting	7650 VA	125.00%	9563 VA	**Total Conn.:**	119 A
Receptacle - Convenience	18500 VA	80.00%	14800 VA	**Total Est. Demand:**	117 A

Notes:
1. 2 #12, #12 G IN 3/4" C
2. 4 #12, #12 G IN 3/4" C
3. 4 #6, #10 G IN 3/4" C

RELAY Panel: SCX

Location: STORAGE 202
Supply From: LEM, EM
Mounting: WALL, SURFACE

Volts: 120V , 277V
Mains Type: Feed Through

Notes:

CKT	Voltage	Feed Panel	Circuit Description	Trip	Poles	A	B	C
1	277 V	LEM	NON SPACE CENTER EMERGENCY LTG	20 A	1	100 VA		
2	277 V	LEM	EXTERIOR LIGHTS	20 A	1		100 VA	
3	120 V	EM	SPACE CENTER EM LTG (DMX)	20 A	1			660 VA
4	120 V	EM	RM 111 EM LTG (0-10VDC DIMMING)	20 A	1	100 VA		
5			SPARE	20 A	1		0 VA	
6			SPARE	20 A	1			0 VA
7			SPARE	20 A	1	0 VA		
8			SPARE	20 A	1		0 VA	
					Total Load:	200 VA	100 VA	660 VA
			THIS SECTION TOTAL:		**Total Amps:**			
					Total Load:	0 VA	0 VA	0 VA
			TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:		**Total Amps:**			
					Total Load:	200 VA	100 VA	660 VA
			PANEL GRAND TOTALS:		**Total Amps:**			

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Spare	960 VA	100.00%	960 VA		
				Total Conn. Load:	960 VA
				Total Est. Demand:	960 VA
				Total Conn. Current:	Not Computed
				Total Est. Demand Current:	Not Computed

Notes:
VERIFY IN FIELD THE CONNECTION OF EMERGENCY PANELS "LEM" AND "EM" TO THE EMERGENCY GENERATOR AND THEIR NEXT AVAILABLE 20A SPARE CIRCUITS.
IF SPARE CIRCUITS ARE NOT AVAILABLE, CONNECT TO NEAREST 120V AND 277V EMERGENCY PANELS WITH 20A SPARE CIRCUITS.

RELAY Panel: SC-2

Location: STORAGE 202
Supply From: SC-1
Mounting: WALL, SURFACE

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Main Type: MCB
Mains Rating: 60 A
MCB Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	ENTRY GLOBES	20 A	1	175 VA	150 VA					1	20 A	NW CORNER TRACK	2
3	ENTRY TRACK	20 A	1			155 VA	150 VA			1	20 A	NE CORNER TRACK	4
5	GLOBES	20 A	1					340 VA	125 VA	1	20 A	E LINEAR TRACK	6
7	SUSPENDED RINGS	20 A	1	495 VA	125 VA					1	20 A	SE CORNER TRACK	8
9	RM 111	20 A	1			240 VA	125 VA			1	20 A	SW CORNER TRACK	10
11	SE AUTOMATED FIXTURES	20 A	1					900 VA	150 VA	1	20 A	MEZZANINE TRACK	12
13	SW AUTOMATED FIXTURES	20 A	1	900 VA	300 VA					1	20 A	CENTER TRACK	14
15	NE AUTOMATED FIXTURES	20 A	1			900 VA	400 VA			1	20 A	HOUSE LTG ROW 1	16
17	NW AUTOMATED FIXTURES	20 A	1					900 VA	800 VA	1	20 A	HOUSE LTG ROW 2-3	18
19	SPARE	20 A	1	0 VA	800 VA					1	20 A	HOUSE LTG ROW 4-5	20
21	SPARE	20 A	1			0 VA	800 VA			1	20 A	HOUSE LTG ROW 6-7	22
23	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	24
		Total Load:		2945 VA		2770 VA		3215 VA					
		Total Amps:		25 A		23 A		27 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	1280 VA	100.00%	1280 VA		
Lighting	7650 VA	125.00%	9563 VA	**Total Conn. Load:**	8930 VA
				Total Est. Demand:	10843 VA
				Total Conn.:	25 A
				Total Est. Demand:	30 A

Notes:

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM

350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204

BRIAN W. BUTLER REGISTERED No. PE10000 STATE OF PROFESSIONAL ENGINEER

DRAWN BY: ANE

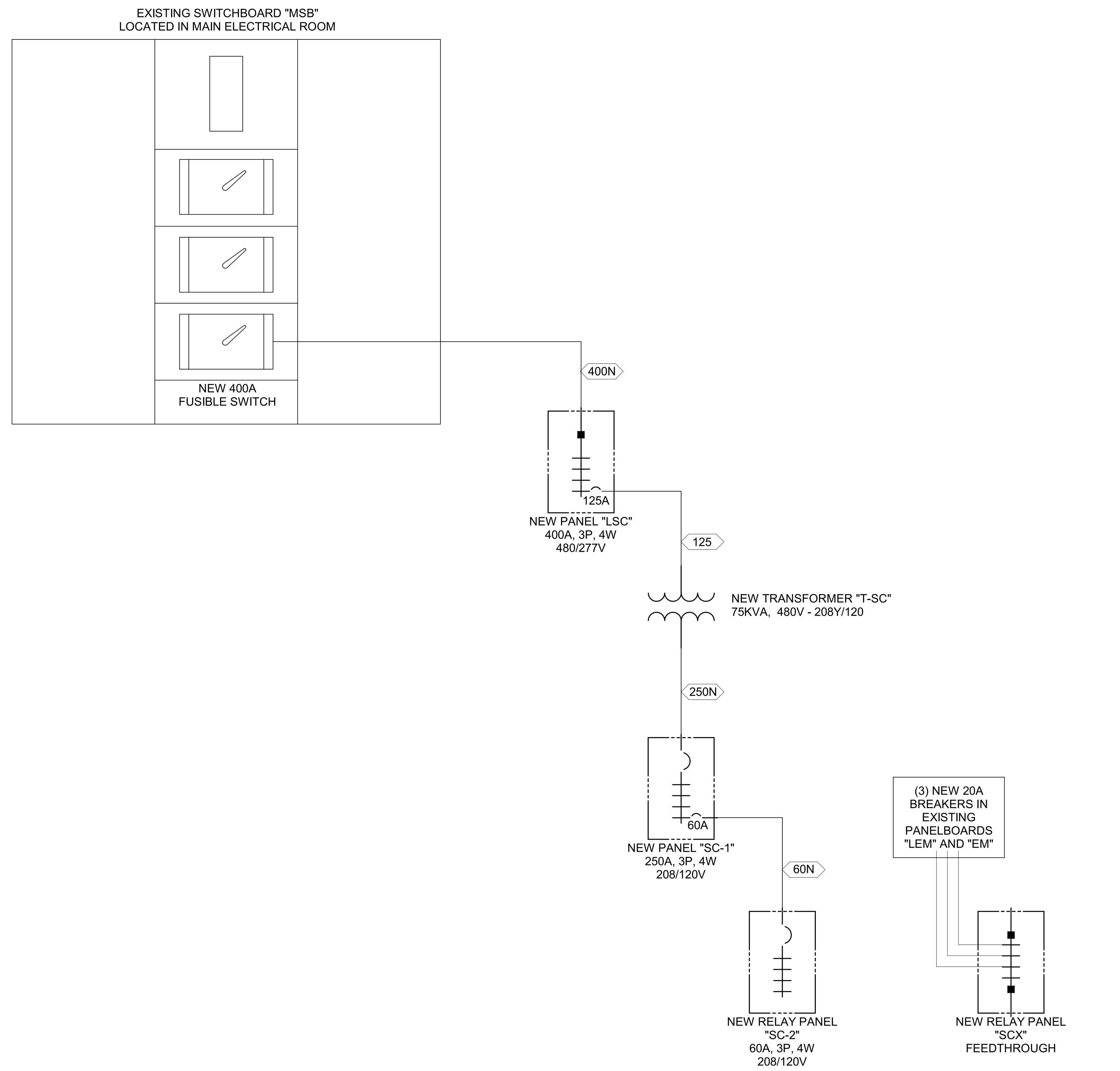
PROJECT NUMBER: 225001.00

PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
1	Addendum 1	08/12/2025
2	Addendum 2	08/21/2025

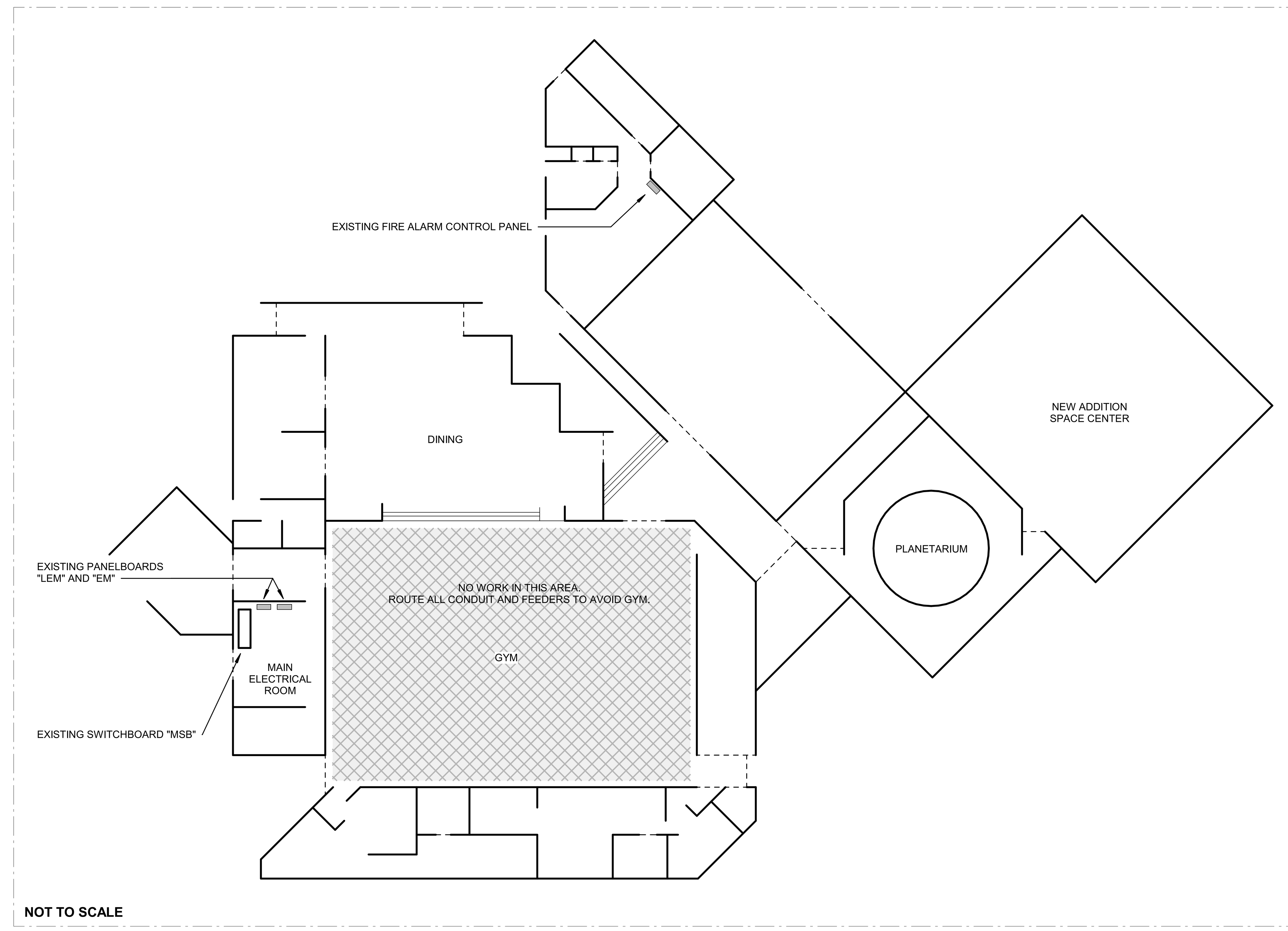
PANELBOARD SCHEDULES

E-602



EXISTING SWITCHBOARD "MSB"
LOCATED IN MAIN ELECTRICAL ROOM
NEW 400A
FUSIBLE SWITCH
400N
125A
NEW PANEL "LSC"
400A, 3P, 4W
480/277V
125
NEW TRANSFORMER "T-SC"
75KVA, 480V - 208Y/120
250N
60A
NEW PANEL "SC-1"
250A, 3P, 4W
208/120V
60N
(3) NEW 20A
BREAKERS IN
EXISTING
PANELBOARDS
"LEM" AND "EM"
NEW RELAY PANEL
"SC-2"
60A, 3P, 4W
208/120V
NEW RELAY PANEL
"SCX"
FEEDTHROUGH

ELECTRICAL ONE-LINE

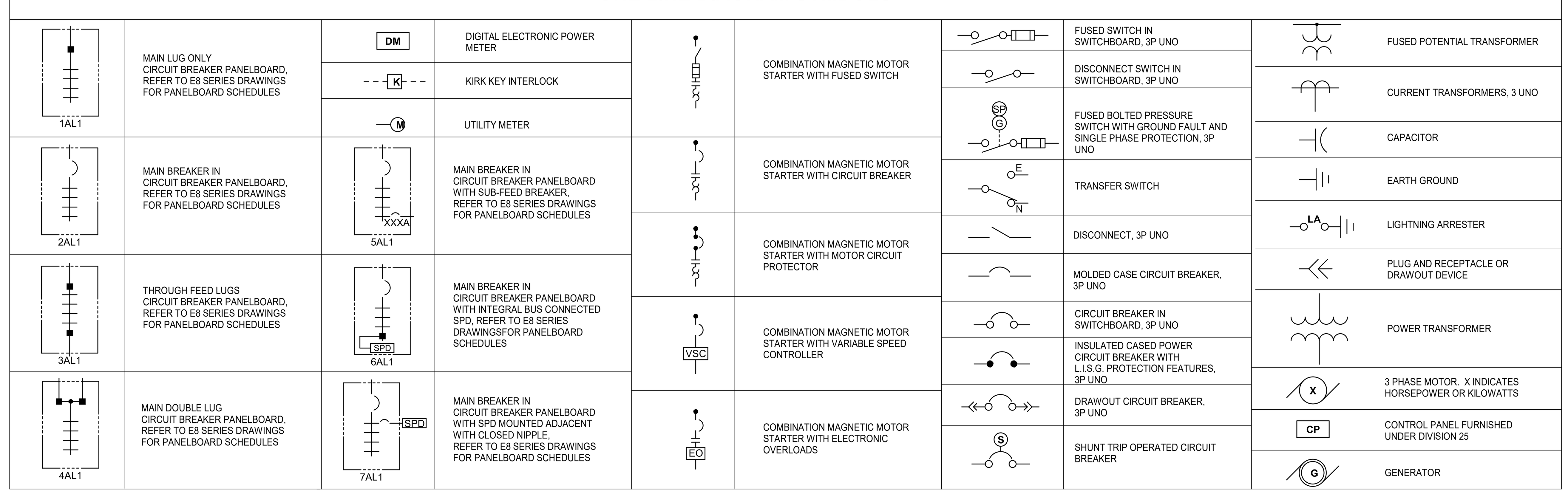


COPPER FEEDER SCHEDULE

SOURCE 2014 NEC T310.15(B)(16), COPPER 75C,
(THHW, THW, THWN, XHHW)

X	NO.	CONDUCTOR SIZE			CONDUIT
FEEDER	OF	PHASE	NEUTRAL	GROUND	SIZE
LEGEND	SETS	QTY	(1)	(1)	Inches
15	1	3 # 14		#14	3/4
15N	1	3 # 14	#14	#14	3/4
20	1	3 # 12		#12	3/4
20N	1	3 # 12	#12	#12	3/4
30	1	3 # 10		#10	3/4
30N	1	3 # 10	#10	#10	3/4
40	1	3 # 8		#10	3/4
40N	1	3 # 8	#8	#10	3/4
60	1	3 # 6		#10	1
60N	1	3 # 6	#6	#10	1
80	1	3 # 4		#8	1 1/4
80N	1	3 # 4	#4	#8	1 1/4
100	1	3 # 3		#8	1 1/2
100N	1	3 # 3	#3	#8	1 1/2
125	1	3 # 1		#6	2
125N	1	3 # 1	#1	#6	2
150	1	3 # 1/0		#6	2
150N	1	3 # 1/0	#1/0	#6	2
175	1	3 # 2/0		#6	2
175N	1	3 # 2/0	#2/0	#6	2
200	1	3 # 3/0		#6	2
200N	1	3 # 3/0	#3/0	#6	2
225	1	3 # 4/0		#4	2 1/2
225N	1	3 # 4/0	#4/0	#4	2 1/2
250	1	3 # 250		#4	2 1/2
250N	1	3 # 250	#250	#4	2 1/2
300	1	3 # 350		#3	3
300N	1	3 # 350	#350	#3	3
350	1	3 # 500		#3	4
350N	1	3 # 500	#500	#3	4
400	1	3 # 600		#3	4
400N	1	3 # 600	#600	#3	4
500	2	3 # 250		#2	2 1/2
500N	2	3 # 250	#250	#2	2 1/2
600	2	3 # 350		#1	3
600N	2	3 # 350	#350	#1	3
800	2	3 # 600		#1/0	4
800N	2	3 # 600	#600	#1/0	4
1000	3	3 # 400		#2/0	3
1000N	3	3 # 400	#400	#2/0	3
1200	3	3 # 600		#3/0	4
1200N	3	3 # 600	#600	#3/0	4
1600	4	3 # 600		#4/0	4
1600N	4	3 # 600	#600	#4/0	4
2000	5	3 # 600		#250	4
2000N	5	3 # 600	#600	#250	4
2500	6	3 # 600		#350	4
2500N	6	3 # 600	#600	#350	4
3000	7	3 # 600		#400	4
3000N	7	3 # 600	#600	#400	4
3300	8	3 # 600		#400	4
3300N	8	3 # 600	#600	#400	4
3700	9	3 # 600		#400	4
3700N	9	3 # 600	#600	#400	4

ONE LINE DIAGRAM SYMBOLS



1AL1
MAIN LUG ONLY CIRCUIT BREAKER PANELBOARD, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
2AL1
MAIN BREAKER IN CIRCUIT BREAKER PANELBOARD, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
3AL1
THROUGH FEED LUGS CIRCUIT BREAKER PANELBOARD, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
4AL1
MAIN DOUBLE LUG CIRCUIT BREAKER PANELBOARD, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
DM
DIGITAL ELECTRONIC POWER METER
K
KIRK KEY INTERLOCK
M
UTILITY METER
XXXA
5AL1
MAIN BREAKER IN CIRCUIT BREAKER PANELBOARD WITH SUB-FEED BREAKER, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
SPD
6AL1
MAIN BREAKER IN CIRCUIT BREAKER PANELBOARD WITH INTEGRAL BUS CONNECTED SPD, REFER TO E8 SERIES DRAWINGSFOR PANELBOARD SCHEDULES
SPD
7AL1
MAIN BREAKER IN CIRCUIT BREAKER PANELBOARD WITH SPD MOUNTED ADJACENT WITH CLOSED NIPPLE, REFER TO E8 SERIES DRAWINGS FOR PANELBOARD SCHEDULES
COMBINATION MAGNETIC MOTOR STARTER WITH FUSED SWITCH
COMBINATION MAGNETIC MOTOR STARTER WITH CIRCUIT BREAKER
COMBINATION MAGNETIC MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR
VSC
COMBINATION MAGNETIC MOTOR STARTER WITH VARIABLE SPEED CONTROLLER
EO
COMBINATION MAGNETIC MOTOR STARTER WITH ELECTRONIC OVERLOADS
FUSED SWITCH IN SWITCHBOARD, 3P UNO
DISCONNECT SWITCH IN SWITCHBOARD, 3P UNO
SP
G
FUSED BOLTED PRESSURE SWITCH WITH GROUND FAULT AND SINGLE PHASE PROTECTION, 3P UNO
E
N
TRANSFER SWITCH
DISCONNECT, 3P UNO
MOLDED CASE CIRCUIT BREAKER, 3P UNO
CIRCUIT BREAKER IN SWITCHBOARD, 3P UNO
INSULATED CASED POWER CIRCUIT BREAKER WITH L.I.S.G. PROTECTION FEATURES, 3P UNO
DRAWOUT CIRCUIT BREAKER, 3P UNO
S
SHUNT TRIP OPERATED CIRCUIT BREAKER
FUSED POTENTIAL TRANSFORMER
CURRENT TRANSFORMERS, 3 UNO
CAPACITOR
EARTH GROUND
LA
LIGHTNING ARRESTER
PLUG AND RECEPTACLE OR DRAWOUT DEVICE
POWER TRANSFORMER
X
3 PHASE MOTOR. X INDICATES HORSEPOWER OR KILOWATTS
CP
CONTROL PANEL FURNISHED UNDER DIVISION 25
G
GENERATOR

\\data1\citrixprofiles$\aedenburn\my documents\2023_ELEC_Bittersweet ES_aedenburn.rvt
8/13/2025 3:52:39 PM

PHM Science and Space Exploration Center

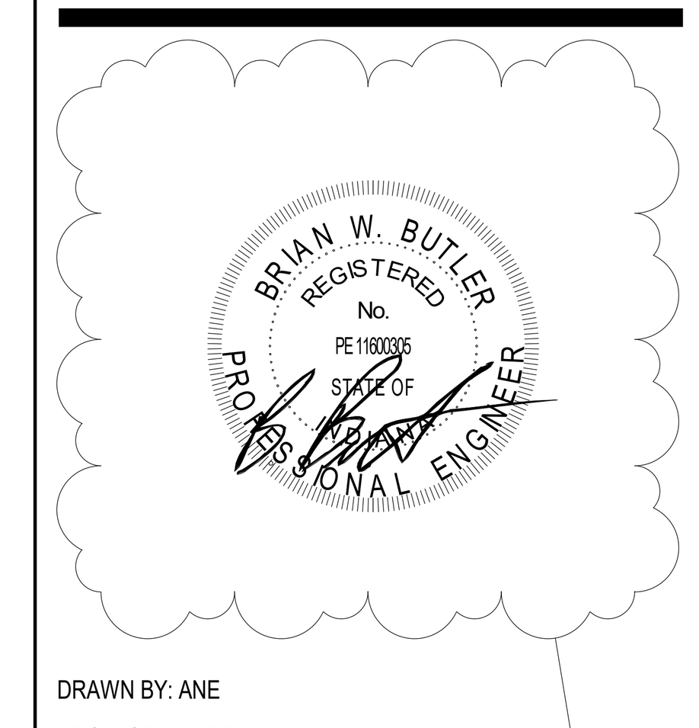
55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON
SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204

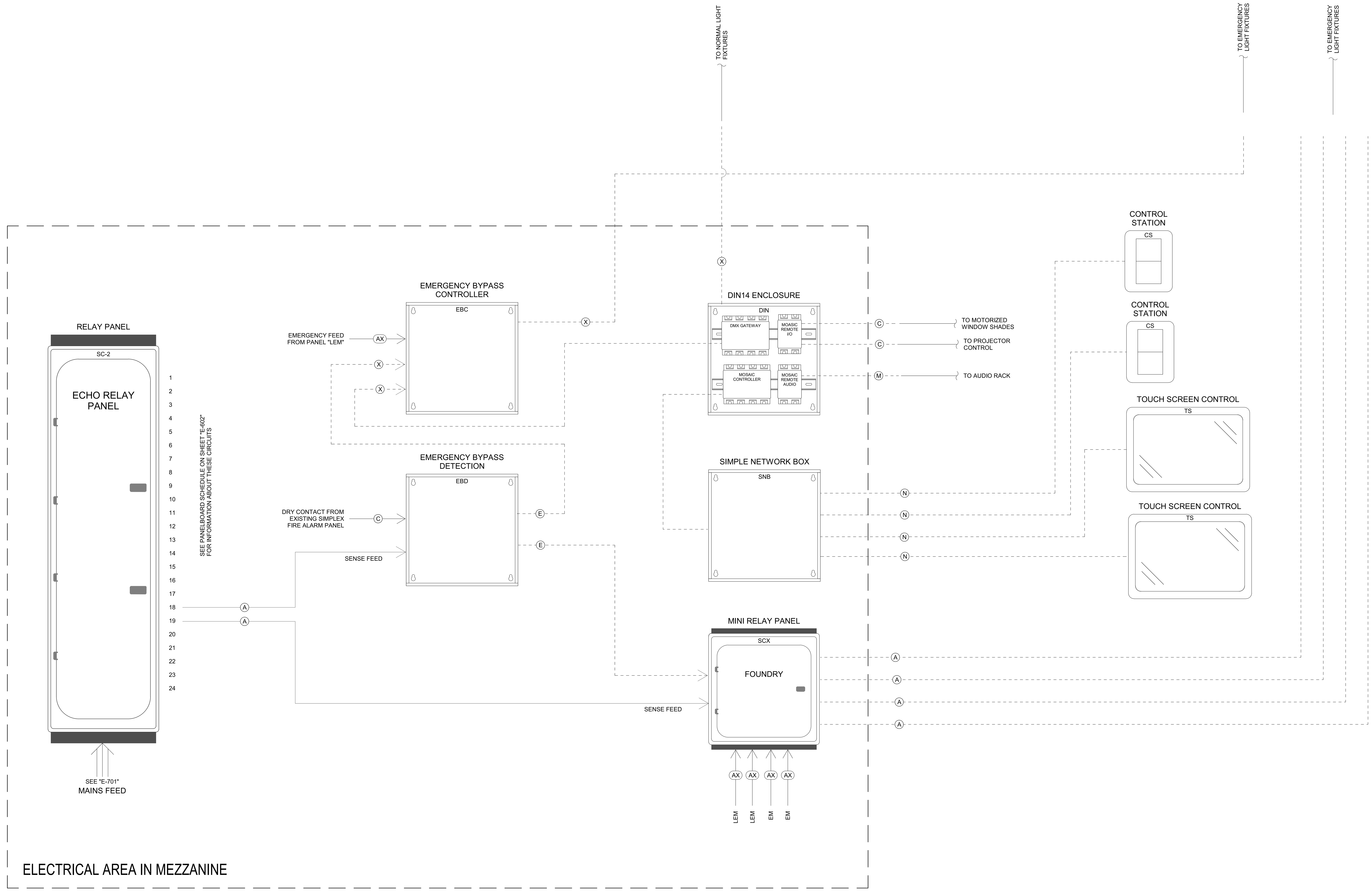


DRAWN BY: ANE
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

ELECTRICAL ONE-LINE DIAGRAM

E-701



SPACE CENTER SHOW CONTROL RISER

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

WIRE SYMBOL LEGEND		
A	NORMAL POWER	(2) #12, #12G UNO
AX	EMERGENCY POWER	(2) #12, #12G UNO
C	DRY CONTACT	(2) #16
E	EMERGENCY CONTROL	(2) #16
M	MIDI CONTROL	(1) CAT6A PER DIV 27 SPECS
N	NETWORK	(1) CAT6A PER DIV 27 SPECS
X	DMX	(1) TMB PROPLEX PC244T

PHM Science and Space Exploration Center

55860 BITTERSWEET RD,
MISHAWAKA, IN 46545

PENN-HARRIS-MADISON SCHOOL CORPORATION

ARCHITECT

FANNING HOWEY

317.848.0966 WWW.FHAI.COM
350 E NEW YORK ST #300,
INDIANAPOLIS, IN 46204

BRIAN W. BUTLER REGISTERED No. PE1160XX STATE OF PROFESSIONAL ENGINEER

DRAWN BY: ANE
PROJECT NUMBER: 225001.00
PROJECT ISSUE DATE: 06.30.2025

REV. NO.	DESCRIPTION	DATE
2	Addendum 2	08/21/2025

SHOW CONTROL RISER DIAGRAM

E-702