# XAVIER UNIVERSITY

# SCHOTT HALL ADMISSIONS OFFICE RENOVATION PHASE II



Schott Hall Admissions Renovation Phase II

Office

XAVIER

OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967



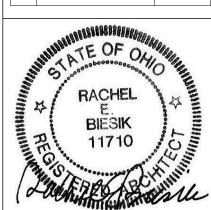
MECHANICAL/ELECTRICAL ENGINEERS

WWW.KLHENGRS.COM

1538 ALEXANDRIA PIKE, SUITE
11 FT. THOMAS, KENTUCKY
41075 800-354-9783
859-442-8050
859-442-8058 FAX

No. Description Date

1 BID & PERMIT 07/14/17



RACHEL E. BIESIK, LICENSE #1171 EXPIRATION DATE: 12/31/2017 DRAWN BY: CHECKED BY:

COVER

SHEET

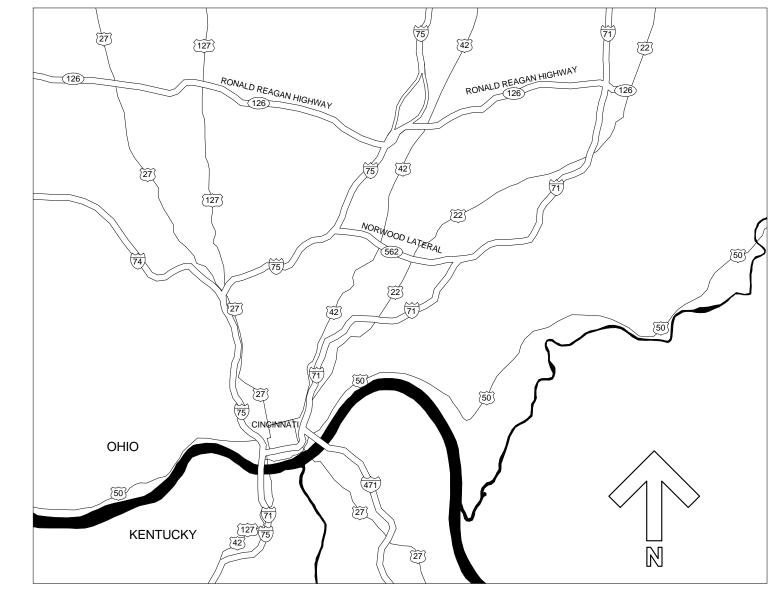
July 14, 2017

G100

ISSUE FOR BID & PERMIT

1496 DANA AVE CINCINNATI, OH 45207

(PREVIOUS ADDRESS 1511 HERALD AVENUE)



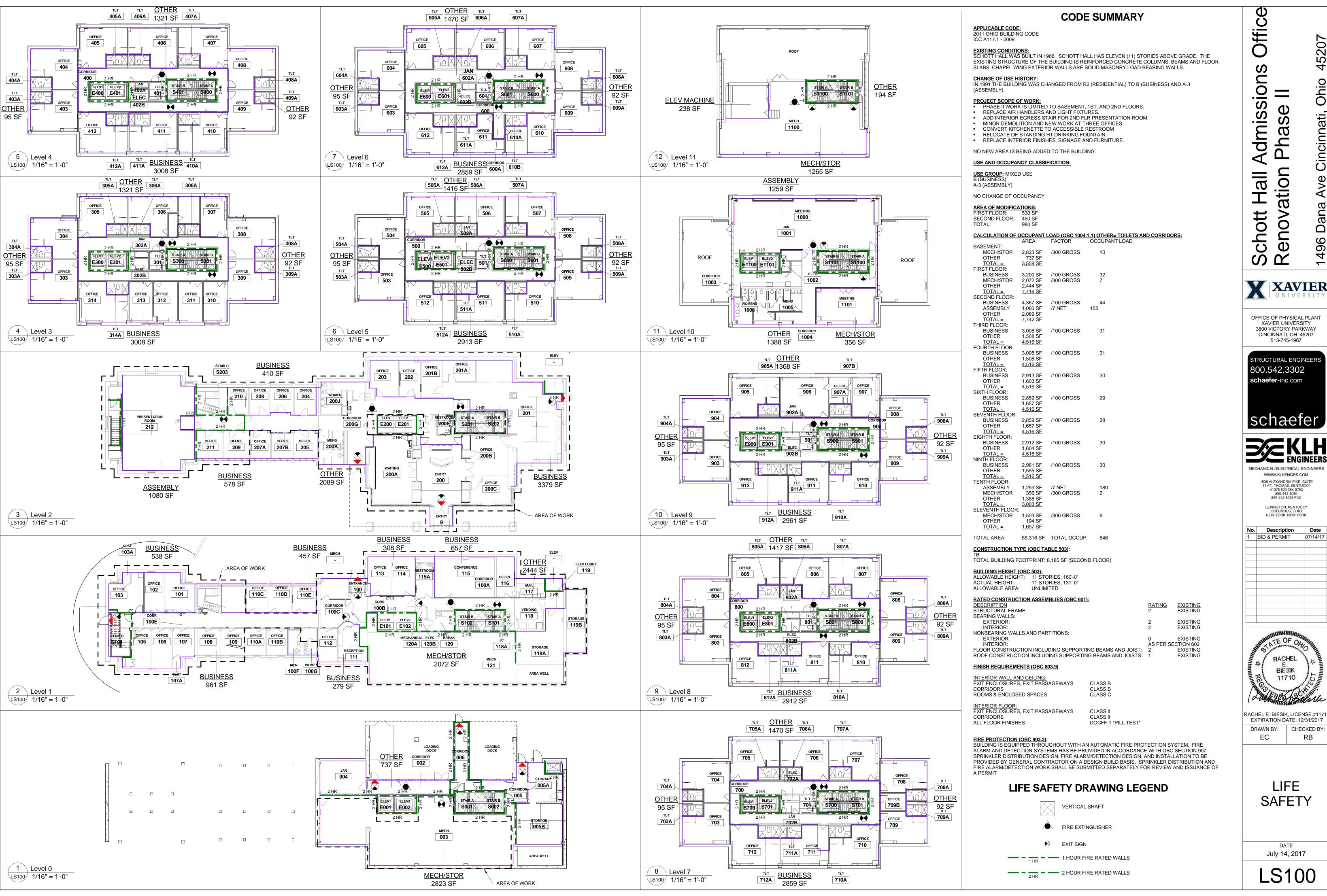
**VICINITY MAP** 



**LOCATION MAP** 

# DRAWING INDEX

G100	COVER SHEET		
		M-100	MECHANICAL - DUCTWORK - NEW - BASEMENT
LS100	LIFE SAFETY	M-101	MECHANICAL - DUCTWORK - NEW - 1ST FLR
		M-102	MECHANICAL - DUCTWORK - NEW - 2ND FLR
A101	1ST FLR- DEMO & NEW		
A102	2ND FLR - DEMO & NEW	MP100	MECHANICAL - PIPING - NEW - BASEMENT PLAN
A201	1ST RCP - DEMO & NEW	MP101	MECHANICAL - PIPING - NEW - 1ST FLR
A202	2ND RCP - DEMO & NEW	MP102	MECHANICAL - PIPING - NEW - 2ND FLOOR
A300	ENLARGED STAIR PLANS AND ELEVATIONS		
A400	INTERIOR ELEVATIONS & DETAILS	M-201	MECHANICAL - SECTIONS
A401	INTERIOR ELEVATIONS & DETAILS	M-501	MECHANICAL - DETAILS
A601	DOOR, PARTITION, SCHEDULES	M-502	MECHANICAL - DETAILS
A701	FF&E LEGENDS, COLD FORMED FRAMING	M-503	MECHANICAL - DETAILS
A702	FINISH AND FURNITURE PLANS	M-504	MECHANICAL - DETAILS
A801	SIGNAGE	M-505	MECHANICAL - DETAILS
A901	SITE PLAN	M-506	MECHANICAL - DETAILS
		M-601	MECHANICAL - SCHEDULES
S100	STRUCTURAL DRAWINGS	M-701	MECHANICAL - ENERGY COMPLIANCE
		M-702	MECHANICAL - ENERGY COMPLIANCE
F-001	FIRE PROTECTION - LEGEND AND DETAILS	M-703	MECHANICAL - ENERGY COMPLIANCE
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F-100	FIRE PROTECTION - DEMO & NEW - BASEMENT		
F-101	FIRE PROTECTION - DEMO & NEW - 1ST FLR	E-000	ELECTRIC - LEGEND AND DETAILS
F-102	FIRE PROTECTION - DEMO & NEW - 2ND FLR		
		E-100	ELECTRIC - DEMO & NEW - BASEMENT
P-000	PLUMBING - LEGEND AND DETAILS	E-101	ELECTRIC - DEMO - 1ST & 2ND FLR
		E-102	ELECTRIC - POWER - NEW - 1ST & 2ND FLR
PD101	PLUMBING - DEMO - 1ST FLR & 2ND FLR	E-103	ELECTRIC - LIGHTING - NEW - 1ST & 2ND FLR
P-101	PLUMBING - NEW - 1ST & 2ND FLR	E-601	ELECTRIC - LUMINAIRE SCHEDULE
		E-602	ELECTRIC - SINGLE LINE DIAGRAM AND SCHEDULES
M-000	MECHANICAL - LEGEND AND DETAILS	E-603	ELECTRIC - PANEL SCHEDULES
		E-604	ELECTRIC - PANEL SCHEDULES
MD100	MECHANICAL - DEMO - BASEMENT & 1ST FLR	E-641	ELECTRIC - VIDEO WALL DETAILS
		E-642	ELECTRIC - VIDEO WALL DETAILS



Ohio

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07/14/17

45207



 ↑ 1 \ Level 1 New  $\setminus$  A101 / 1/8" = 1'-0"

#### **GENERAL DEMO FLOOR PLAN NOTES**

- A. ALL ELEMENTS SHOWN DASHED ARE TO BE DEMOLISHED.
- B. COORDINATE ALL WORK WITH MECHANICAL, ELECTRICAL AND PLUMBIN
- C. IF CONTRACTOR SHOULD DISCOVER ANY UNFORESEEN PROBLEMS DURING THE REMOVAL OF ANY EXISTING CONSTRUCTION OR THE CONSTRUCTION OF ANY NEW WORK, THE ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY AND THAT PARTICULAR WORK SHOULD BE
- DISCONTINUED UNTIL NECESSARY REVISIONS CAN BE DECIDED UPON. DOORS SHOWN DASHED INDICATE DOORS AND/OR FRAMES TO BE REMOVED OR RELOCATED. ASSOCIATED DOOR TAG NUMBERS INDICA NEW DOOR/FRAME LOCATION ON NEW FLOOR PLANS. SEE DOOR
- SCHEDULE A601 FOR ADDITIONAL DOOR SCHEDULE NOTES. RETURN A ADDITIONAL DEMOLISHED DOORS TO OWNER FOR RECYCLING. DEMO EXISTING FLOORING FINISHES AND WALL BASE IN PREPARATION
- ALL FURNITURE AND EQUIPMENT IN DEMOLISHED SPACES TO BE RETURNED TO OWNER PRIOR TO DEMOLITION, UNLESS OTHERWISE
- G. PROTECT EXISTING <u>FLOORING TO REMAIN</u> DURING CONSTRUCTION.

#### **DEMO KEYNOTES**

- D2 REMOVE EXISTING DRYWALL PARTITION
- D3 REMOVE EXISTING CARPET AND ADHESIVE, PREP EXISTING SLAB
- REMOVE EXISTING WALL FOR NEW OPENING OR DOOR. SEE NEW
- REMOVE EXISTING WOOD WALL BASE. SAVE FOR REUSE.
- EXISTING WINDOW TREATMENTS TO REMAIN. PROTECT DURING
- REMOVE EXISTING CONCRETE SLAB. SHORE AS REQUIRED TO INSTALL NEW WORK. SEE STRUCTURAL DRAWINGS FOR NEW
- REMOVE EXISTING METAL STORAGE CABINETS AND SAVE FOR REUSE. RELOCATE FACING CORRIDOR 200D. REMOVE EXISTING THINSET MARBLE TILE FLOOR, PREPARE SUBFLOOR FOR NEW
- D10 REMOVE EXISTING RETURN GRILL AND DUCTWORK. SEE MEP
- D11 REMOVE EXISTING DOOR AND FRAME. DONATE TO 'BUILDING
- D12 REMOVE EXISTING COUNTERTOP AND BRACKETS. PATCH WALL. D13 DEMO EXISTING SLAB FOR NEW DUCT PENETRATION. CUT ONLY ONE REBAR PARALLEL TO THE LONG DIMENSION OF THE
- D14 REMOVE EXISTING VHS AUDIO SYSTEM AND SUPPORTING
- D15 EXISTING STEEL GRATE MEZZANINE AND STEEL SUPPORT
- STRUCTURE TO BE REMOVED BY MECH.
- D16 REMOVE EXISTING WALL (MASONRY WITH GWB)
- D17 EXISTING DRINKING FOUNTAIN TO BE RELOCATED. SEE PLUMBING D18 REMOVE EXISTING EXTERIOR DOOR, FRAME, AND HARDWARE D19 REMOVE AND SALVAGE EXISTING DOOR, FRAME, AND HARDWARE
- D20 REMOVE WOOD TRIM AROUND ELEVATOR DOORS. PATCH AND
- PREPARE WALL FOR NEW WALL COVERING D21 REMOVE EXISTING WALL COVERING. PREPARE WALL FOR NEW
- D22 REMOVE PLYWOOD AND METAL STUD LID IN EXISTING PLANTER
- D24 REMOVE EXISTING SHELVES AND STDS
- RETURN REFRIGERATOR TO OWNER.
- D26 REMOVE EXISTING PODIUM AND RETURN TO OWNER D27 REMOVE EXISTING VINYL DECAL / APPLIED LETTERING. PREPARE
  - WALL FOR PAINT OR NEW VINYL
- D28 REMOVE EXISTING FIREPLACE, PATCH WALL
- D29 REMOVE DECAL FROM GLASS TRANSOM
- D30 REMOVE EXISTING VCT. PREP FOR NEW FLOOR FINISH. D31 REMOVE EXISTING GLASS TRANSOM ABOVE WALL. PATCH

## **GENERAL NEW FLOOR PLAN NOTES**

- A. ITEMS TAGGED OR NOTED ARE NEW UNLESS NOTED 'EXISTING.' B. IN ROOMS RECEIVING NEW PAINT, PATCH AND REPAIR EXISTING GYP BOARD, PAINT ALL WALLS, HM TRIM AND GYP CEILING &

#### **NEW CONSTRUCTION KEYNOTES**

- AUTO DOOR OPERATOR PUSH-BUTTON
- ADD OPENING IN EXISTING WALL. RETURN DRYWALL AT OPENING. NEW RETURN GRILL, SEE MECH DRAWINGS. SAW CUT EXISTING CONCRETE FLOOR. CUT ONLY ONE REBAR PARALLEL TO THE
- REMOVE AND REPLACE WATER DAMAGED GWB AT BOTTOM
- REINSTALL EXISTING SALVAGED DOORS, DOORFRAME &
- ADJUSTABLE SHELVES (16" DEEP). SEE SPEC SECTION 06 40 00.
- PROVIDE 5 SHELVES PER EACH SHOWN. PROVIDE STDS AT 16" O.C.MAX. PROVIDE WOOD BLOCKING. 8 CLEAN AND PROVIDE TOUCH UP STAIN ON KNICKS AND
- SCRATCHES AT EXISTING WOOD VENEER DOORS

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OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY 3800 VICTORY PARKWAY

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STRUCTURAL ENGINEERS 800.542.3302 schaefer-inc.com

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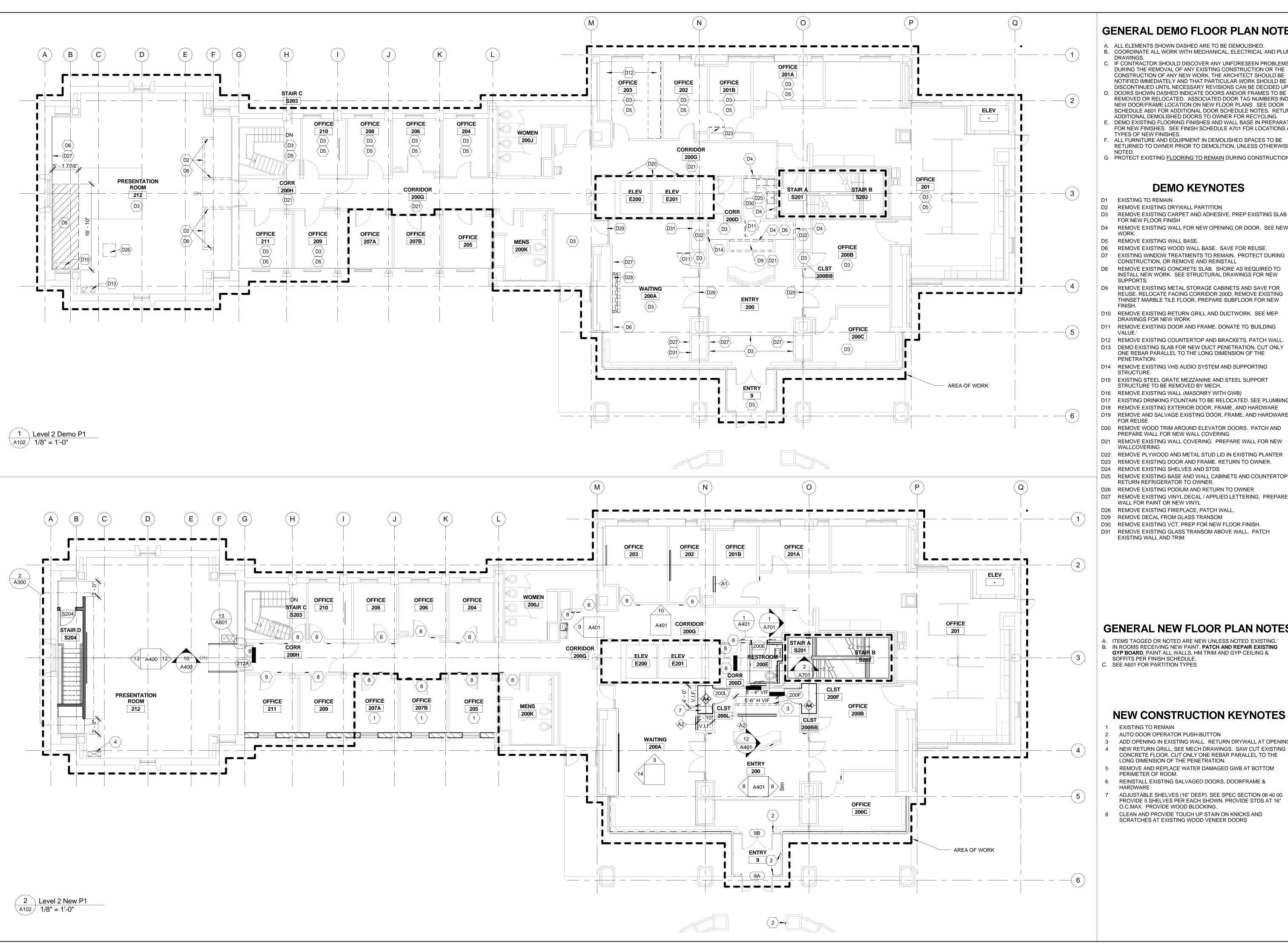
Description

**BID & PERMIT** 07/14/17

RACHEL E. BIESIK, LICENSE #11710 EXPIRATION DATE: 12/31/2017 DRAWN BY: CHECKED BY:

RB

July 14, 2017



#### **GENERAL DEMO FLOOR PLAN NOTES**

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- ADDITIONAL DEMOLISHED DOORS TO OWNER FOR RECYCLING. DEMO EXISTING FLOORING FINISHES AND WALL BASE IN PREPARATION FOR NEW FINISHES. SEE FINISH SCHEDULE A701 FOR LOCATIONS AND
- F. ALL FURNITURE AND EQUIPMENT IN DEMOLISHED SPACES TO BE RETURNED TO OWNER PRIOR TO DEMOLITION, UNLESS OTHERWISE
- G. PROTECT EXISTING FLOORING TO REMAIN DURING CONSTRUCTION.

### **DEMO KEYNOTES**

- D2 REMOVE EXISTING DRYWALL PARTITION REMOVE EXISTING CARPET AND ADHESIVE, PREP EXISTING SLAB
- FOR NEW FLOOR FINISH REMOVE EXISTING WALL FOR NEW OPENING OR DOOR. SEE NEW
- REMOVE EXISTING WOOD WALL BASE. SAVE FOR REUSE.
- CONSTRUCTION, OR REMOVE AND REINSTALL REMOVE EXISTING CONCRETE SLAB. SHORE AS REQUIRED TO INSTALL NEW WORK. SEE STRUCTURAL DRAWINGS FOR NEW
- REMOVE EXISTING METAL STORAGE CABINETS AND SAVE FOR REUSE. RELOCATE FACING CORRIDOR 200D. REMOVE EXISTING THINSET MARBLE TILE FLOOR, PREPARE SUBFLOOR FOR NEW
- D10 REMOVE EXISTING RETURN GRILL AND DUCTWORK. SEE MEP
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- WALL FOR PAINT OR NEW VINYL
- D29 REMOVE DECAL FROM GLASS TRANSOM
- D30 REMOVE EXISTING VCT. PREP FOR NEW FLOOR FINISH.
- D31 REMOVE EXISTING GLASS TRANSOM ABOVE WALL. PATCH EXISTING WALL AND TRIM

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STRUCTURAL ENGINEERS 300.542.3302 schaefer-inc.com

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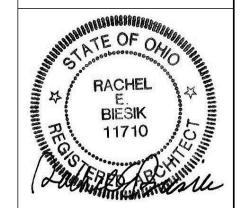
MECHANICAL/ELECTRICAL ENGINEER WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

Description BID & PERMIT 07/14/17

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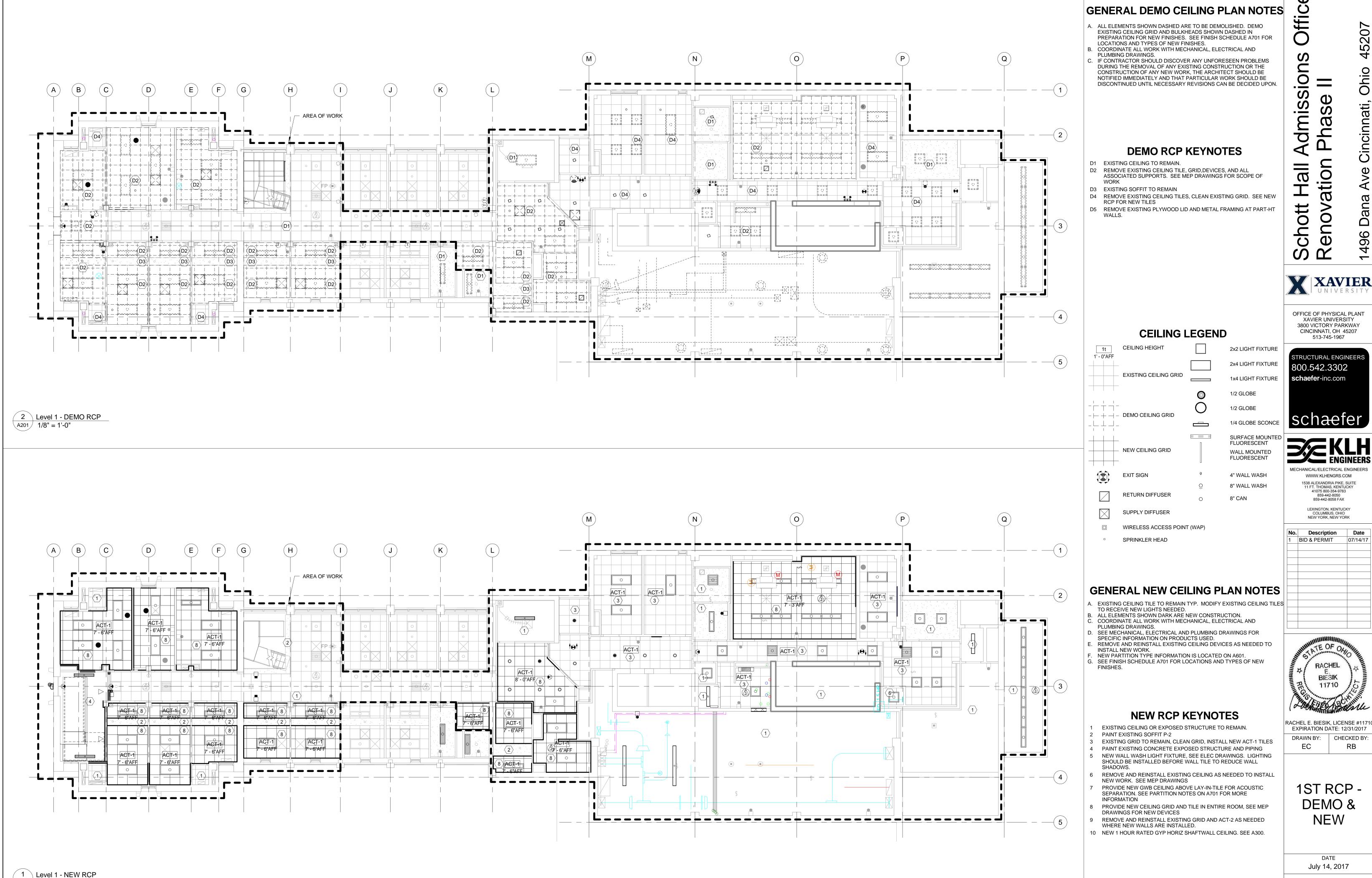
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- **NEW CONSTRUCTION KEYNOTES**
- ADD OPENING IN EXISTING WALL. RETURN DRYWALL AT OPENING. NEW RETURN GRILL, SEE MECH DRAWINGS. SAW CUT EXISTING CONCRETE FLOOR. CUT ONLY ONE REBAR PARALLEL TO THE
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- REINSTALL EXISTING SALVAGED DOORS, DOORFRAME &
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- CLEAN AND PROVIDE TOUCH UP STAIN ON KNICKS AND



RACHEL E. BIESIK, LICENSE #11710 EXPIRATION DATE: 12/31/2017 DRAWN BY: CHECKED BY RB

2ND FLR -DEMO & NEW

July 14, 2017



A201 / 1/8" = 1'-0"

45207 Ohio

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XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207

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Description **BID & PERMIT** 07/14/17

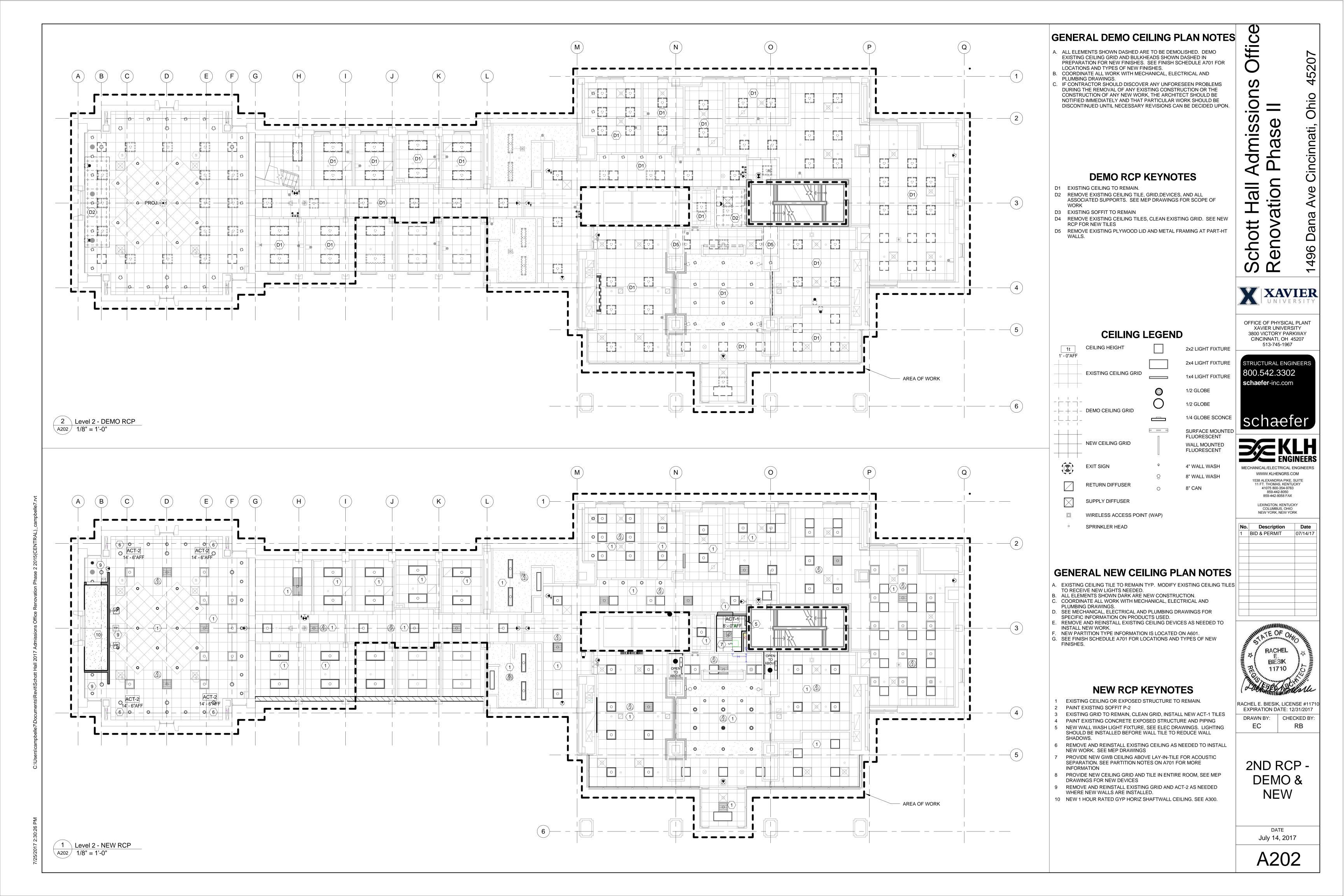
1ST RCP -DEMO & NEW

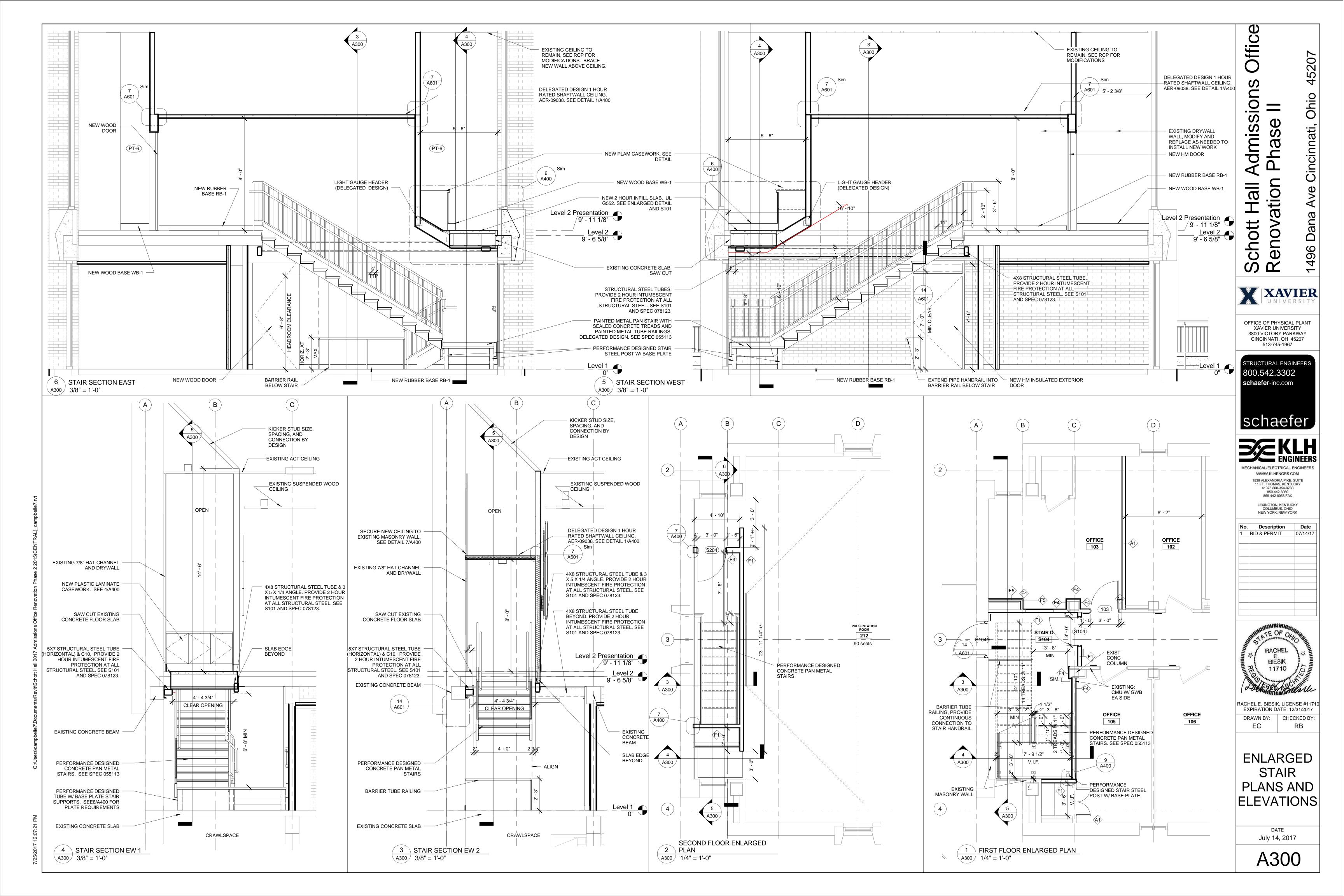
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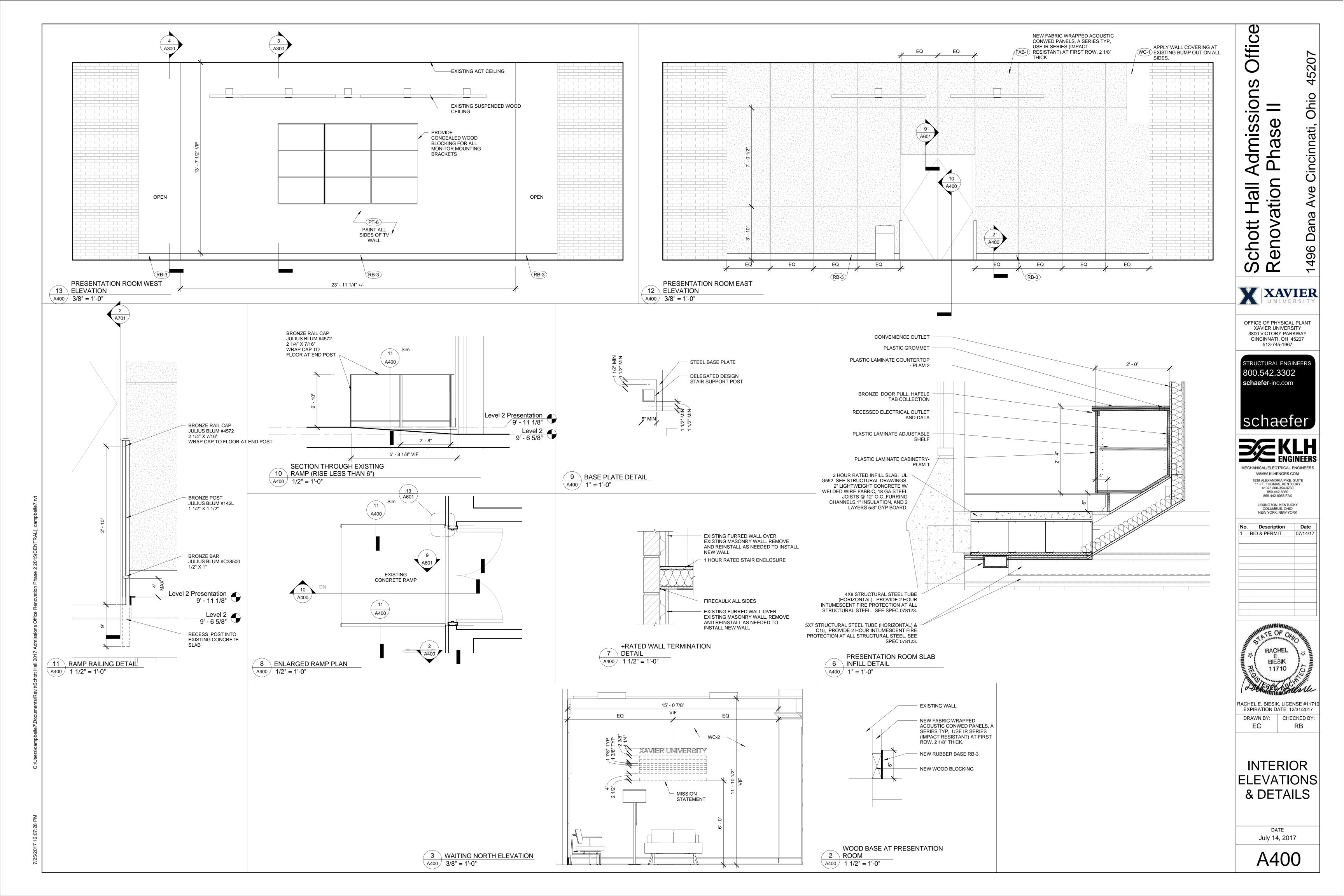
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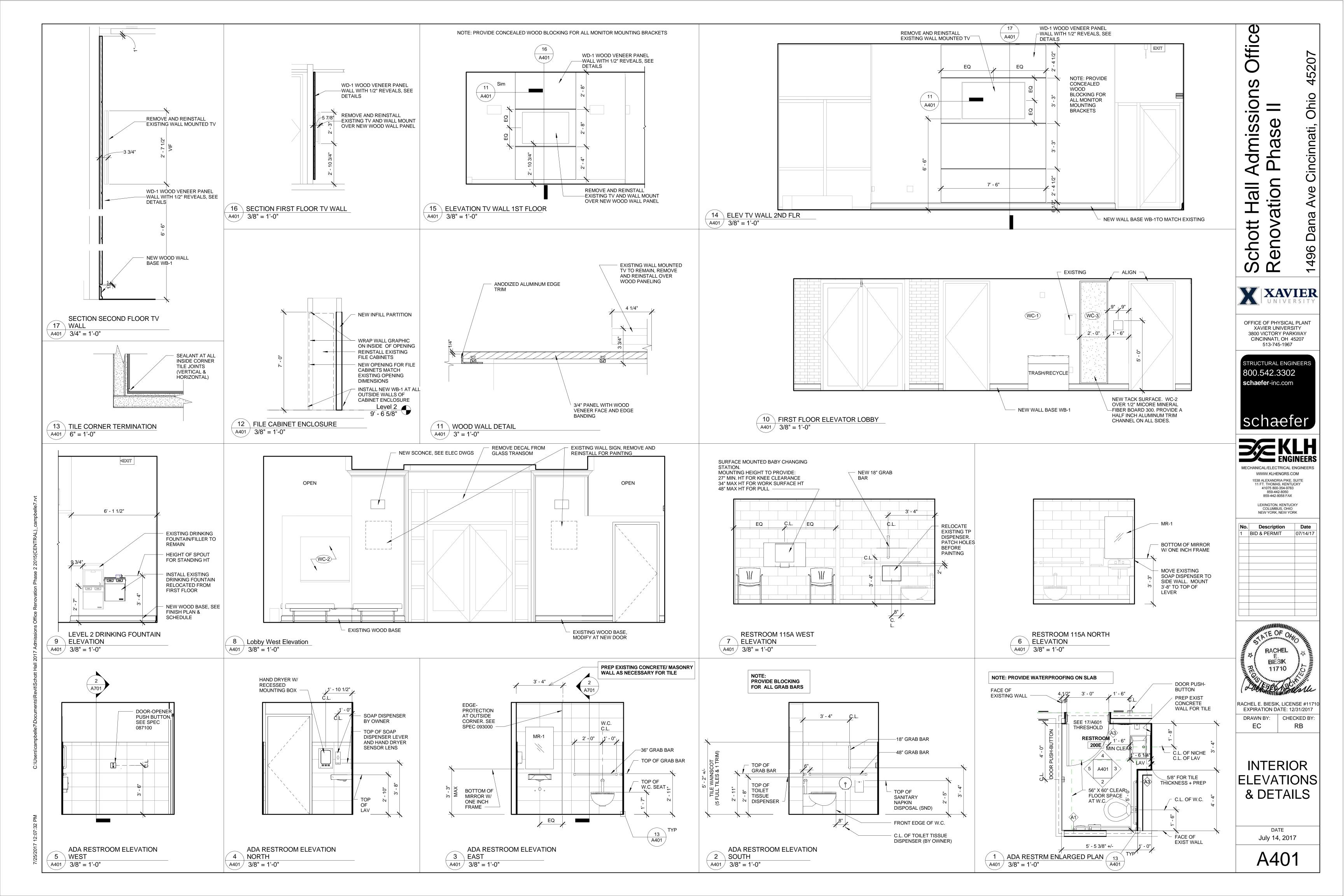
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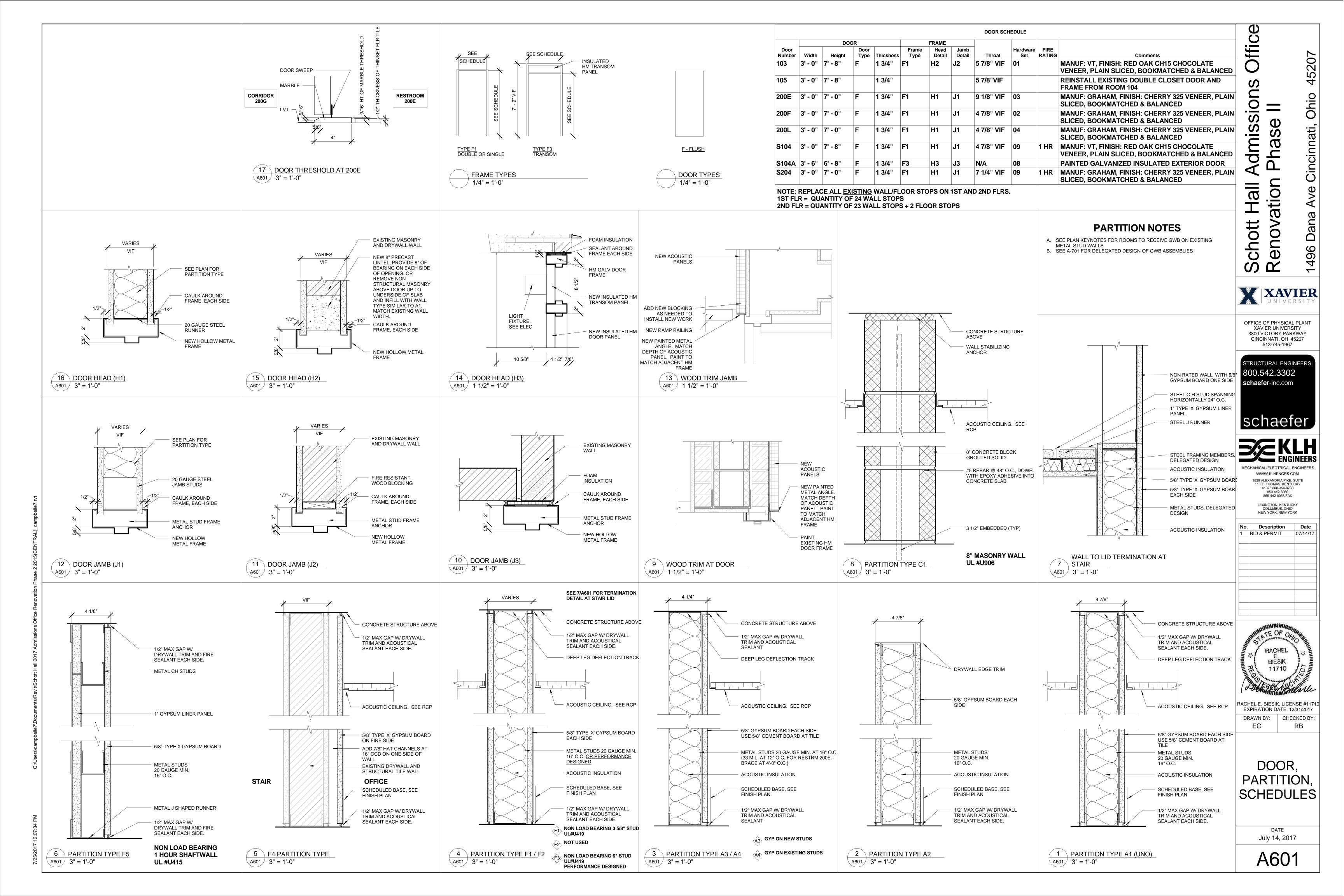
A201











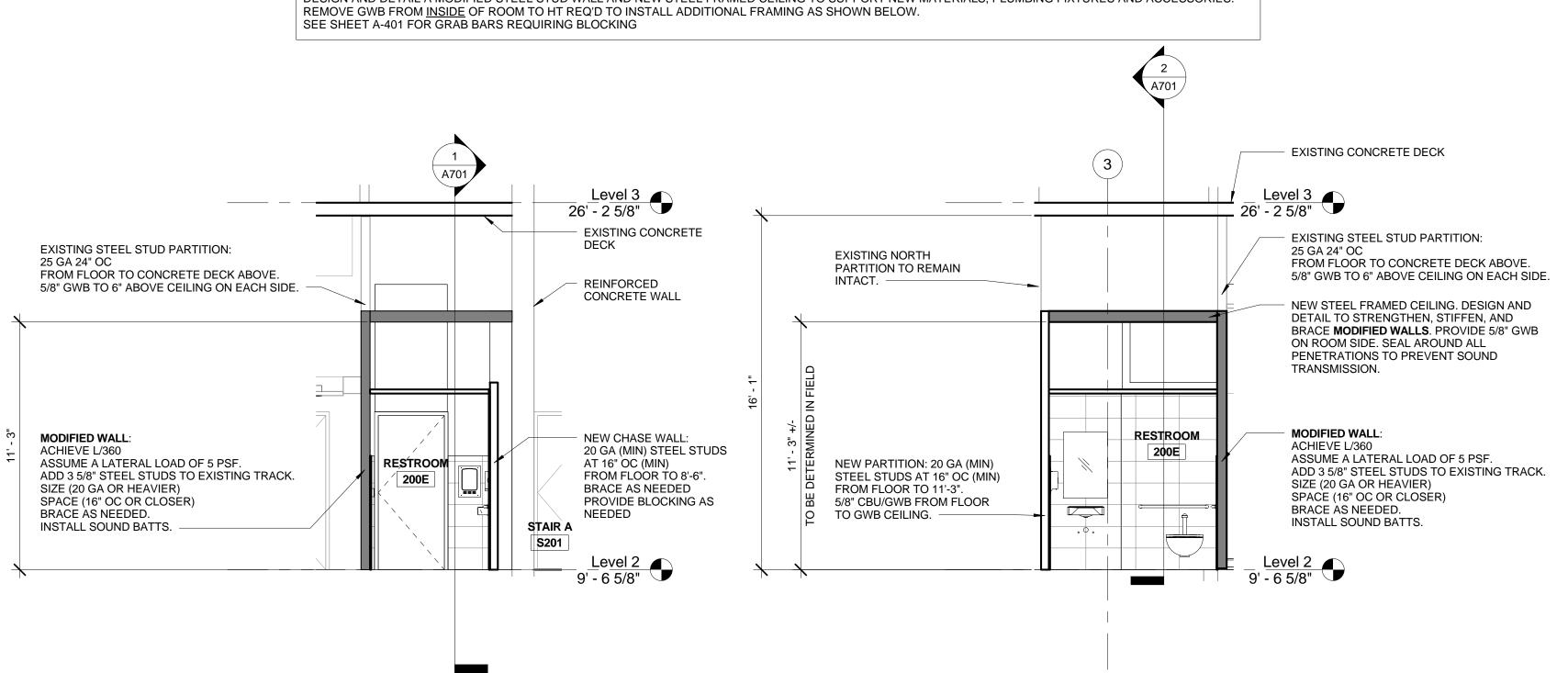
B-1	ALLERMUIR Jaks JA1	Arc-Com Omega AC-61176 Color: Blueberry #17	X shaped Bench seat
B-2	Izzy Plus 'Sylvi' SYLBENCH42	Ultrafabrics Promessa Style 363. Color: 5818 Ash	Sylvi Lounge Bench 42" W
B-3	Izzy Plus 'Sylvi' SYLLOUNGE66	Seat=Ultrafabrics Promessa Style 363 Color: 5818 Ash. Back= Arc-Com Sherlock AC-61949 Color: Ice Blue #10 Frame= P07 White	Sylvi Lounge Seat 66" W
B-4	Izzy Plus 'Sylvi' SYLLOUNGE96	Seat=Ultrafabrics Promessa Style 363 Color: 5818 Ash. Back= Arc-Com Sherlock AC-61949 Color:Ice Blue #10 Frame= P07 White	Sylvi Lounge Seat 96" W
BK-1	JSI 'Vision' VENEER bookcase VV3054BC CH1 BBN	Wood Veneer: Cherry Stain: Bourbon (Natural Cherry) Edge: Eased	4 SHELF BOOKCASE. VENEER = CHERRY STAIN=BOURBON (NATURAL CHERRY)
C-1	STEELCASE 'Reply' Multi-Use chair with legs and no arms	Back=: Air Black mesh. Seat= Remix Night Blue RE13 Frame: Platinum Metallic	
C-2	KIMBALL 'Poly' mesh stacking chair	Mesh = Black Tie	chrome sled base
CR-1	Izzy Plus 'Audrey' Storage Credenza AUD ASY A6A 247229	P Lam top and P Lam case= LDQ Platinum. Edge Finish= Match Top. P Lam Door= LNT Neutral Twill	24"D X 72"W X 29"H with locking option - keyed alike
CR-2	Izzy Plus 'Audrey' Storage Credenza AUD ASY B4E 184835	P Lam top and P Lam case= LDQ Platinum. Edge Finish= Match Top. P Lam Door= LNT Neutral Twill	18"D X 48"W X 35.5"H
D-1	JSI VISION VENEER desk VV3066HDF CH1 BBN	Wood Veneer: Cherry Stain: Bourbon (Natural Cherry) Edge: Eased	30 x 66 SHELL DESK w/ recessed modesty
L-1	ADESSO CORP OSLO FLOOR LAMP	MFR ID: 6237-02 ITEM #: ADS369013	Floor Lamp
L-2	ADESSO CORP OSLO TABLE LAMP	MFR ID: 6236-02 ITEM #: ADS369012 ITEM #: ADS369012	Table lamp
S-1	ALLERMUIR Fifty Series FIFT01	Arc-Com Sherlock AC-61949 COLOR: Ice Blue #10 Legs: Chrome	Armchair
S-2	ALLERMUIR Fifty Series FIFT02	Arc-Com Sherlock AC-61949 COLOR: Ice Blue #10 Legs: Chrome	Two Seater
T-1	JSI VISION 'Veneer' VV42CTD CH1 BBN	Wood Veneer: Cherry Stain: Bourbon (Natural Cherry) Edge: Eased	42" DIA. WOOD TABLE WITH CYLINDER BASE. EDGE=EASED
T-2	Izzy Plus 'Sylvi' SYLRECT16EGANG	LBT Dover White E30 White Edgeband Frame= P07 White	Sylvi Rectangle Ganging end-of-run Table 16"
T-3	Izzy Plus 'Sylvi' SYLSQ24IGANG	LBT Dover White E30 White Edgeband Frame= P07 White	Sylvi Square Ganging in-line Table 24"
T-4	Izzy Plus 'Sylvi' SYLSQ24CGANG	LBT Dover Whiite E30 White Edgeband Frame= P07 White	Sylvi Square Ganging corner Table 24"
T-5	Izzy Plus 'Sylvi' SYLRECT16IGANG	LBT Dover Whiite E30 White Edgeband Frame= P07 White	Sylvi Rectangle Ganging In-line Table 16" Table"
T-6	Izzy Plus 'Sylvi' SYLLOLLI	LBT Dover White E30 White Edgeband Frame= P07 White	Lolli-top

		Specialty Equipment Schedule	
Type Mark	Type Comments	Manufacturer	Description
HW-1	HOT COLD WATER DISPENSER	ATLANTIS POU COOLER MODEL: POUD1SHS COLOR: BLACK	
TR-1	TRASH/RECYCLE	VENDOR: UNITED, 9040.99 TRASH RECYCLE, FGR RECEPTACLE, LIGHT GRAY.	DISTRIBUTER: MURPHY SUPPLY (HAMILTON OHIO)

# COLD FORMED FRAMING - DELEGATED/PERFORMANCE DESIGN

GAUGE, SPACING AND DETAILS OR FRAMING FOR NEW FIRESTAIR AND RESTROOM 200E WALLS AND CEILINGS TO BE ENGINEERED BY CONTRACTOR. SEE SHEET A-300 FOR NEW FIRESTAIR.

NOTE: EXISTING STUD WALLS OF RESTROOM 200E ARE NOT STIFF/STRONG ENOUGH TO SUPPORT CEMENTITIOUS BACKER BOARD AND TILE. DESIGN AND DETAIL A MODIFIED STEEL STUD WALL AND NEW STEEL FRAMED CEILING TO SUPPORT NEW MATERIALS, PLUMBING FIXTURES AND ACCESSORIES.



N-S SECTION AT RESTROOM

1 \ 200E

∖A701 / 1/4" = 1'-0"

E - W SECTION AT RESTROOM

√A701 / 1/4" = 1'-0"

#### **FINISH LEGEND**

#### CARPET (CPT)

CPT-1 (TILE) MANUFACTURER: SHAW STYLE: FINE POINT COLOR: SLATE LAYOUT: ASHLAR LOCATION: SEE PLAN CONTACT: AMY CLARK @ 513.375.7429

(EMAIL) amy.clark@shawinc.com CPT-2 (BROADLOOM) MANUFACTURER: SHAW

STYLE: CONTE ULTRALOC COLOR: SLATE LAYOUT: BROADLOOM LOCATION: SEE PLAN CONTACT: AMY CLARK @ 513.375.7429

(EMAIL) amy.clark@shawinc.com

CPT-3 (WALK OFF) MANUFACTURER: J&J STYLE: RUNWAY MODULAR COLOR: FRESH FACE LAYOUT: TILE LOCATION: SEE PLAN CONTACT: AMY CLARK @ 513.375.7429 (EMAIL) amy.clark@shawinc.com

#### **PORCELAIN TILE (T)**

T-1 (FLOOR)
MANUFACTURER: FLORIDA TILE STYLE: SPAN 12" X 24" X 9MM COLOR: 34513T SILVER TEXTURED (PRESSED) LAYOUT: ASHLAR GROUT & SEALANT = LATICRETE (78) STERLING SILVER LOCATION: RESTROOM 200E

T-2 (WALL)
MANUFACTURER: FLORIDA TILE STYLE: RHYME 12" X 24" X 9MM RHYME 3" X 12" X 9MM BULLNOSE COLOR: 28513 SILVER MELODY LAYOUT: STACKED GROUT & SEALANT = LATICRETE (89) SMOKE GREY LOCATION: RESTROOM 200E

#### **TRANSITION STRIP TYPES (TS)**

- ALIGN TRANSITION STRIPS UNDER CENTERLINE OF CLOSED DOOR. - FIELD VERIFY AND COORDINATE TS SIZES & TYPES WITH INSTALLED FINISHES

(CARPET TO VINYL OR LINOLEUM) STYLE: ROPPE #50 TILE CARPET JOINER (VINYL) COLOR: MATCH WALL BASE

TS-2 (CARPET TO CONCRETE) STYLE:ROPPE #42 CUSTOM CARPET EDGING 3/16" (RUBBER) COLOR: MATCH WALL BASE

TS-3 (PORCELAIN TILE TO LVT) MARBLE (SEE 17/A601)

#### **LUXURY VINYL TILE (LVT)**

LVT-1 (FOR PATCHING AT NEW OPENINGS IN CORRIDORS)
MANUFACTURER: MANNINGTON COMMERCIAL STYLE: AMTICO SIGNATURE

COLOR: AROW7000 CHERRY LAYOUT: MATCH EXISTING LOCATION: SEE PLAN

LOCATION: OFFICES TYP. SEE PLAN

#### **RUBBER/VINYL BASE (RB)**

MANUFACTURER: ROPPE TYPE: PINNACLE TS RUBBER WALL BASE STANDARD TOE STYLE: WALL BASE 1/8" COLOR: 193 BLACK BROWN

MANUFACTURER: ROPPE TYPE: PINNACLE PLUS TS RUBBER WALL BASE #85 STYLE: WALL BASE 1/8" SIZE: 4 1/4"H COLOR: 193 BLACK BROWN

LOCATION: FIRST FLOOR CORRIDOR, TYP. SEE PLAN MANUFACTURER: ROPPE

TYPE: PINNACLE PLUS TS RUBBER WALL BASE #85 STYLE: WALL BASE 1/4" COLOR: 193 BLACK BROWN LOCATION: PRESENTATION ROOM. SEE PLAN

MANUFACTURER: ROPPE TYPE: PINNACLE PLUS TS RUBBER WALL BASE #85 STYLE: WALL BASE 1/4" SIZE: 4"H COLOR: 150 DARK GRAY LOCATION: SECOND FLOOR CORRIDOR

#### **WOOD PANELING (WD-1)**

TYPE: WOOD VENEER SIZE: SEE ELEVATIONS COLOR: TBD

LOCATION: 1ST & 2ND FLOOR WAITING

# WOOD BASE (WB-1) (REUSE EXISTING WOOD BASE & USE NEW AS NEEDED)

TYPE: TRADITIONAL SERIES PANEL MOLDING TCB-411 STYLE: MEDIUM BASE SIZE: 3/4" X 5 1/2" COLOR: #17 MEDIUM CHERRY LOCATION: SEE PLANS

TYPE: TRADITIONAL SERIES PANEL MOLDING TCS-511 STYLE: CASING LARGE SIZE: 1" X 3 3/4" COLOR: #17 MEDIUM CHERRY

MANUFACTURER: CARNEGIE XOREL TYPE: 52" WIDE, CLASS A (ASTM E-84) COLOR: 36 LOCATION: PRESENTATION ROOM

#### BACKING: CONWED PANELS, A SERIES.

PLAM-1 MANUFACTURER: FORMICA STYLE: MATTE FINISH COLOR: NEUTRAL TWILL

<u>PLAM-2</u> MANUFACTURER: WILSONART STYLE: MATTE FINISH COLOR: LDQ PLATINUM LOCATION: PRESENTATION ROOM COUNTERTOP

NOTE: PROVIDE 4' X 8' PAINT SAMPLE AT SITE FOR FINAL APPROVAL WITH FINAL LIGHTING IN PLACE NOTE: U.O.N. SEE PAINT FINISH TYPE LISTED BELOW: \*FLAT/MATTE AT CEILING LOCATIONS \*EGGSHELL AT WALL LOCATIONS \*SEMIGLOSS AT TRIM / DOOR LOCATIONS \*ELECTROSTATIC PAINT AT CONVECTOR COVERS, LOUVERS, ETC. \*FOLLOW ALL MANUFACTURERS SUGGESTED GUIDELINES

PT-1 (TYPICAL WALL PAINT) MANUFACTURER: SHÉRWIN WILLIAMS COLOR: 7015 REPOSE GRAY

PT-2 (GYP CEILINGS & SOFFITS) MANUFACTURER: SHERWIN WILLIAMS COLOR: PURE WHITE FINISH:

WC-1
MANUFACTURER: CARNEGIE XOREL TYPE: 52" WIDE, CLASS A (ASTM E-84) STYLE: DASH LOCATION: PRESENTATION ROOM, CORRIDOR, ELEV LOBBY

WC-2 MANUFACTURER: TBD LOCATION: SEE FINISH PLAN

MANUFACTURER: ARMSTRONG PRODUCT: DUNE ANGLED TEGULAR GRID: 15/16 PRELUDE XL SIZE: 2'X2' COLOR: WHITE LOCATION: SEE RCP

PRODUCT: DUNE ANGLED TEGULAR GRID: 15/16 PRELUDE XL (BLACK) SIZE: 2'X2' COLOR: BLACK

1. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surfaceapplied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

2. Clean corridor walls with a de-greaser before painting. De-gloss by lightly abrading w/ approved mechanical means. Wipe away the sanding dust with a damp cloth. 3. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces. 4. Before painting the following existing previously painted metal items, Scrape away all loose paint, De-gloss by lightly abrading w/ approved mechanical means,

Wipe away the sanding dust with a damp cloth:

A. Wall mounted access panel & frame. B. Fire extinguisher cabinet frame, door and hinges (with door open) Remove paint from hinges.

C. Hollow metal door and frames

D. Hollow metal frames of interior windows

STYLE: CHERRY, DARK STAIN, MATCH ARCHITECT'S SAMPLE

Office

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OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY

3800 VICTORY PARKWAY

CINCINNATI, OH 45207

513-745-1967

STRUCTURAL ENGINEERS

MECHANICAL/ELECTRICAL ENGINEER

WWW.KLHENGRS.COM

1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY

41075 800-354-9783 859-442-8050

859-442-8058 FAX

LEXINGTON, KENTUCKY

COLUMBUS, OHIO NEW YORK, NEW YORK

07/14/17

Description

BID & PERMIT

300.542.3302

**schaefer**-inc.com

520

cinnati,

496

MANUFACTURER: SPECTRIM

LOCATION: SEE PLANS

WOOD TRIM (WT-1)
MANUFACTURER: SPECTRIM

#### FABRIC WRAPPED ACOUSTIC PANELS (FAB-1)

# PLASTIC LAMINATE

LOCATION: PRESENTATION ROOM VERTICAL SURFACES

#### PAINTS (PT)

FINISH: EGGSHELL

FLAT (TYP)

(HOLLOW METAL DOOR FRAMES) MANUFACTURER: SHERWIN WILLIAMS COLOR: 7015 REPOSE GRAY FINISH: SEMI-GLOSS

PT-4 (RESTROOMS) MANUFACTURER: SHERWIN WILLIAMS COLOR: TBD FINISH: EGGSHELL

(ELEVATOR JAMBS, HEAD & DOORS) MANUFACTURER: ZOLATONE COLOR: METAL ZML-5360

PT-6 (ACCENT WALL) MANUFACTURER: SHERWIN WILLIAMS COLOR: TBD FINISH: EGGSHELL

#### WALL COVERING (WC)

PRODUCT: CUSTOM GRAPHIC

#### **CEILINGS (ACT)**

ACT-2 MANUFACTURER: ARMSTRONG LOCATION: SEE RCP

FORMED **FRAMING** 

BIESIK

11710

RACHEL E. BIESIK, LICENSE #11710

EXPIRATION DATE: 12/31/2017

DRAWN BY: CHECKED BY:

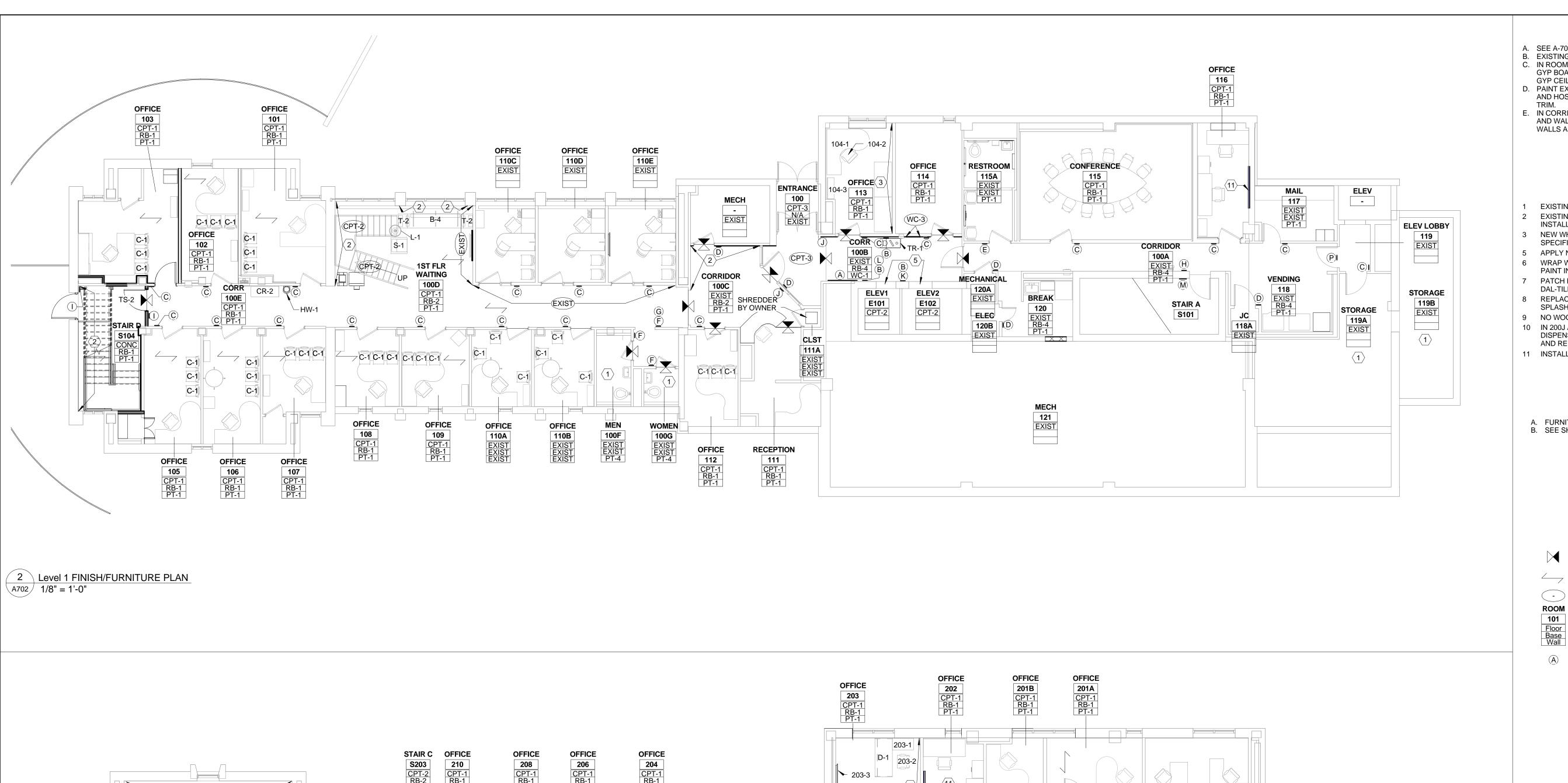
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LEGENDS,

COLD

EC

July 14, 2017



#### **FINISH PLAN NOTES**

- A. SEE A-701 FOR FINISH SCHEDULE
- B. EXISTING WOOD TRIM SHOULD NOT BE PAINTED C. IN ROOMS RECEIVING NEW PAINT, PATCH AND REPAIR EXISTING GYP BOARD, PAINT ALL WALLS, HM DOOR TRIM (BOTH SIDES) AND GYP CEILING & SOFFITS PER FINISH SCHEDULE.
- D. PAINT EXISTING PAINTED FAN COIL UNITS, FIRE EXTINGUISHERS AND HOSE CABINETS IN ROOMS RECEIVING NEW PAINT. MATCH HM
- E. IN CORRIDORS WITH EXISTING FRAMED ARTWORK, TACK BOARDS, AND WALL MOUNTED EQUIPMENT, REMOVE AND REINSTALL AFTER WALLS ARE PAINTED.

#### **FINISH KEYNOTES**

- 1 EXISTING TO REMAIN
- 2 EXISTING MASONRY WALL TO REMAIN. NO BASE AT LIMESTONE.
- 3 NEW WHITE BOARD PAINT FROM FLOOR TO 8'AFF. SEE
- SPECIFICATIONS 5 APPLY NEW PT-5 FINISH TO ELEVATOR CAB JAMBS AND DOORS
- PAINT INTERIOR P-1
- DAL-TILE BULLNOSE 100 WHITE. MATCH EXISTING WHITE GROUT.
- 8 REPLACE CAULK AT EXISTING COUNTERTOP, BACK & SIDE SPLASHES. SILICONE @ COUNTER & LAV BOWLS. LATEX AT WALL.
- 10 IN 200J AND 200K: REMOVE EXISTING WALL MTD PAPER TOWEL
- 11 INSTALL OWNER SUPPLIED 4' X 8' MARKERBOARD

FLOORING PATTERN DIRECTION FINISH SYMBOL

ROOM TAG FINISH DESIGNATIONS

- INSTALL BASE AT EXPOSED BRICK WALLS.
- 6 WRAP WALL COVERING TO INSIDE OF OPENING ON ALL SIDES.
- 7 PATCH EXISTING CERAMIC WALL TILE TRIM. 4 1/4 X 4 1/4 (S-4449)
- 9 NO WOOD BASE AT BRICK WALLS
- DISPENSERS AND WASTE RECEPTACLES. REMOVE DAMAGED TILE

#### **FURNITURE**

A. FURNITURE W/OUT TAGS = EXISTING TO REMAIN. B. SEE SHEET A701 FOR FURNITURE SCHEDULE.

#### **FINISH LEGEND**

FLOORING TRANSITION. PROVIDE TRANSITION STRIP BETWEEN DISSIMILAR MATERIALS

ROOM SIGN TYPE, SEE A800



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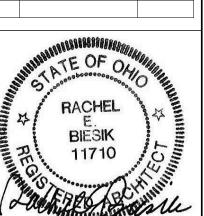
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STRUCTURAL ENGINEERS

800.542.3302 schaefer-inc.com

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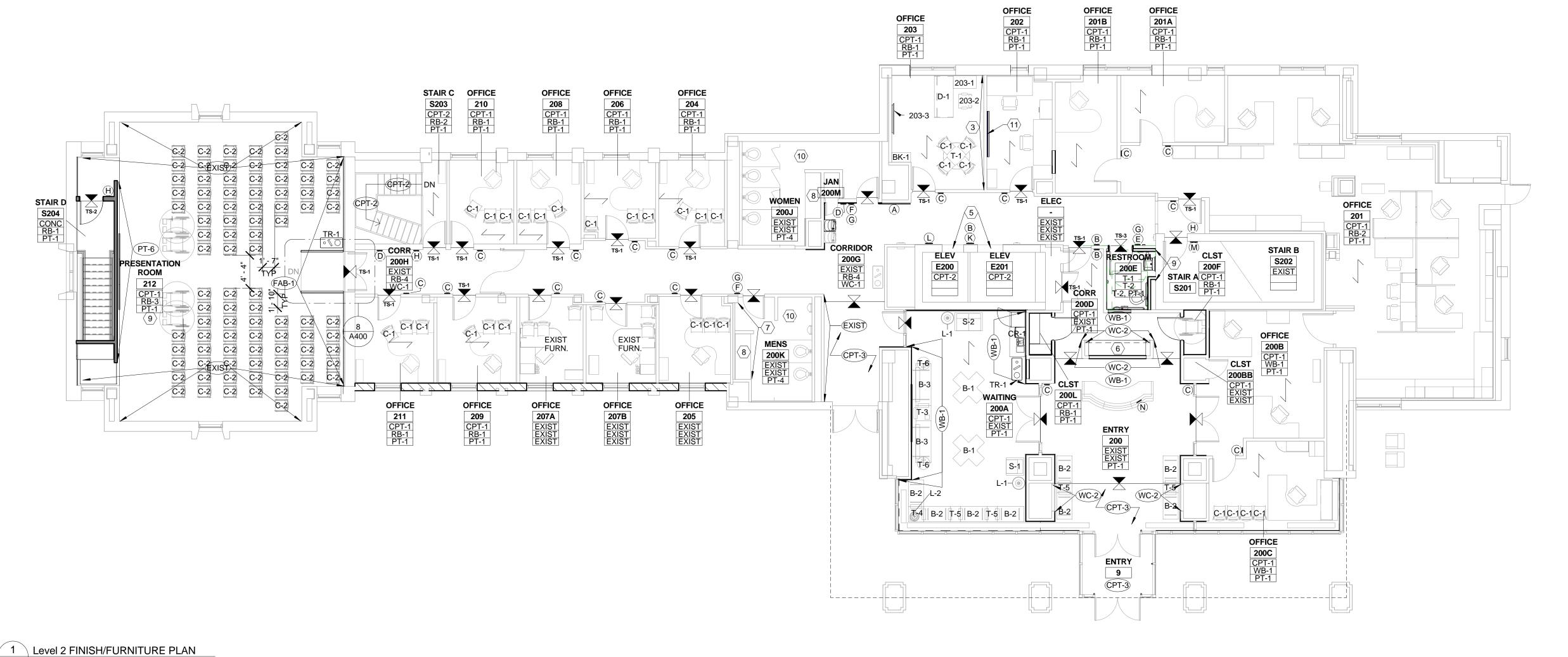


RACHEL E. BIESIK, LICENSE #11710 EXPIRATION DATE: 12/31/2017 DRAWN BY: CHECKED BY

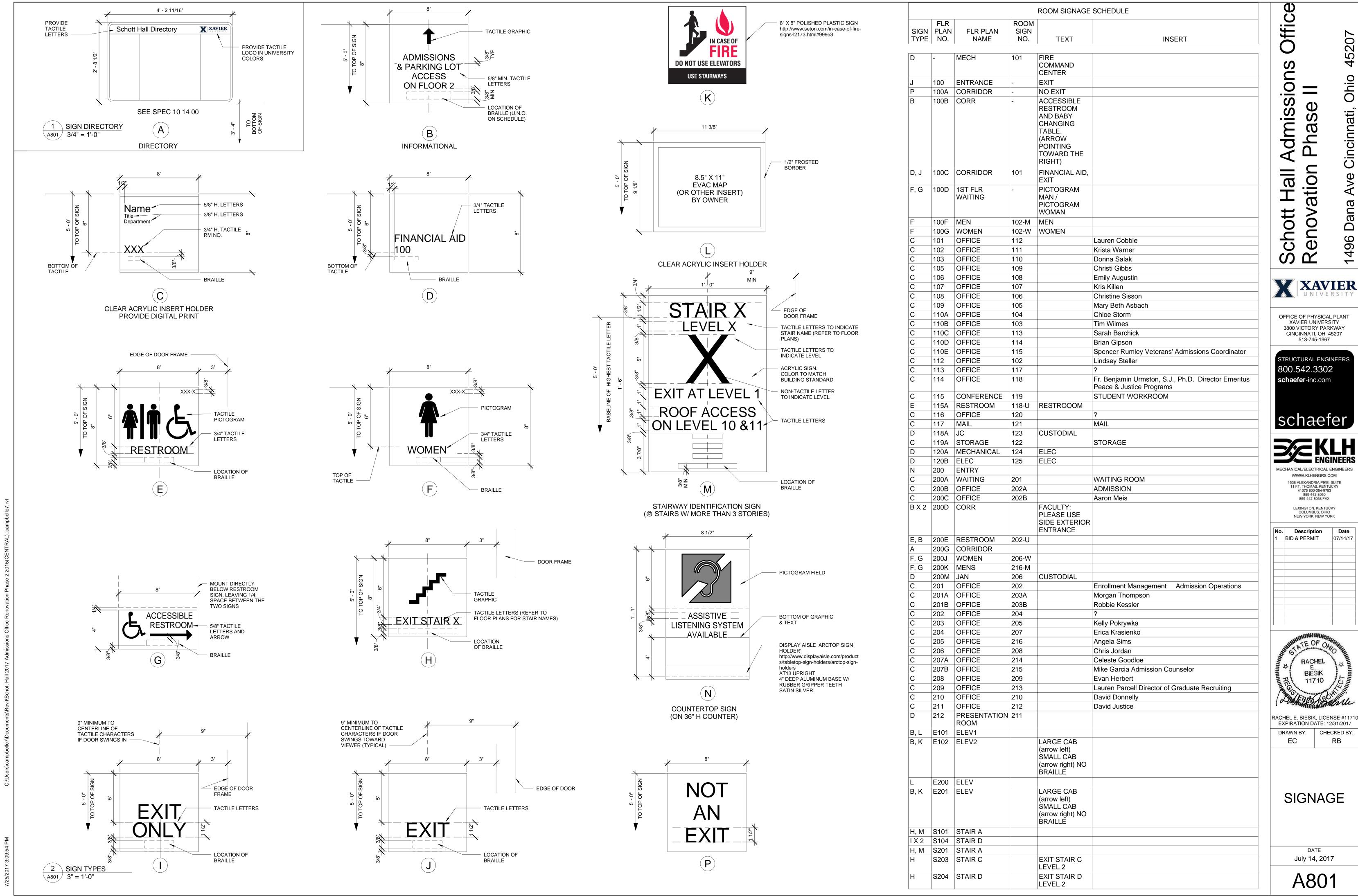
FINISH AND **FURNITURE PLANS** 

July 14, 2017

A702



A702 / 1/8" = 1'-0"



Ohio Cincinnati, Dana 496

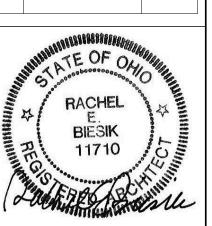
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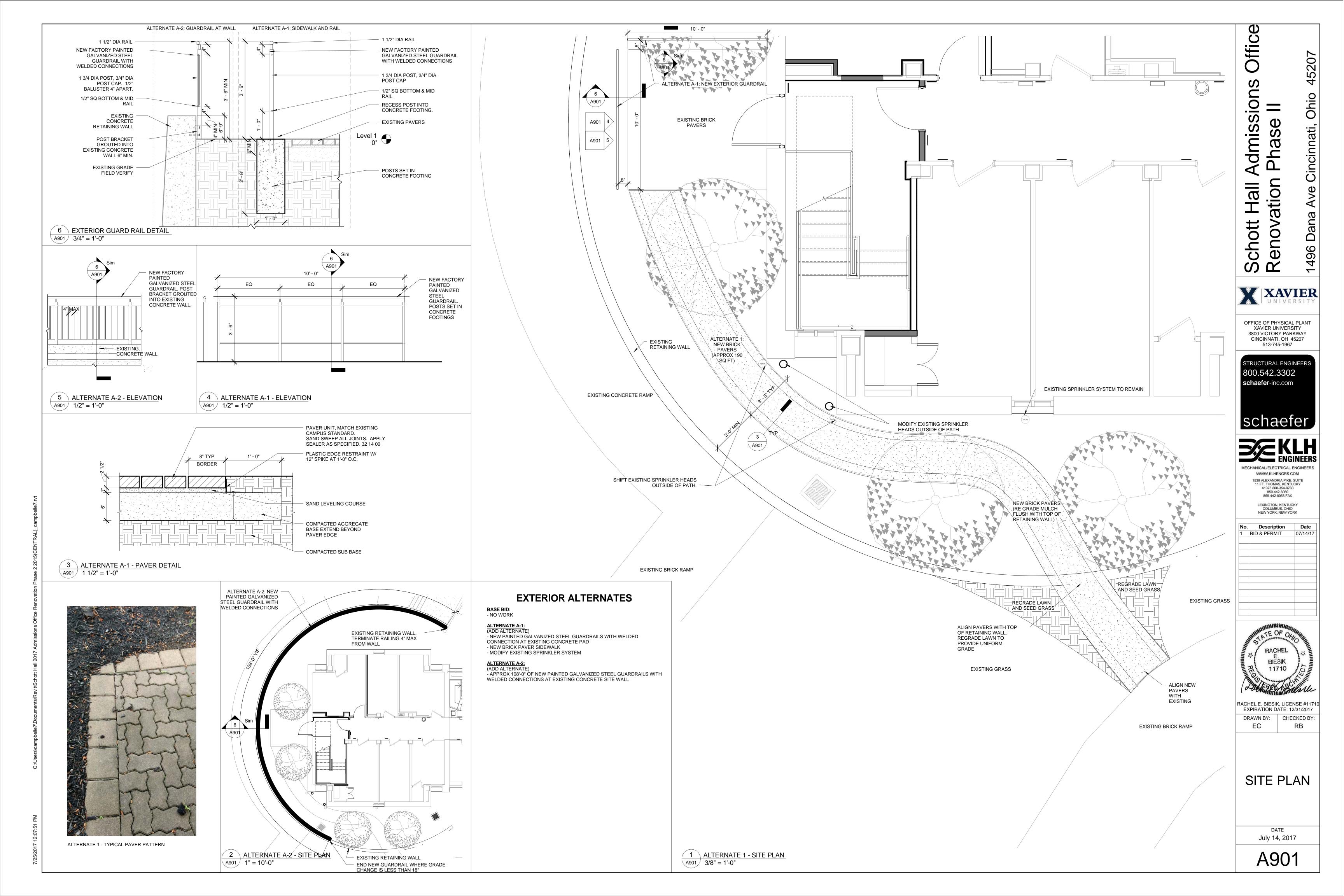
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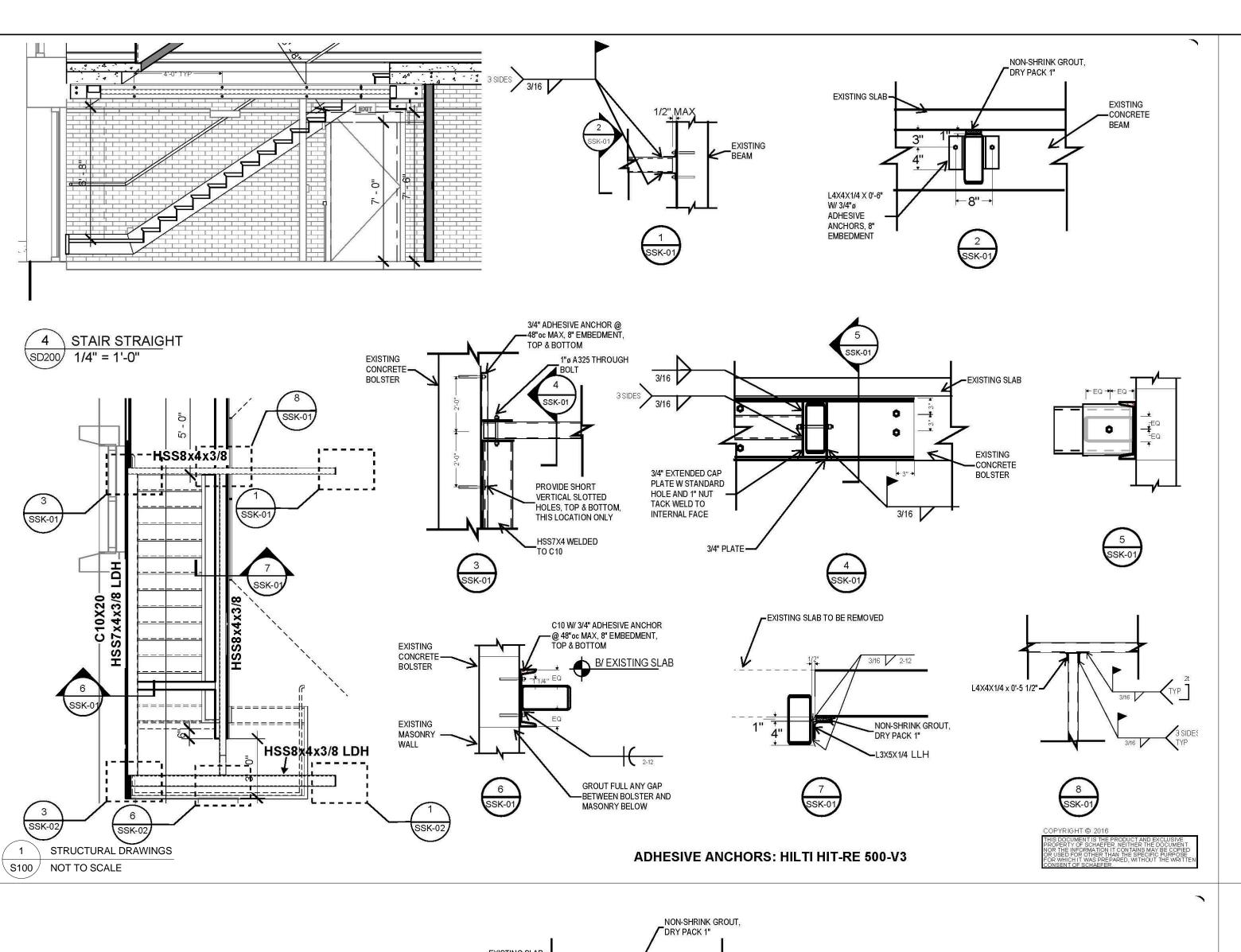
MECHANICAL/ELECTRICAL ENGINEER

No.	Description	Date
1	BID & PERMIT	07/14/17



RACHEL E. BIESIK, LICENSE #11710 EXPIRATION DATE: 12/31/2017 DRAWN BY: CHECKED BY





#### STRUCTURAL NOTES

#### **ADHESIVE ANCHORS**

- 1. ANCHORAGE TO CONCRETE: HILTI "HIT-RE 500-V3" EPOXY (ICC ESR-3814). INSTALL PER ICC REPORT AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). SUBSTITUTES COMPLYING WITH ACCEPTANCE CRITERIA AC 308 FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED; SUBMIT EVALUATION RÉPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE PRIOR TO INSTALLATION.
- A. STEEL THREADED ROD ANCHORS SHALL BE HILTI "HAS-E" STANDARD RODS. SIZE AND EMBEDMENT SHALL BE AS INDICATED ON DRAWINGS.
- 2. CONTRACTOR SHALL VERIFY THAT THE SHELF LIFE OF THE ADHESIVE HAS NOT BEEN EXCEEDED ON THE DATE OF INSTALLATION.
- 3. TESTING AND INSPECTION: REFER TO ICC REPORT(S) AND SPECIAL INSPECTION TABLE FOR TESTING AND INSPECTION REQUIREMENTS. WHERE TESTING IS REQUIRED, ANCHORS SHALL BE TESTED TO THE FOLLOWING LOADS UNLESS OTHERWISE INDICATED.
- 4. FOR CONNECTIONS TO EXISTING REINFORCED CONCRETE OR MASONRY, VERIFY THE LOCATIONS OF THE EXISTING REINFORCING BARS USING A REBAR DETECTOR, PRIOR TO DRILLING. NOTIFY THE ENGINEER PRIOR TO INSTALLATION IF ANCHOR LOCATIONS CONFLICT WITH EXISTING REINFORCING BARS. DO NOT DRILL THROUGH EXISTING REINFORCING BARS.

- 1. ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS FOR "DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", LATEST EDITION.
- 2. STRUCTURAL STEEL FABRICATOR SHALL PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM, AND SHALL BE DESIGNATED AN AISC-CERTIFIED PLANT.
- 3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS D1.1:2010).
- 4. MATERIALS:
- A. PLATES AND ROLLED SHAPES OTHER THAN W-SHAPES, UNLESS NOTED: ASTM A36.
- B. TUBULAR SHAPES (HSS SQUARE AND RECTANGULAR): ASTM A500, GRADE B.
- C. BOLTS: ASTM A325-N, 3/4" DIAMETER UNLESS NOTED.
- D. ANCHOR RODS: ASTM A36 OR ASTM F1554, GRADE 36.
- E. FIELD WELDS: AWS E70XX, LOW HYDROGEN ELECTRODES.
- F. COLD FORMED STRUCTURAL SHAPES: ASTM A1011 Fy = 50 KSI MINIMUM SECTION PROPERTIES BASED ON SECTIONS MANUFACTURED BY MBCI METAL ROOF AND WALL SYSTEMS.
- G. NON-SHRINK NON-METALLIC GROUT: CRD-C-621 AND ASTM C1107 FOR INTERIOR AND EXTERIOR APPLICATIONS, FLUID TYPE.
- 1. FOR GROUT IN EXTERIOR APPLICATIONS, SUCH AS GUARDRAIL ANCHORAGE, LIMIT GYPSUM CONTENT TO 1.5% MAXIMUM.

#### 5. PAINT AND PROTECTION:

3 \ STRUCTURAL DRAWINGS

S100 NOT TO SCALE

- A. STRUCTURAL STEEL UNLESS NOTED: PREPARE STEEL SURFACES PER SSPC-SP3 "POWER TOOL CLEANING" AND PAINT WITH FABRICATOR'S STANDARD PRIME COAT, SUCH AS TNEMEC 10-1009. TOUCH UP AFTER ERECTION. B. MEMBERS TO RECEIVE SPRAY-ON FIREPROOFING: NO PAINT.
- 6. CONTRACTOR SHALL SUBMIT ERECTION AND SHOP DRAWINGS FOR REVIEW BY ENGINEER. FABRICATION SHALL NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER.

#### SPECIAL INSPECTIONS FOR STRUCTURAL WORK

THE SCHEDULE OF SPECIAL INSPECTIONS FOR STRUCTURAL WORK HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 106.1 AND 1704 OF THE REFERENCED BUILDING CODE, AND IS AVAILABLE UPON REQUEST. SEE OTHERS FOR SPECIAL INSPECTION REQUIREMENTS FOR NON-STRUCTURAL WORK. THE SPECIAL INSPECTOR(S) SHALL COORDINATE WITH THE OWNER, CONTRACTORS, AND DESIGN PROFESSIONALS AND SCHEDULE ALL INSPECTIONS ACCORDINGLY.





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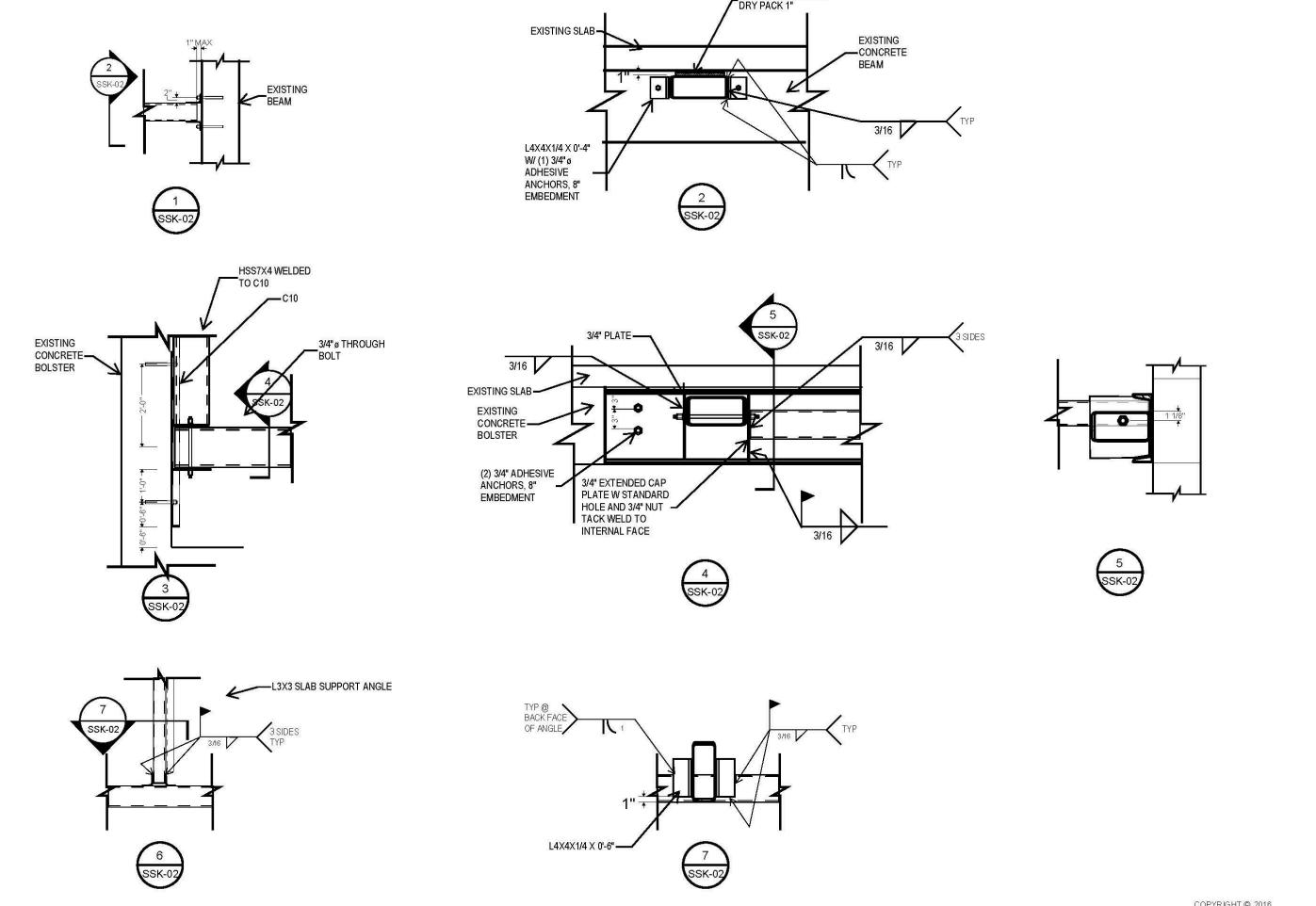
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July 14, 2017

**S100** 

07/14/17

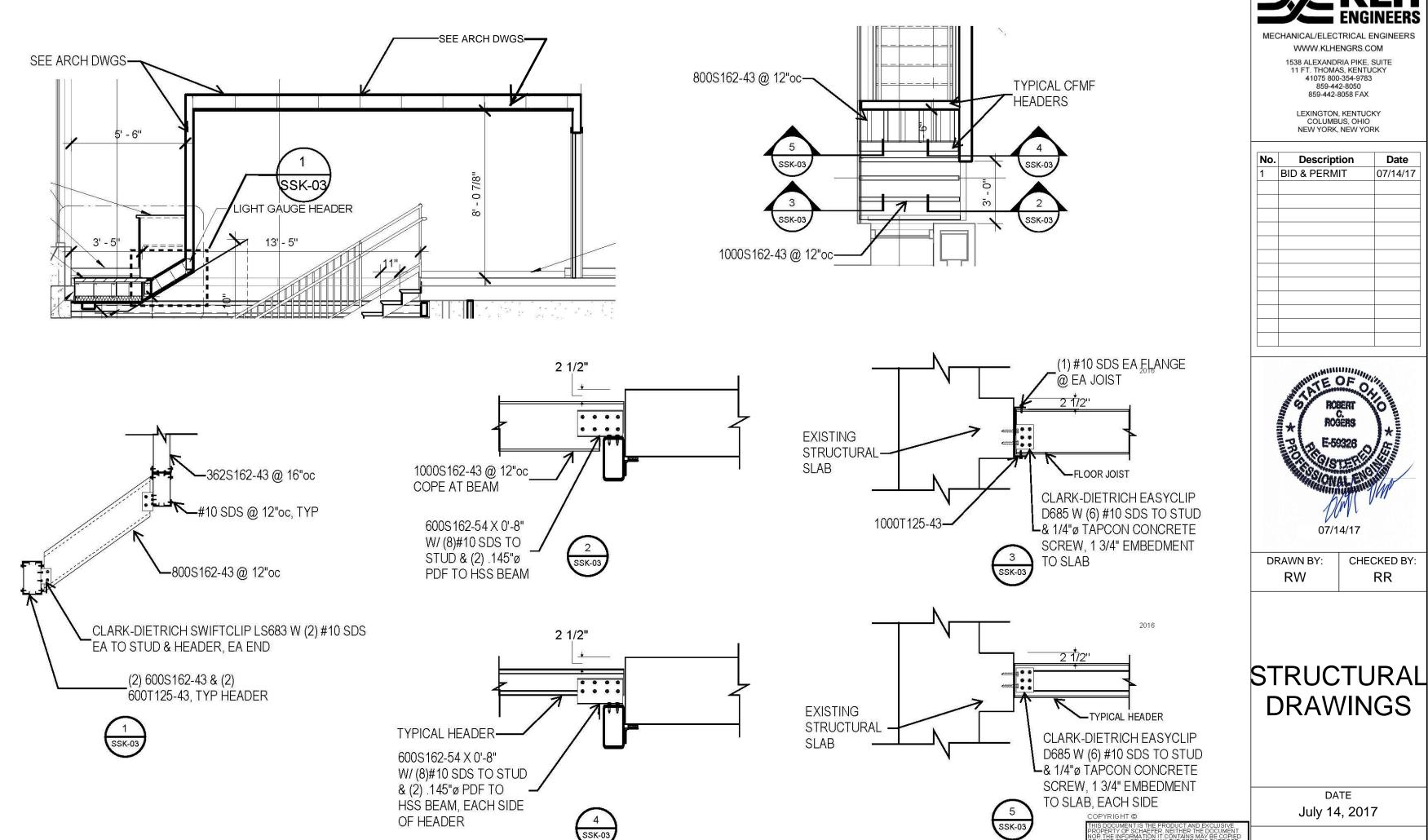
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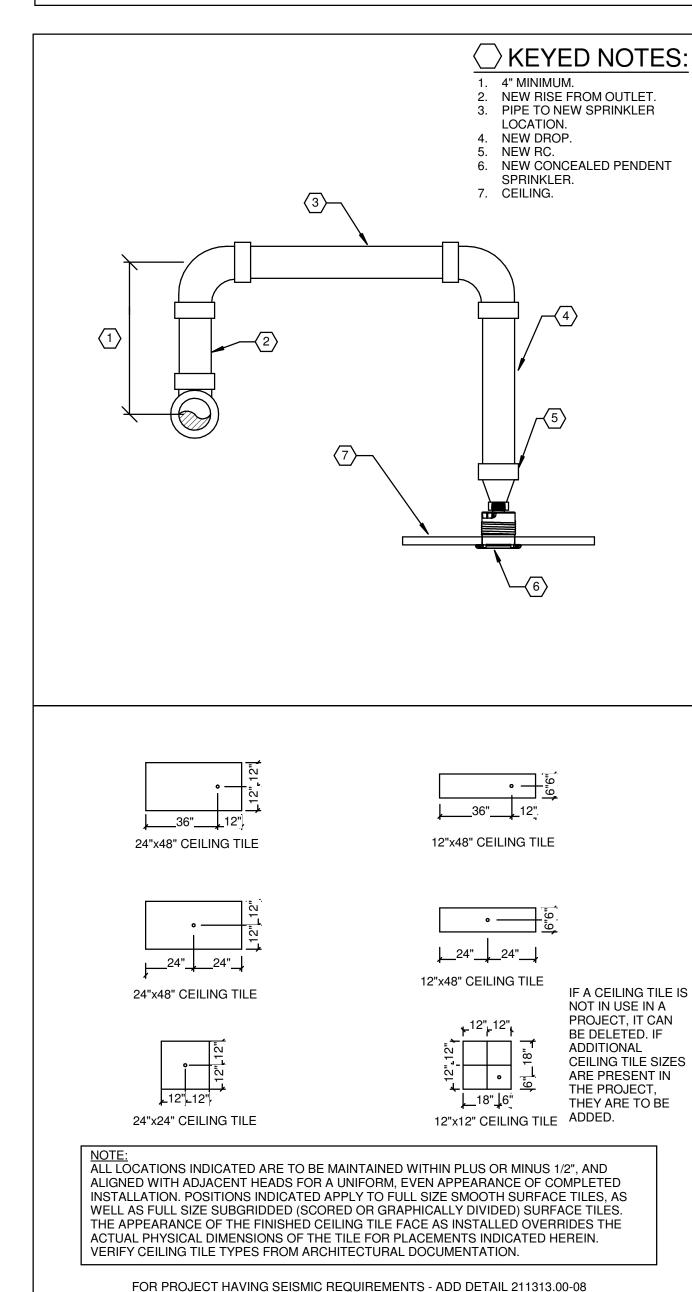
2 \ STRUCTURAL DRAWINGS

S100 / NOT TO SCALE

**ADHESIVE ANCHORS: HILTI HIT-RE 500-V3** 



MARK	Description	Volts	Phase	HP	MC INST	MC TYPE	MC WIRE
C1	RISER MOUNTED AIR COMPRESSOR	120	1	1/2	EC	EC	EC
				•			



GENERAL FIRE PROTECTION NOTES

INSURANCE CARRIER REQUIREMENTS.

DEPARTMENT THREADS.

LICENSED IN THE STATE OF OHIO.

MECHANICAL AND ELECTRICAL DRAWINGS.

REMOVED BACK TO THE OUTLET ON THE BRANCHLINE.

RENOVATED AREAS SHALL BE 100% SPRINKLERED.

B. COORDINATE CLOSELY WITH OTHER TRADES. REFER TO ARCHITECTURAL DRAWINGS FOR

C. ALL SPRINKLER WORK SHALL BE INSTALLED PER NFPA 13, BUILDING CODE, AND OWNER'S

COORDINATE EXACT LOCATION OF PIPING AND HEADS WITH REFLECTED CEILING PLANS,

G. ALL FIRE SUPPRESSION WORK SHALL BE PERFORMED BY A FIRE PROTECTION CONTRACTOR

H. ALL SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILE. PLUS OR MINUS ONE

SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING FOR

ALL ARMOVER PIPING RELATED TO SPRINKLERS TO BE DEMOLISHED, SHALL HAVE ALL PIPING

WHEN MODIFYING EXISTING SPRINKLER SYSTEMS, SPRINKLER CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING SPRINKLER ZONES. COORDINATE WITH NEW FIRE RATING

FIRE PROTECTION CONTRACTOR IS REQUIRED TO RAISE/REWORK ALL EXISTING PIPING AS

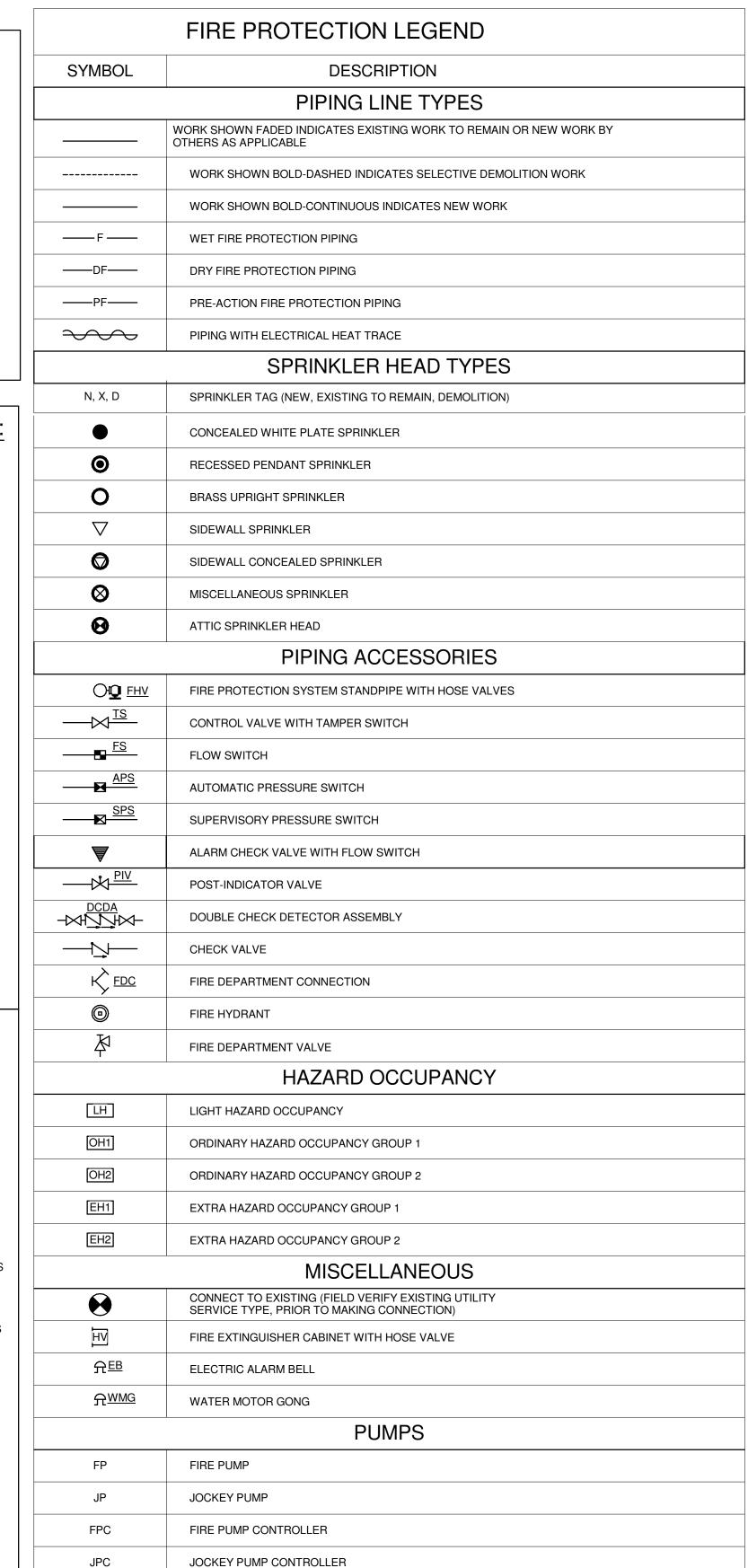
NEEDED TO ACCOMMODATE NEW CEILINGS AND HIGHER CEILING HEIGHTS AS APPLICABLE.

ALL HOSE VALVES AND FIRE DEPARTMENT CONNECTIONS SHALL MATCH LOCAL FIRE

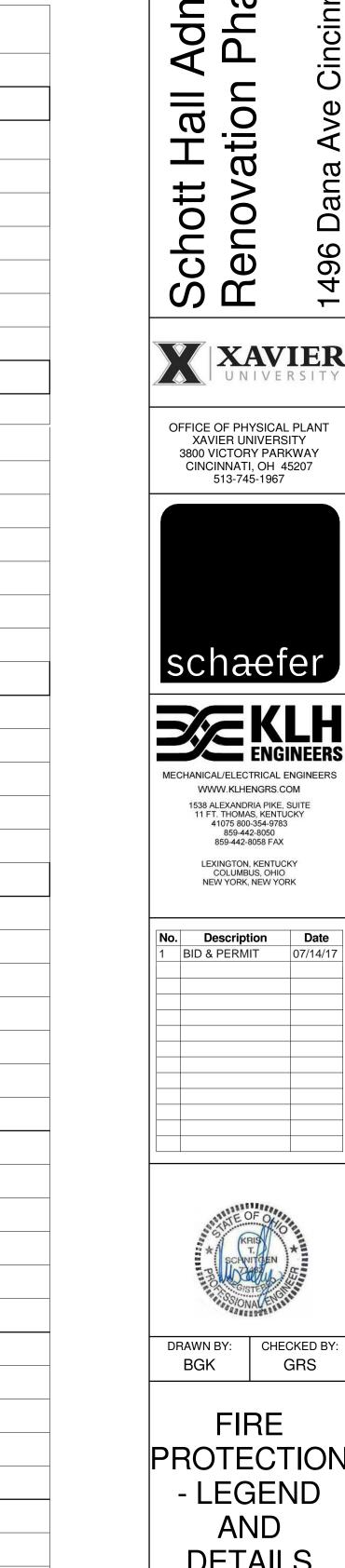
PIPING SHALL BE PIPED TO OUTSIDE OR INDIRECTLY TO SINK OR FLOOR DRAIN.

SPRINKLER WORK IN ALL AREAS OF BUILDING. REFER TO SPECIFICATIONS.

). MAKE PROVISIONS FOR DRAINING AND PROVIDE INSPECTOR TESTS AS REQUIRED. ALL DRAIN



RELEASING PANEL



No. Description BID & PERMIT

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859-442-8050

859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO

NEW YORK, NEW YORK



DRAWN BY: BGK

CHECKED BY: GRS

FIRE PROTECTION - LEGEND **DETAILS** 

July 14, 2017

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3800 VICTORY PARKWAY

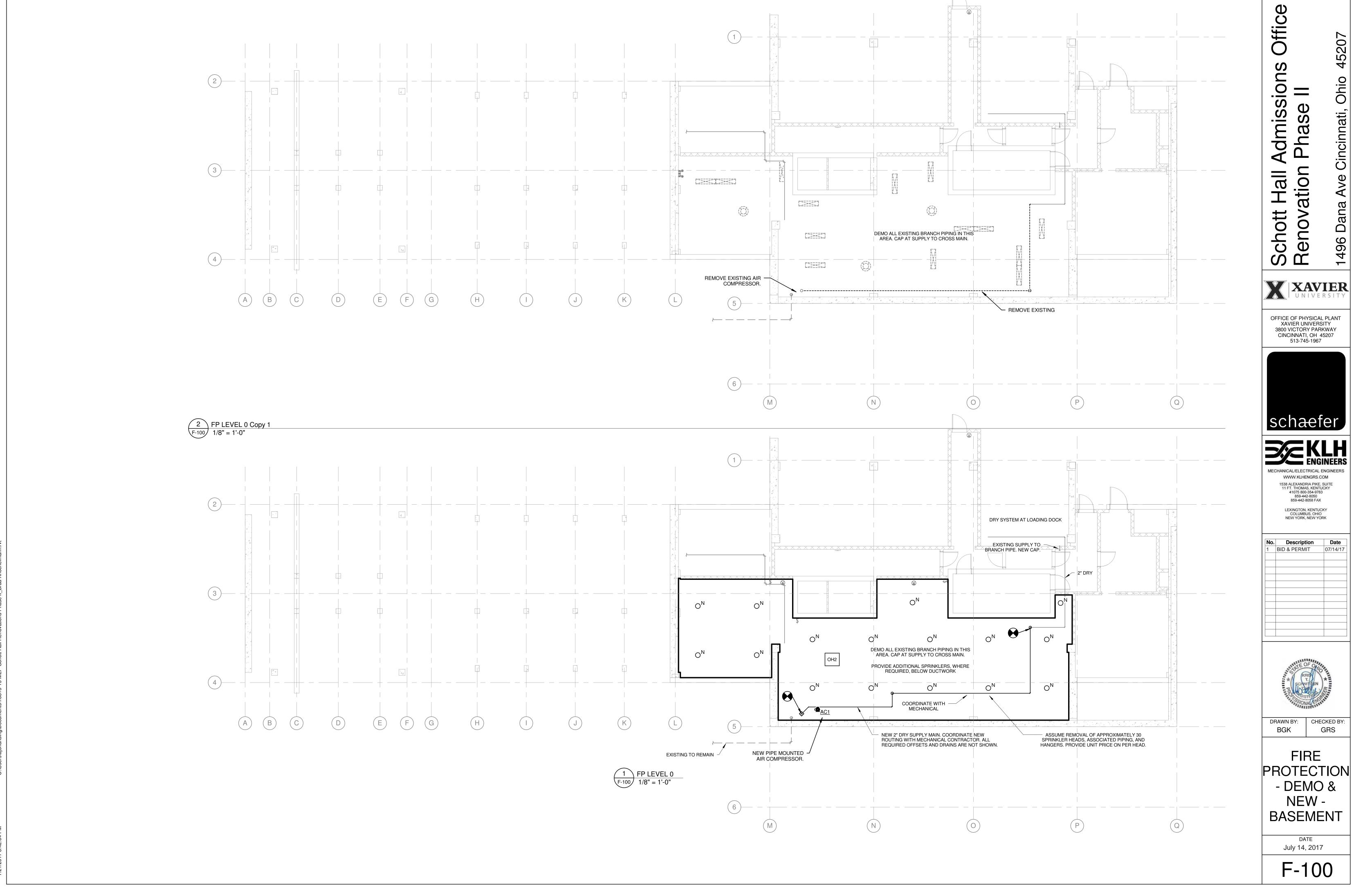
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Office Admissions Phase Schott Hall / Renovation

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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

Description
BID & PERMIT

DRAWN BY:

BGK

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**FIRE** 

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NEW - 1ST

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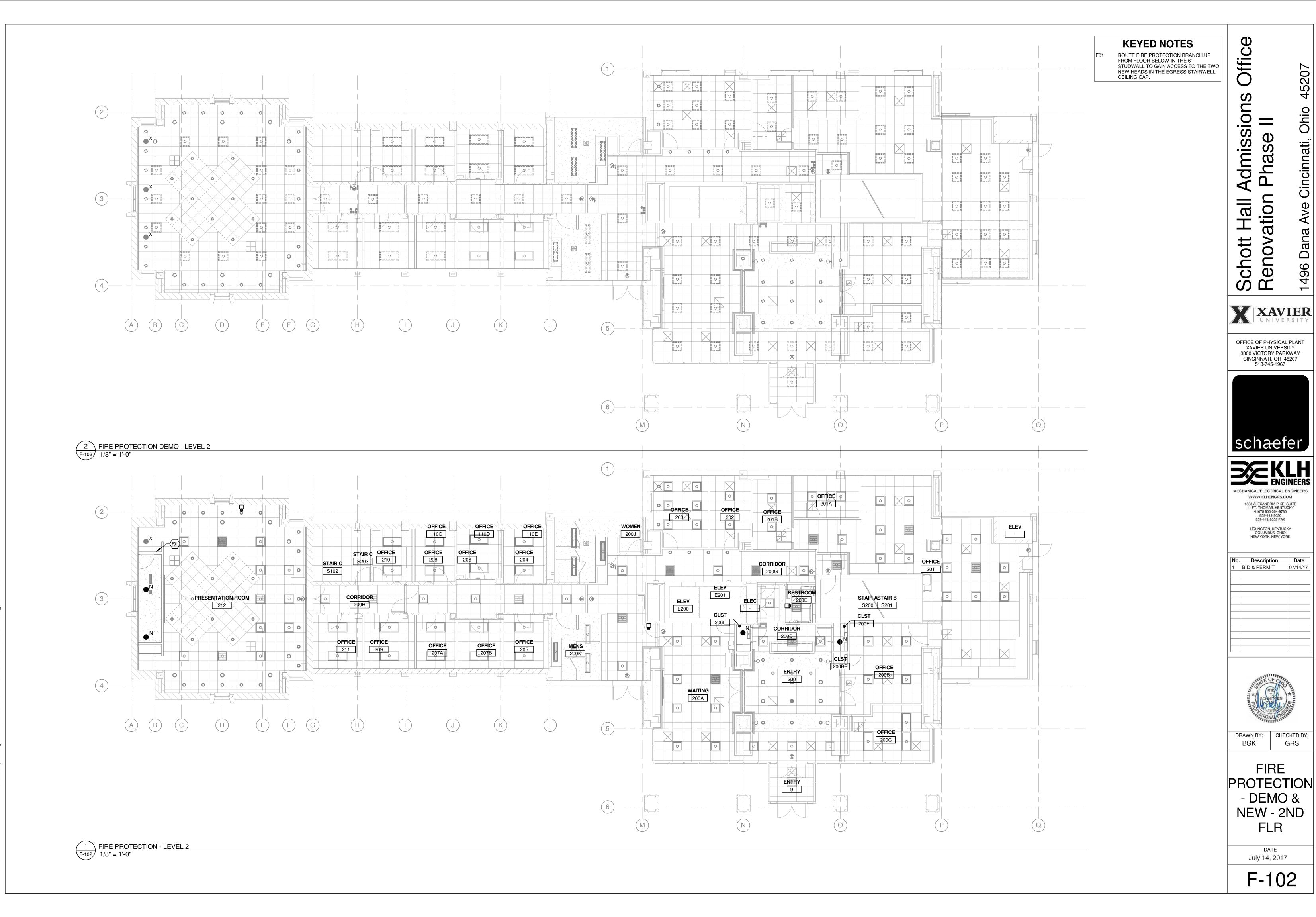
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July 14, 2017

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**ENGINEERS** MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY

41075 800-354-9783 859-442-8050 859-442-8058 FAX LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK No. Description **BID & PERMIT** 

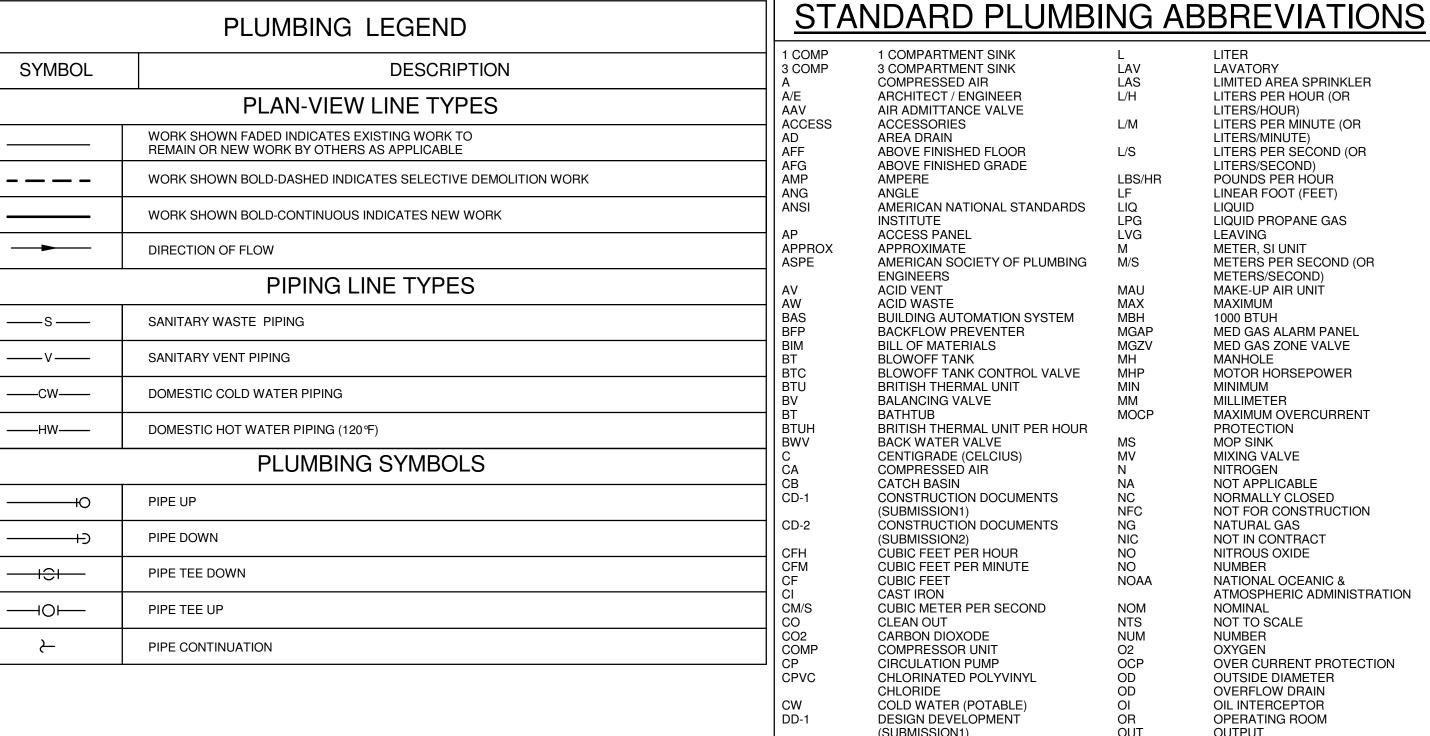
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DRAWN BY: DJT

CHECKED BY:

PLUMBING -LEGEND AND **DETAILS** 

> DATE July 14, 2017 P-000



1 COMPARTMENT SINK

3 COMPARTMENT SINK

ARCHITECT / ENGINEER

AIR ADMITTANCE VALVE

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

AMERICAN NATIONAL STANDARDS

AMERICAN SOCIETY OF PLUMBING

**BUILDING AUTOMATION SYSTEM** 

BLOWOFF TANK CONTROL VALVE

BRITISH THERMAL UNIT PER HOUR

BACKFLOW PREVENTER

BRITISH THERMAL UNIT

BILL OF MATERIALS

BALANCING VALVE

BACK WATER VALVE

COMPRESSED AIR

CATCH BASIN

(SUBMISSION1)

(SUBMISSION2)

CUBIC FEET

CAST IRON

CLEAN OUT

CHLORIDE

(SUBMISSION1)

(SUBMISSION2)

DEGREE

DIAMETER

**DOWNSPOUT** 

**CARBON DIOXODE** 

**COMPRESSOR UNIT** 

CIRCULATION PUMP

CHLORINATED POLYVINYL

COLD WATER (POTABLE)

DESIGN DEVELOPMENT

DESIGN DEVELOPMENT

DRINKING FOUNTAIN

DEIONIZED WATER

EXPANSION JOINT ELEVATION

**EXPANSION TANK** 

EXPANSION

EXISTING

FAHRENHEIT

FLOOR DRAIN

FUEL OIL PUMP

FUEL OIL TANK

FEET PER MINUTE

FEET PER SECOND

FIRE PUMP

FLOOR SINK

FREEZESTAT

FOOT-POUND

FILTERED WATER

FURNISHED

GAUGE

GALLONS

GENERAL

GRAINS

GREASE TRAP

HOSE BIBB

**HUB DRAIN** 

HORSEPOWER

INPUT/OUTPUT

HEIGHT

HOT TAP

INDIRECT

INCH-POUND

JOCKEY PUMP

KITCHEN HOOD

KILOWATT HOUR

INSTALLED

KILOGRAM

KILOWATT

HOT WATER

**GREASE WASTE** 

HOT & COLD WATER

HVAC CONTRACTOR

HOT WATER RETURN

INTENSIVE CARE UNIT

INCH WATER COLUMN

KILOGRAM PER HOUR

INSIDE DIAMETER

INVERT ELEVATION

HIGH DENSITY POLYETHYLENE

NATURAL GAS

GRADE CLEAN OUT

GALLONS PER DAY

GALLONS PER HOUR

GALLONS PER MINUTE GAS PRESSURE REGULATOR

GAS FIRED WATER HEATER

GREASE INTERCEPTOR

FLOOR CLEAN OUT

**FULL LOAD AMPERES** 

EWC

EWH

FCO

FOP

FPM FPS FS FSTAT

FT-LB FURN

FW

G GA GAL GAS GCO GEN

GFWH

GI GPD GPH GPM GPR GR GT GW H&CW

HC

HDPE HGT

HP HT HW

HWR

I/O ICU ID IE IN

IN WC

IN-LB INST

JP KG

KW

l kwh

KG/HR

EX

CHANGE IN TEMPERATURE

ELECTRICAL CONTRACTOR

**EMERGENCY GAS SHUTOFF** 

ELECTRIC WATER COOLER

ELECTRIC WATER HEATER

FIRE DEPARTMENT CONNECTION

FINISHED FLOOR ELEVATION

CENTIGRADE (CELCIUS)

CUBIC FEET PER HOUR

CUBIC FEET PER MINUTE

CUBIC METER PER SECOND

CONSTRUCTION DOCUMENTS

CONSTRUCTION DOCUMENTS

BLOWOFF TANK

COMPRESSED AIR

ACCESSORIES

**ACCESS PANEL** 

APPROXIMATE

**ENGINEERS** 

ACID VENT ACID WASTE

BATHTUB

AREA DRAIN

AMPERE

ANGLE

LAVATORY

LITERS/HOUR)

LITERS/MINUTE)

LITERS/SECOND)

METER, SI UNIT

METERS/SECOND)

MAKE-UP AIR UNIT

LIQUID

LEAVING

MAXIMUM

1000 BTUH

MANHOLE

MINIMUM

**MILLIMETER** 

PROTECTION

MIXING VALVE

NOT APPLICABLE

NATURAL GAS

NOT IN CONTRACT

NATIONAL OCEANIC &

OUTSIDE DIAMETER

OVERFLOW DRAIN

OIL INTERCEPTOR

OPERATING ROOM

PRESSURE GAGE

ABSOLUTE

QUANTITY

**ROOF DRAIN** 

ROOF HYDRANT

REVERSE OSMOSIS

ROOF LEADER

PREVENTER

ROOF TOP UNIT

SHOWER DRAIN

SEWAGE EJECTOR

SOLIDS INTERCEPTOR

RELIEF VALVE SANITARY

SANITARY

SHOWER

SOFT WATER

SPECIFICATION STAND PIPE

SPECIFIC GRAVITY

STAINLESS STEEL

STORM PIPING

TRENCH DRAIN

TEMPERATURE

TRAP PRIMER

THERMOSTAT

**TERMINAL UNIT** 

VACUUM PUMP

WASHER BOX

WATER CLOSET

WALL HYDRANT

WATER FILTER

YARD HYDRANT

WALL CLEAN OUT

VENT THRU ROOF

UNIT HEATER

UNION

URINAL

VALVE

VALVE

WATER

WATER

YEAR

VACUUM

TAMPER SWITCH

SQUARE FOOT (FEET)

TOTAL DYNAMIC HEAD

TESTING, ADJUSTING, BALANCE

THERMOSTATIC MIXING VALVE

UNDERWRITERS LABORATORY

VARIABLE FREQUENCY DRIVE

WASTE ANESTHESIA GAS

SOLENOID

SQUARE

STANDARD

SYSTEM

RADIUS

PARTS PER MILLION

POLYVINYL CHLORIDE

PLUMBING CONTRACTOR

POST INDICATOR VALVE

POUNDS PER CUBIC FOOT (FEET)

PRESSURE REGULATING VALVE

POUNDS PER SQUARE INCH - GAGE

REDUCED PRESSURE BACKFLOW

REDUCED PRESSURE ZONE VALVE

SCHEMATIC DESIGN (SUBMISSION2)

REVOLUTIONS PER MINUTE

SPRINKLER CONTRACTOR

POUNDS PER SQUARE INCH

POUNDS PER SQUARE INCH -

ATMOSPHERIC ADMINISTRATION

OVER CURRENT PROTECTION

NITROUS OXIDE

NORMALLY CLOSED

MOP SINK

NITROGEN

NUMBER

NOMINAL

NUMBER

OXYGEN

OUTPUT

NOT TO SCALE

POUNDS PER HOUR

LINEAR FOOT (FEET)

LIQUID PROPANE GAS

METERS PER SECOND (OR

MED GAS ALARM PANEL

MED GAS ZONE VALVE

MOTOR HORSEPOWER

MAXIMUM OVERCURRENT

NOT FOR CONSTRUCTION

LIMITED AREA SPRINKLER

LITERS PER HOUR (OR

LITERS PER MINUTE (OR

LITERS PER SECOND (OR

LAV

LAS

L/M

L/S

LIQ

LPG

LVG

M/S

MBH

MHP

MGAP

MGZV

MOCP

NC NFC

NG NIC

NO NO

NTS

NUM

O2 OCP

OD

OD

OR

OUT

PCF

PG

PPM

PRV

PSIA

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RD

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SD-2

SOFT SOL

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**TSTAT** 

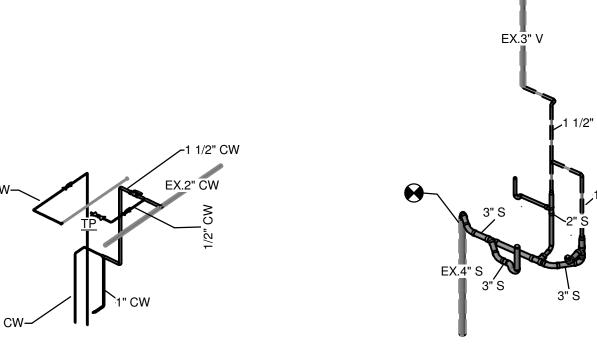
TEMP

RPBF

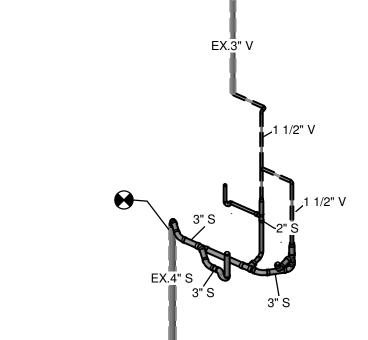
QUAN

OI

NOAA



1 \ DOMESTIC WATER ISOMETRIC



2	SANITARY WASTE AND VENT ISOMET
P-000	

					CONNECTIONS (BY PLUMBING CONTRACTOR)				
MARK	DESCRIPTION	MANUFACTURER	MODEL	MATERIAL/FINISH	TRAP PRIMER	TRAP SIZE (in)	SAN SIZE (in)	VENT SIZE (in)	ACCESSORIES/REMARKS
FD1	FLOOR DRAIN	ZURN	415B		YES	3	3	1-1/2	PROVIDE PPP P2-500 TRAP PRIMER VALVE

6 \ RESTROOM 200E

1/2" = 1'-0"

RESTROOM

—EX.2" CW— ≥

200E <u>LV1</u>

EX. 3" VENT UP THROUGH

ROUTE EXPOSED DWV

REFER TO RESTROOM

PROVIDE 1" CW TO WC1

\_AND 1/2" CW TO <u>LV1</u>.\_

PIPE ROUTING.

1-1/2" CW DOWN.

-EX.2" CW------

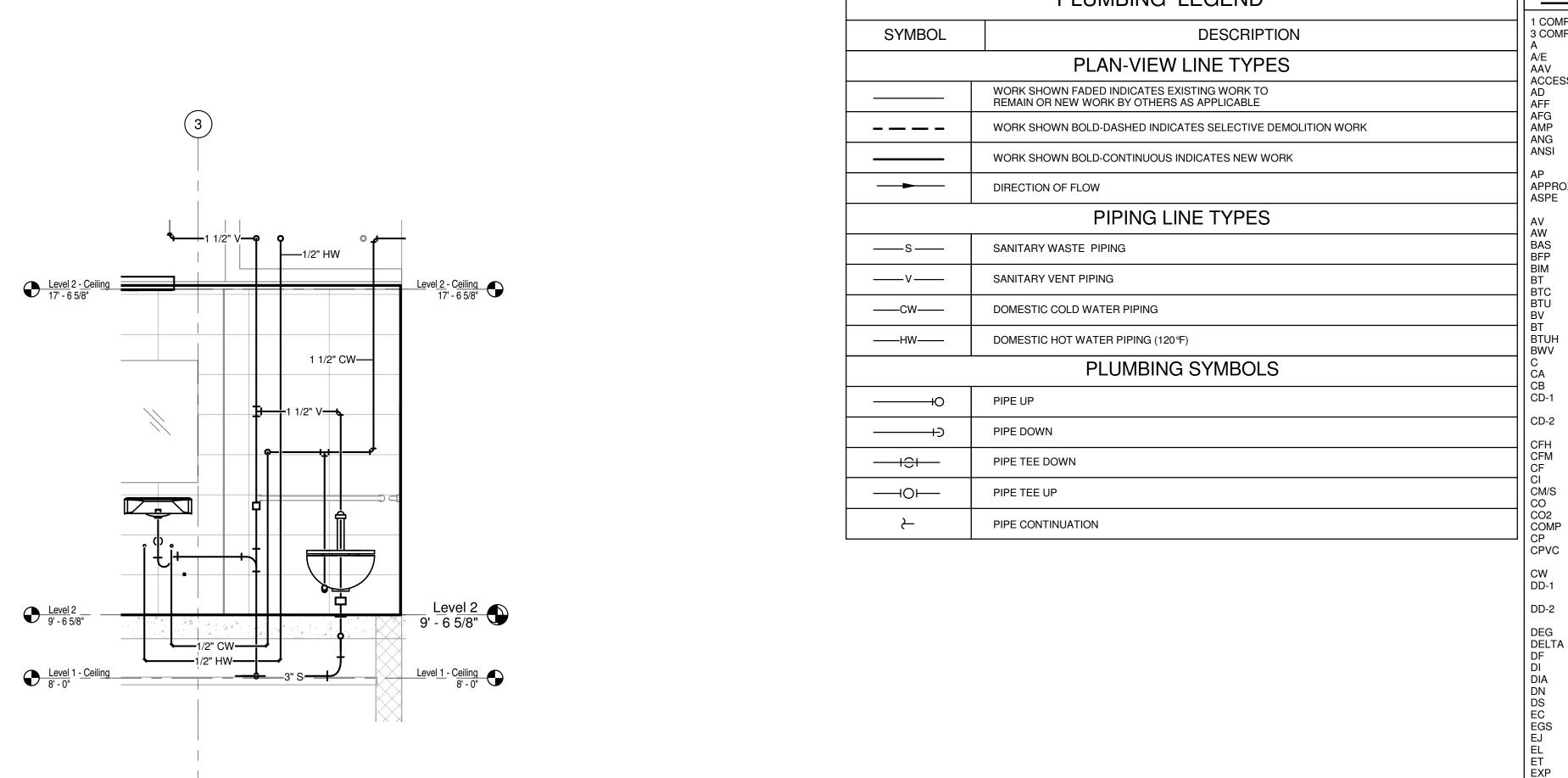
5 \ PLUMBING - DOMESTIC WATER - LEVEL 2 - ENLARGED VIEW

PIPING NEATLY ON WALL.

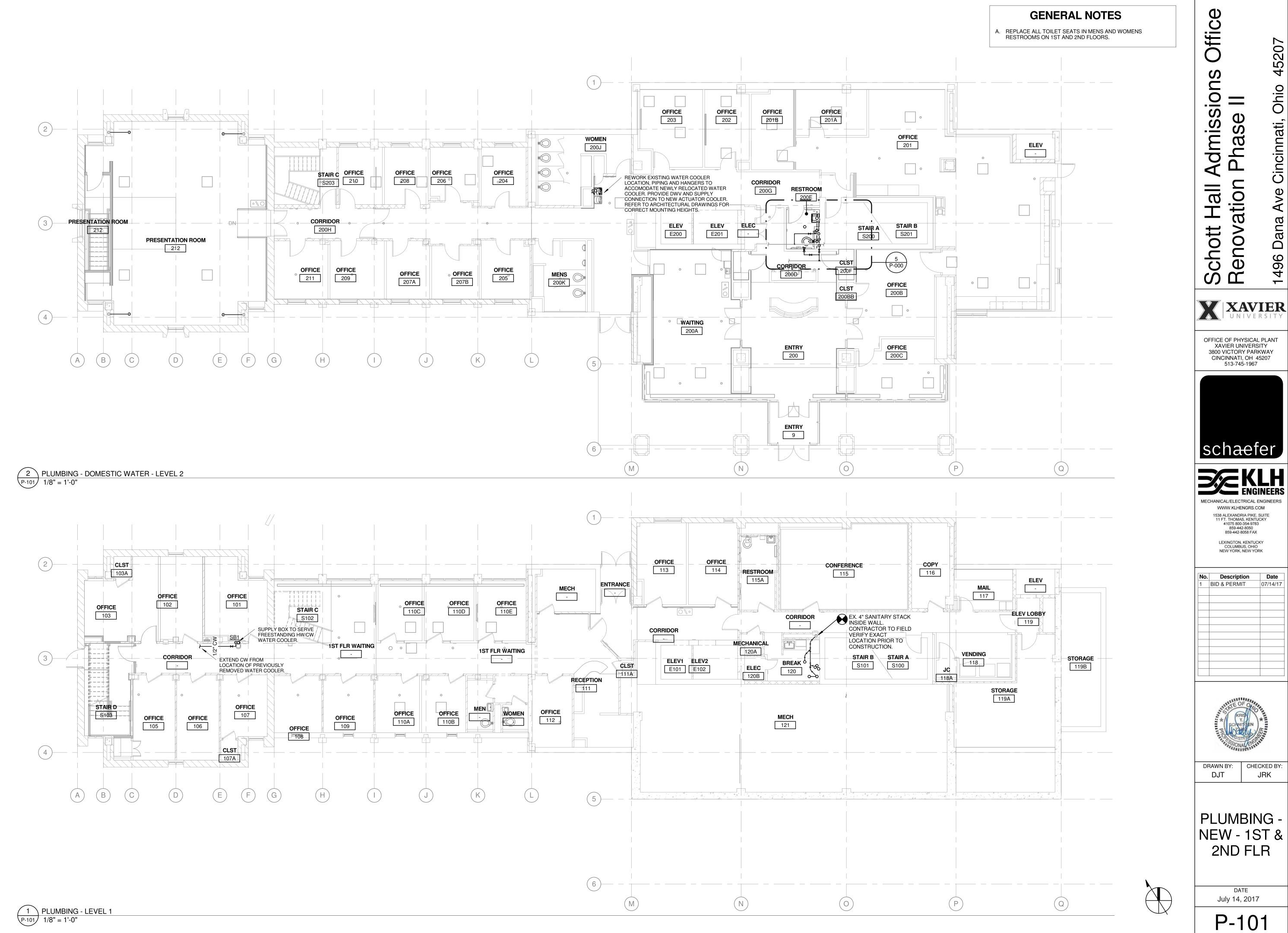
DETAIL FOR H&CW SUPPLY

FLOOR ABOVE

						VALVE/FAUCET	VALVE/FAUCET														
MARK	DESCRIPTION	LOCATION	STATUS	MANUFACTURER	MODEL	MFGR	MODEL	WATTS (Watts)	VOLTS	PHASE	EMERGENCY	FLA (amps)	MCA (amps)	OCP (amps)	CW SIZE (in)	HW SIZE (in)	SAN SIZE (in)	VENT SIZE (in)	TRAP SIZE (in)	INT TRAP	ACCESSORIES
LV1	LAVATORY	RESTROOM			K-2054	SLOAN	EFT-600		0	0					1/2	1/2	1-1/2	1-1/2	1-1/2	NO	MOUNT AT ADA HEIGHT, PROVIDE ACORN ST70-12 POINT-OF-USE MIXING VALVE
SB1	SUPPLY BOX			GUY GRAY	FRIB12ABS				0	0					1/2						PROVIDE WATTS SD2 DUAL CHECK ON SUPPLY TO WATER COOLER
WC1	FLUSH VALVE WATER CLOSET	RESTROOM		AMERICAN STANDARD	2234.001	SLOAN	111-1.28 ES-S TMO	(	0	0					1		3	1-1/2		YES	ADA, PROVIDE FLUSH VALVE HANDLE ON THE OPER SIDE OF WATER CLOSET.







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Ohio

Cincinnati,

DATE July 14, 2017

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XAVIER OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967 schaefer **EXECUTE**ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM

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		<u>S1</u>	ANDARD HVAC AE	BBRE	VIATIONS		
AAHX	ARCHITECT / ENGINEER AIR TO AIR HEAT EXCHANGER AIR BLENDER	EH EJ ELEV	EXHAUST HOOD EXPANSION JOINT ELEVATOR	L/M L/S LAT	LITERS PER MINUTE (OR LITERS/MINUTE) LITERS PER SECOND (OR LITERS/SECOND) LEAVING AIR TEMPERATURE	SD SD-1 SD-2	SUPPLY AIR DIFFUSER SCHEMATIC DESIGN (SUBMISSION1) SCHEMATIC DESIGN (SUBMISSION2)
AAV	AUTOMATIC AIR VENT AIR COOLED CONDENSER	EMD	ELEVATOR END OF MAIN DRIP (STEAM) EMERGENCY POWER	LBS/HR LF	POUNDS PER HOUR LINEAR FOOT (FEET)	SDPR SDR	SMOKE DAMPER SMOKE DAMPER (RETURN)
ACCESS	ACCESSORIES AIR COOLED CHILLER	ENT ER	ENTERING EXHAUST REGISTER	LGT LH	LEAVING GLYCOL TÉMPERATURE LATENT HEAT	SDS SECP	SMOKE DAMPER (SUPPLY) SECONDARY PUMP
ACCU	AIR-COOLED CONDENSING UNIT AIR CONDITIONING UNIT	ERC ERP	ELECTRIC REHEAT COIL ELECTRIC RADIANT PANEL	LPG LPR	LIQUID PROPANE GAS LOW PRESSURE RETURN	SENS SF	SENSIBLE HEAT SUPPLY FAN
ACD	AUTOMATIC CONTROL DAMPER, MODULATING AUTOMATIC CONTROL DAMPER, TWO POSITION	ESP ET	EXTERNAL STATIC PRESSURE EXPANSION TANK	LPRC	(STEAM CONDENSATE) LOW PRESSURE STEAM RETURN (CLEAN)	SG SH	SUPPLY AIR GRILLE STEAM HUMIDIFIER
AD	ACCESS DOOR AFTER FILTER	ETO EUH	ETHYLENE OXIDE ELECTRIC UNIT HEATER	LLHX LPS	LIQUID TO LIQUID HEAT EXCHANGER LOW PRESSURE STEAM	SHC SI	STEAM HEATING COIL SQUARE INCHES
AFCV AFF	AIR FLOW CONTROL VALVE ABOVE FINISHED FLOOR	EV EWC	ELECTRONIC VALVE ELECTRIC WATER COOLER	LPSC LSD	LOW PRESSURE STEAM (CLEAN) LINEAR SLOT DIFFUSER	SP SP	STATIC PRESSURE SUMP PUMP
AFW	AIR FLOW MEASURING DEVICE AIR FOIL WHEEL (FAN)	EWH EWT	ELECTRIC WALL HEATER ENTERING WATER TEMPERATURE	LTCP LVG	LOCAL TEMPERATURE CONTROL PANEL LEAVING	SP GR SPD	SPECIFIC GRAVITY SUPPLY PROCESS AND DISTRIBUTION
AMP	AIR-HANDLING UNIT AMPERGE	EX. F	EXISTING FAHRENHEIT	LVR LWT	LOUVER LEAVING WATER TEMPERATURE METER, SI UNIT	SPRV SPS	STEAM PRESSURE REDUCING VALVE STATIC PRESSURE SENSOR
APD	ACCESS PANEL AIR PRESSURE DROP		FLOAT AND THERMOSTATIC COMBINATION FIRE SMOKE DAMPER	M M/S	METER, SI ONT METERS PER SECOND (OR METERS/SECOND)	SQ FT SR SS	SQUARE FOOT (FEET) SUPPLY AIR REGISTER STAINLESS STEEL
AS	AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR AMERICAN SOCIETY OF MECHANICAL ENGINEERS	FA FC FCU	FREE AREA FAN COIL UNIT FAN COIL UNIT (4 PIPE)	MA MAT	MIXED AIR MIXED AIR TEMPERATURE	SSHX SSR	STEAM TO STEAM HEAT EXCHANGER SOLID SEPARATOR
	AIR WASHER AXIAL FLOW	FCUC FCUH	FAN COIL UNIT (4 PIPE) FAN COIL UNIT COOLING ONLY FAN COIL UNIT HEATING ONLY	MAU MAV	MAKE-UP AIR UNIT MANUAL AIR VENT	ST SUH	STEAM TRAP STEAM UNIT HEATER
B BAS	BOILER BUILDING AUTOMATION SYSTEM	FCW FD	FORWARD CURVED WHEEL (FAN) FLOOR DRAIN	MAX MB	MAXIMUM MIXING BOX	SV SVS	STEAM PRESSURE REDUCING VALVE STEAM VENT SILENCER
BD BDD	BUTTERFLY DAMPER BACKDRAFT DAMPER	FD FF	FIRE DAMPER FINAL FILTER	MBH MCA	1000 BTUH MINIMUM BRANCH CIRCUIT AMPACITY	SWHX T & PCV	STEAM TO WATER HEAT EXCHANGER TEMPERATURE AND PRESSURE
	BASE BOARD RADIATOR BACKFLOW PREVENTER	FHX FLA	FLUE GAS/FEEDWATER HEAT EXCHANGER FULL LOAD AMPERES	MCW MER	MAXIMUM CHILLED WATER MECHANICAL EQUIPMENT ROOM	TAB	CONTROL VALVE TESTING, ADJUSTING, BALANCE
BFT BG	BOILER PLANT FIRE TUBE BOTTOM GRILLE		FLOW METER FUEL OIL PUMP	MERV MH	MINIMUM EFFICIENCY REPORTING VALUE MANHOLE	TD TDH	TEMPERATURE DIFFERENCE TOTAL DYNAMIC HEAD
	BRAKE HORSEPOWER HOT WATER HEATING BOILER	FOHX	FUEL OIL TANK FUEL OIL HEAT EXCHANGER	MHP MHW	MOTOR HORSEPOWER MAXIMUM HOT WATER	TDS TG	TOTAL DISSOLVED SOLIDS TRANSFER GRILLE
BHX BIW	BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN)	FP FPM	FIRE PUMP FEET PER MINUTE	MIN MM	MINIMUM MILLIMETER MOTOR OPERATED DAMPER	TP TR	TRAP TOP REGISTER
	BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CARDINETS		FEET PER SECOND FAN POWERED TERMINAL UNIT	MOD MOV MPR	MOTOR OPERATED VALVE	TS TSP TSTAT	TAMPER SWITCH TOTAL STATIC PRESSURE THERMOSTAT
BT	BIOLOGICAL SAFETY CABINETS BLOWOFF TANK	FR	FAN POWERED VAV FLOOR REGISTER	MPS	(STEAM CONDENSATE) MEDIUM PRESSURE STEAM	TU TWU	TERMINAL UNIT THRU-WALL UNIT
BTU	BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT		FIBER REINFORCED POLYESTER FLOW SWITCH	MRI MRH	MAGNETIC RESONANCE IMAGING MAXIMUM REHEAT COIL	UC UC	UNDER CUT UNIT COOLER
BWT	BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS)	FT	FREEZESTAT FEET FOOT-POUND	MTD MVD	MEAN TEMPERATURE DIFFERENCE MANUAL VOLUME DAMPER	UH UL	UNIT HEATER UNDERWRITERS LABORATORY
С	CHILLER COOLING COIL	FTR	FIN TUBE RADIATION FURNISHED	MZ NA	MULTI-ZONE NOT APPLICABLE	URV UV	UPBLAST UNIT VENTILATOR UNIT VENTILATOR
CCD	COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER	FV GA	FACE VELOCITY GAUGE	NC NC	NOISE CRITERIA NORMALLY CLOSED	V V	VALVE VAV BOX
CD-1	CONSTRUCTION DOCUMENTS (SUBMISSION1) CONSTRUCTION DOCUMENTS (SUBMISSION2)	GAL GAS	GALLONS NATURAL GAS	NG NGFM	NATURAL GAS NATURAL GAS FLOWMETER	VAF VAV	VANE-AXIAL FAN VARIABLE AIR VOLUME
CENT	CENTRIFICAL CUBIC FEET PER HOUR	GH GPD	GRAVITY HOOD GALLONS PER DAY	NO NOAA	NATIONAL OCEANIC &	VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
CFM	CUBIC FEET PER MINUTE CUBIC FEET	GPH GPM	GALLONS PER HOUR GALLONS PER MINUTE	NOM	ATMOSPHERIC ADMINISTRATION NOMINAL	VFD VHA	VARIABLE FREQUENCY DRIVE VETERANS HEALTH ADMINISTRATION
CG	CHEMICAL FEED PUMP CEILING GRILLE	GPR GS	GAS PRESSURE REGULATOR GALVANIZED STEEL		NON-STANDARD PART LOAD VALUE NET POSITIVE SUCTION HEAD	VI VIV	VIBRATION ISOLATOR VARIABLE INLET VANES
CH	CHILLER CABINET HEATER	H H&CW	HUMIDIFER HOT & COLD WATER	NTS OA	OUTSIDE AIR	VP VPS	VACUUM PUMP VARIABLE PRIMARY SYSTEM
CHW	CHILLED WATER PUMP CHILLER WATER	HAC HB	HOUSEKEEPING AID CLOSET HOSE BIBB	OAG OAI OCP	OUTSIDE AIR INTAKE	VR VSD	VACUUM (STEAM CONDENSATE) RETURN VARIABLE SPEED DRIVE
CHS	CHILLED WATER RETURN CHILLED WATER SUPPLY	HC HD	HEATING COIL HEAD	OD OFM	OUTSIDE DIAMETER OIL FLOWMETER	VUH W WAG	VERTICAL UNIT HEATER WATTS WASTE ANESTHESIA GAS
CLG	CAST IRON COOLING	HD HOA HP	HOOD HAND/OFF/AUTOMATIC HEAT PUMP	OR OUT	OPERATING ROOM OUTPUT	WAG WB WC	WASTE ANESTRESIA GAS WET-BULB (TEMPERATURE) WATER COOLED
CM	CARBON MONOXIDE CUBIC METER COMPRESSOR - AIR	HP	HORSEPOWER HIGH PRESSURE DRIP TRAP	P PA	PUMP	WCCH WCCU	WATER COOLED CHILLER WATER COOLED CONDENSING UNIT
CM/S	CUBIC METER PER SECOND CONTROL	HPR	HIGH PRESSURE RETURN (STEAM CONDENSATE)	PC PCF	PUMPED CONDENSATE	WCHP WCPU	WATER COOLED HEAT PUMPS WATER COOLED PACKAGED UNIT
CO	CLEAN OUT CARBON DIOXODE	HPS HRC	HIGH PRESSURE SUPPLY (STEAM) HEAT RECOVERY COIL	PD PEF	PRESSURE DROP PROPELLER (TYPE) EXHAUST FAN	WEF WF	WALL EXHAUST FAN WATER FILTER
COMP	COMPRESSOR UNIT CONDENSER	HRD HRP	HEAT RECOVERY DEVICE HYDRONIC RADIANT (CEILING) PANEL	PF PG	PRE-FILTER PRESSURE GAGE	WFCV WFM	WATER FLOW CONTROL VALVE WATER FLOWMETER
COP CP	COEFFICIENT OF PERFORMANCE CIRCULATION PUMP	HRU	HEAT RECOVERY UNIT HEAT RECOVERY WHEEL	PGW PHC	PROPYLENE GLYCOL-WATER (SOLUTION) PREHEAT COIL	WG	WATER FLOW MEASURING DEVICE WATER GAGE
CS	CEILING REGISTER CONDENSATE STORAGE TANK		HUMIDISTAT HOT TAP	PPM PRS	PARTS PER MILLION PRESSURE REGULATING (VALVE) STATION		WATER SIDE PRESSURE DROP WIRED
CT	CLEAN STEAM GENERATOR COOLING TOWER	HTG HTM	HEATING HUMIDIFIER TERMINAL	PRV PSI	POUNDS PER SQUARE INCH	YR	YEAR
CUH	CONDENSING UNIT CABINET UNIT HEATER	HVU	HUMIDIFIER UNIT MOUNTED HEATING AND VENTILATING UNIT	PSIA PSIG	POUNDS PER SQUARE INCH – ABSOLUTE POUNDS PER SQUARE INCH – GAGE		
CW	CONSTANT VOLUME CHILLED (COLD) WATER (POTABLE)	HWC	HOT WATER HOT WATER COIL	PSS PSV PTAC	PRIMARY SECONDARY SYSTEM PRESSURE SAFETY VALVE PACKAGED TERMINAL AIR CONDITIONER		
CWP	CHILLED WATER COOLING COIL CONDENSER WATER PUMP CONDENSER WATER RETURN	HWHC HWP	HOT WATER HEATING COIL HEATING HOT WATER PUMP	QUAN R/E	QUANTITY RETURN OR EXHAUST		
CWR CWS D	CONDENSER WATER RETURN CONDENSER WATER SUPPLY DAMPER - AUTOMATIC	HWR HWS	HEATING HOT WATER RETURN HEATING HOT WATER SUPPLY	RA RAD	RETURN AIR REFRIGERANT AIR DRYER		
D-1	OUTDOOR AIR DAMPER RETURN AIR DAMPER	HWUH HVD HX	HOT WATER UNIT HEATER HOISTWAY VENT DAMPER HEAT EXCHANGER	RAF RAHX	RADIO FREQUENCY ROTARY AIR HEAT EXCHANGER		
D-3	RELIEF AIR DAMPER DECIBELS	HX HZ I/O	HERTZ INPUT/OUTPUT	RAT RCCH	RETURN AIR TEMPERATURE REMOTE CONDENSER CHILLER		
DB	DRY-BULB TEMPERATURE DISCONNECT	IAQ IBT	INDOOR AIR QUALITY INVERTED BUCKET TRAP	RCU RD	RECIPROCATING CHILLER UNIT REFRIGERANT DISCHARGE		
DD-1 DD-2	DESIGN DEVELOPMENT (SUBMISSION1) DESIGN DEVELOPMENT (SUBMISSION2)	ICF ICU	IN-LINE CENTRIFUGAL FAN INTENSIVE CARE UNIT	RDS REA	ROOM DATA SHEETS RELIEF AIR		
DEG	DIRECT DIGITAL CONTROLS DEGREE DELTA (CHANGE IN TEMPERATURE)	ID IFB	INSIDE DIAMETER INTEGRAL FACE AND BYPASS	REQD RF	REQUIRED RETURN FAN		
DIA	DIFFUSER DIAMETER	IN IN	INCHES INPUT	RG RH RH	RETURN GRILLE RADIANT HEATER RELATIVE HUMIDITY		
DIW DP	DEIONIZED WATER DEW POINT TEMPERATURE	IN HG IN WC	INCHES OF MERCURY INCH WATER COLUMN	RHC RHG	REHEAT COIL REFRIGERANT HOT GAS		
DP DPA	DIFFUSER PLATE DIFFERENTIAL PRESSURE ASSEMBLY DIFFERENTIAL PRESSURE SENSOR	IN WG IN-LB	INCH WATER GAUGE INCH-POUND	RL RLA	REFRIGERANT LIQUID LINE RUN LOAD AMPERE		
DPS DX	DIFFERENTIAL PRESSURE SENSOR DIRECT EXPANSION	IPLV IRH	INTERGRATED PART LOAD VALUE INTRARED HEATER	RO RPM	REVERSE OSMOSIS REVOLUTIONS PER MINUTE		
DXCC E	DIRECT EXPANSION COOLING COIL EXHAUST FAN	IS INST	INSECT SCREEN INSTALLED INDUCTION UNIT	RR RS	RETURN REGISTER REFRIGERANT SUCTION		
EA EAT	EXHAUST AIR ENTERING AIR TEMPERATURE	IU IV JP	INDUCTION UNIT INLET VANES JOCKEY PUMP	RTU RV	ROOF TOP UNIT RELIEF VALVE		
EC ECC	EVAPORATIVE COOLER ENGINEERING CONTROL CENTER	KG KG/HR	KILOGRAM KILOGRAM PER HOUR	SA SAD	SUPPLY AIR SOUND ATTENUATING DEVICE		
ECH ECU	ELECTRIC CABINET HEATER EVAPORATIVE CONDENSER UNIT	KH KPA	KITCHEN HOOD KILOPASCAL	SAT SC	SUPPLY AIR TEMPERATURE SHADING COEFFICIENT		
EDH EER	ELECTRIC DUCT HEATER ENERGY EFFICIENCY RATIO	KSU KW	KITCHEN SUPPLY UNIT KILOWATT	SCD SCFM	SMOKE CONTROL DAMPER STANDARD CUBIC FEET PER MINUTE		
EG EGS	EXHAUST GRILLE EMERGENCY GAS SHUTOFF	KWH L	KILOWATT HOUR LITER	SCI SCR	SPINAL CODE INJURY SILICON CONTROLLED RECTIFIER		
EGT	ENTERING GLYCOL TEMPERATURE	L/H	LITERS PER HOUR (OR LITERS/HOUR)	SD	SMOKE DETECTOR		

	MECHANICAL LEGEND		MECHANICAL LEGEND
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PLAN-VIEW LINE TYPES		MECHANICAL AIR DEVICES
	WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE	SR	SUPPLY REGISTER
	WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK	RR	RETURN REGISTER
	WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK	RG	RETURN GRILLE
	PIPING LINE TYPES	CD X	CEILING DIFFUSER
	HOT WATER SUPPLY	CD-10"Ø	2'x2' SQUARE CEILING DIFFUSER WITH 10" NECK
HWR	HOT WATER RETURN		MECHANICAL DUCTWORK
—— CHWS——	CHILLED WATER SUPPLY	UP	SUPPLY DUCT WITH ELBOW TURNED UP
CHWR	CHILLED WATER RETURN	DN	SUPPLY DUCT WITH ELBOW TURNED DOWN
——H/CHWS —	HOT/CHILLED WATER SUPPLY	UP	RETURN DUCT WITH ELBOW TURNED UP
——H/CHWR—	HOT/CHILLED WATER RETURN	DN	RETURN DUCT WITH ELBOW TURNED DOWN
	SUPPLY MAIN OR BRANCH	UP	EXHAUST DUCT WITH ELBOW TURNED UP
	RETURN MAIN OR BRANCH	DN	EXHAUST DUCT WITH ELBOW TURNED DOWN
	MECHANICAL PIPING ACCESSORIES	24X12 SA	SUPPLY DUCT
——⋈——	MANUAL ISOLATION VALVE	24X12 RA	RETURN DUCT
<u> </u>	CHECK VALVE (DIRECTION OF FLOW INDICATED)	24X12 EA	EXHAUST DUCT
Ø	AUTOMATIC BALANCING VALVE	24X12 OA	OUTSIDE AIR DUCT
MAN	MANUAL BALANCING VALVE		1" LINED DUCTWORK
HT	HEAT TRACING		FLEXIBLE DUCTWORK CONNECTION
——-II——	UNION		BRANCH TAKEOFF
<u> </u>	TEMPERATURE & PRESSURE TEST PORT	24"/12" RA	OVAL DUCT
<b>—</b>	FLOW DIRECTION		REDUCER, CONCENTRIC
<del></del>	FLEX PIPING CONNECTOR		REDUCER, NONCONCENTRIC
	THERMOMETER		MECHANICAL DUCTWORK ACCESSORIES
<u> </u>	PRESSURE GAUGE		ROUND ELBOW WITH TURNING VANES
	Y-STRAINER		MECHANICAL STATS & SENSORS
	3 WAY CONTROL VALVE (2 POSITION)	FS	FLOW SENSOR
MOD A	3 WAY CONTROL VALVE (MODULATION)	CS	CURRENT SENSOR
MOD	2 WAY CONTROL VALVE (MODULATING)	ES	END SWITCH
——————————————————————————————————————	2 WAY CONTROL VALVE (2 POSITION)	T	LOW VOLTAGE THERMOSTAT
<u> </u>		FL	FLUID SENSOR
		V	VIBRATION SENSOR
			MECHANICAL MISCELLANOUS
		DI	DIGITAL INPUT
		DO	DIGITAL OUTPUT
		AI	ANALOG INPUT
		AO	ANALOG OUTPUT
		1	HARD WIRE INTERLOCK
		lacksquare	CONNECT TO EXISTING (FIELD VERIFY EXISTING UTILITY SERVICE TYPE, PRIOR TO MAKING CONNECTION)

# Office Admissions Schott Hall / Renovation OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967

45207

Ohio

Cincinnati,

Dana

1496

MECHANICAL - LEGEND AND **DETAILS** 

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KTW

DRAWN BY:

MAS

**EXECUTE**ENGINEERS

MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM

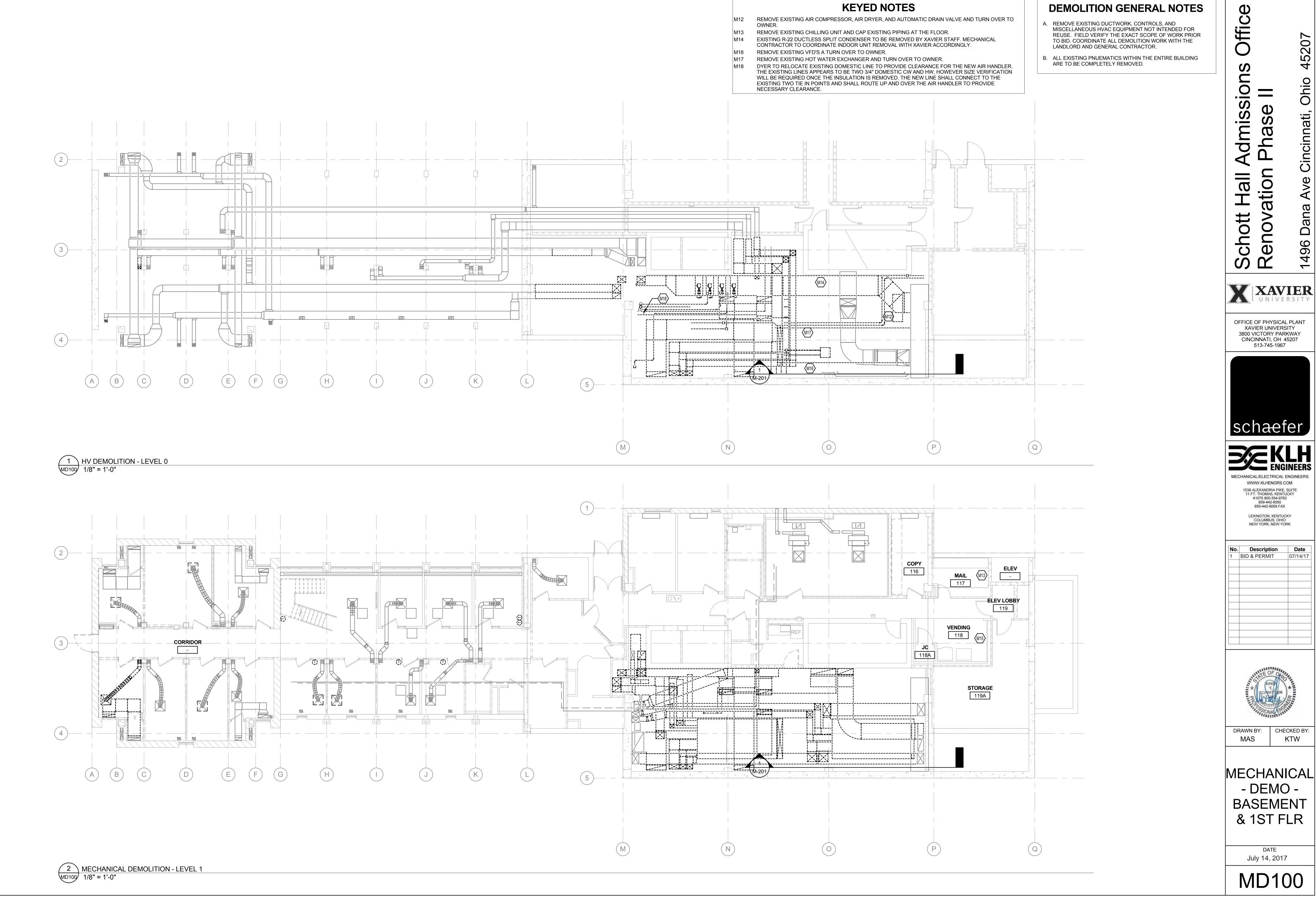
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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

No. Description

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DATE July 14, 2017



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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

45207 Dana

July 14, 2017 MD100

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45207

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# Office Sion 0

A. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER

PRIOR TO INSTALLATION.

**GENERAL NOTES** 

**KEYED NOTES** 

ACCOMODATE NEW CONDENSATE DRAIN LINE. WORK IS TO BE

PERFORMED BY T.J. DYER

EXISTING STAIRWAY PRESSURIZATION FAN AND DUCTWORK TO REMAIN

RELOCATE THE EXISTING FLOOR DRAIN IN MECHANICAL ROOM TO MISS THE BOUNDARIES OF THE NEW EQUIPMENT PAD. FLOOR SHALL BE

SAWCUT AND EXISTING SANITARY SHALL BE EXTENDED AS REQUIRED TO

B. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS AND C. DO NOT SCALE DRAWINGS; REFER TO ARCHITECTURAL

DRAWINGS FOR DIMENSIONED LOCATIONS OF WALLS, DOORS, WINDOWS, AND CABINETRY.

D. COORDINATE WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION.

E. PROVIDE VOLUME DAMPERS AT ALL SUPPLY, RETURN, AND EXHAUST DUCT BRANCH TAKE-OFFS. F. PROVIDE FLEXIBLE DUCT ON INLET TO EACH CEILING DIFFUSER. CUT FLEXIBLE DUCTS TO LENGTH NEEDED AND INSTALL WITHOUT KINKS OR SHARP BENDS (BENDS WITH

CENTERLINE RADIUS LESS THAN DUCT DIAMETER).SUPPORT FLEXIBLE DUCTS WITH MINIMUM 1" WIDE METAL STRAPS OR

G. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

H. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION. REMOVAL AND REPLACEMENT OF MECHANICAL MEZZANINE GRATING IS THE RESPONSIBLITY OF THE MECHANICAL

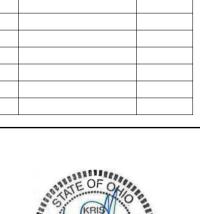
CONTRACTOR. REUSE EXISTING GRATING WHERE FEASIBLE.

REMOVE, CLEAN AND RE-INSTALL ALL AIR DEVICES THROUGHOUT BASEMENT, FIRST AND SECOND FLOORS. 1496



ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

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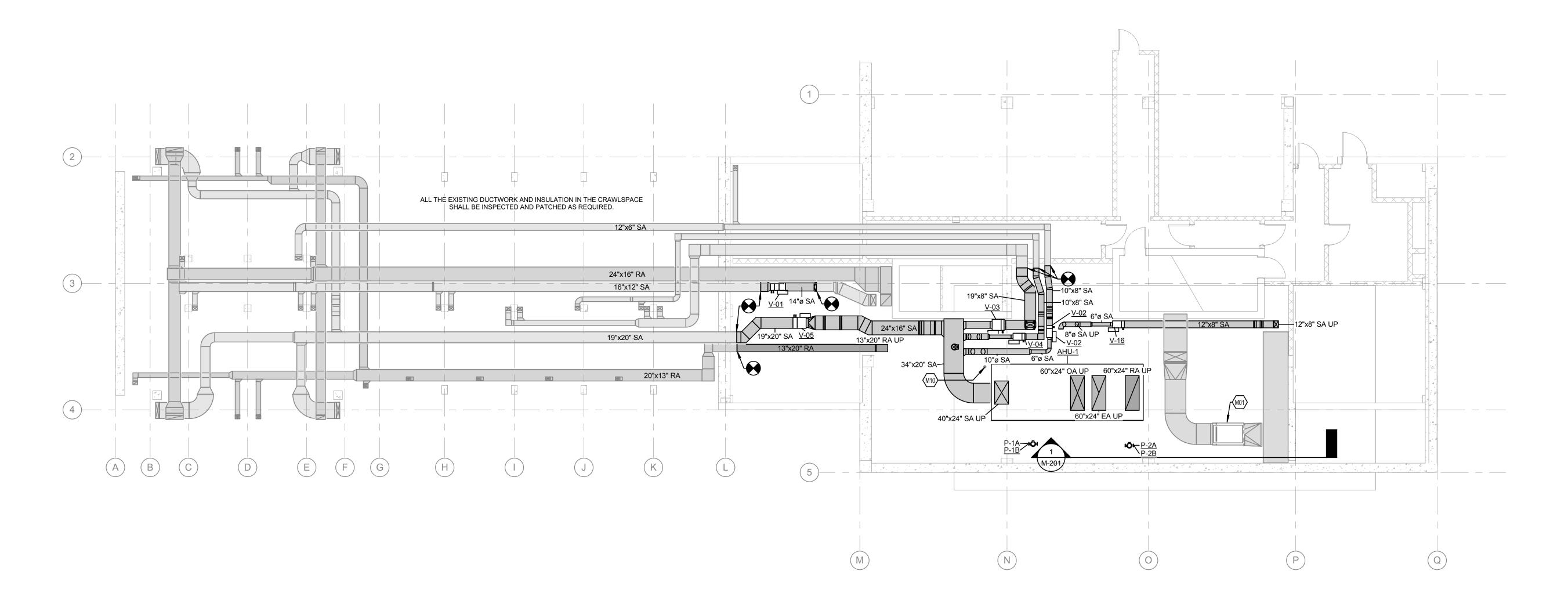
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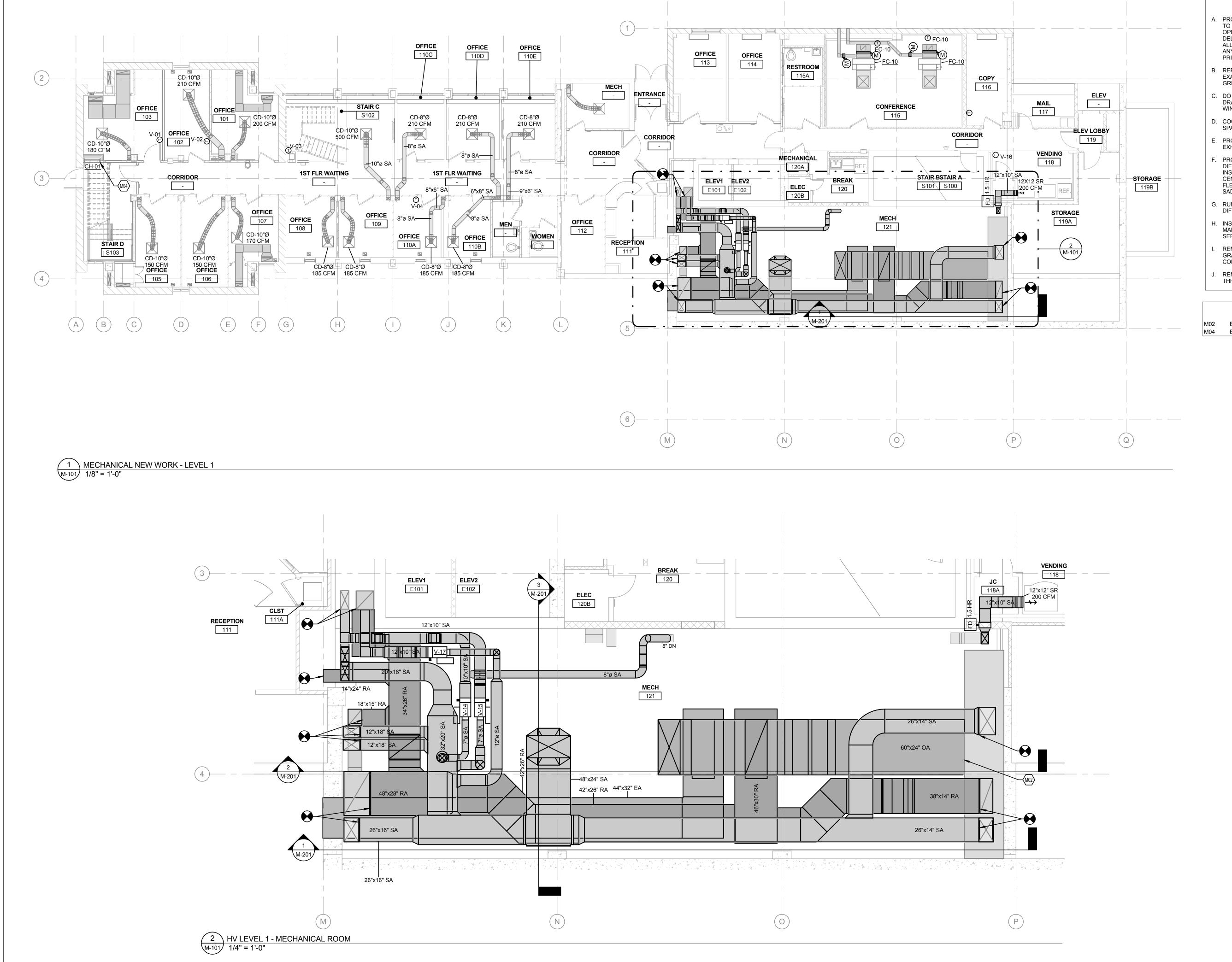
MECHANICAL

DUCTWORK - NEW -**BASEMENT** 

July 14, 2017 M-100



1 HV LEVEL 0 M-100 1/8" = 1'-0"



## **GENERAL NOTES**

- A. PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
- B. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS AND
- C. DO NOT SCALE DRAWINGS; REFER TO ARCHITECTURAL
- DRAWINGS FOR DIMENSIONED LOCATIONS OF WALLS, DOORS, WINDOWS, AND CABINETRY. D. COORDINATE WORK AND SPACE REQUIREMENTS IN CEILING
- SPACES WITH OTHER TRADES PRIOR TO INSTALLATION. E. PROVIDE VOLUME DAMPERS AT ALL SUPPLY, RETURN, AND EXHAUST DUCT BRANCH TAKE-OFFS.
- F. PROVIDE FLEXIBLE DUCT ON INLET TO EACH CEILING DIFFUSER. CUT FLEXIBLE DUCTS TO LENGTH NEEDED AND INSTALL WITHOUT KINKS OR SHARP BENDS (BENDS WITH CENTERLINE RADIUS LESS THAN DUCT DIAMETER).SUPPORT FLEXIBLE DUCTS WITH MINIMUM 1" WIDE METAL STRAPS OR SADDLES.
- G. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.
- H. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR SERVICE, ACCESS, AND FIRE PROTECTION. REMOVAL AND REPLACEMENT OF MECHANICAL MEZZANINE GRATING IS THE RESPONSIBLITY OF THE MECHANICAL
- CONTRACTOR. REUSE EXISTING GRATING WHERE FEASIBLE. REMOVE, CLEAN AND RE-INSTALL ALL AIR DEVICES THROUGHOUT BASEMENT, FIRST AND SECOND FLOORS.

# **KEYED NOTES**

EXTEND OUTSIDE AIR DUCTWORK FROM EXISTING PLENUM. EXISTING CABINET HEATER TO REMAIN



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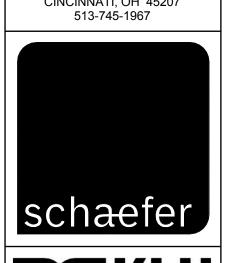
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OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967



**ENGINEERS** MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050

No.	Description	Date
1	BID & PERMIT	07/14/
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MECHANICAL

DUCTWORK - NEW - 1ST FLR

> DATE July 14, 2017

M-101

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**KEYED NOTES** 

AND PATCH WALL TO MAINTAIN EXISTING FINISH.

ARE RESET TO 10% OF THE VAV CFM.

**GENERAL NOTES** 

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ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER

B. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS AND

D. COORDINATE WORK AND SPACE REQUIREMENTS IN CEILING SPACES WITH OTHER TRADES PRIOR TO INSTALLATION.

E. PROVIDE VOLUME DAMPERS AT ALL SUPPLY, RETURN, AND

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G. RUNOUTS TO CEILING DIFFUSERS ARE THE SAME SIZE AS THE

MANUFACTURER RECOMMENDED MINIMUM CLEARANCES FOR

REMOVAL AND REPLACEMENT OF MECHANICAL MEZZANINE

GRATING IS THE RESPONSIBLITY OF THE MECHANICAL CONTRACTOR. REUSE EXISTING GRATING WHERE FEASIBLE.

F. PROVIDE FLEXIBLE DUCT ON INLET TO EACH CEILING

DIFFUSER NECK UNLESS NOTED OTHERWISE.

SERVICE, ACCESS, AND FIRE PROTECTION.

H. INSTALL ALL EQUIPMENT WITH CODE REQUIRED AND

. REMOVE, CLEAN AND RE-INSTALL ALL AIR DEVICES THROUGHOUT BASEMENT, FIRST AND SECOND FLOORS.

DRAWINGS FOR DIMENSIONED LOCATIONS OF WALLS, DOORS,

C. DO NOT SCALE DRAWINGS; REFER TO ARCHITECTURAL

PRIOR TO INSTALLATION.

WINDOWS, AND CABINETRY.

EXHAUST DUCT BRANCH TAKE-OFFS.

GRILLES.

SADDLES.

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REPLACE EXISTING FLOOR REGISTER WITH NEW. EXTEND EXISTING RETURN AIR DUCTWORK THROUGH FLOOR TO NEW RETURN REGISTER. CUT AND PATCH FLOOR TO MAINTAIN EXISTING FINISH. PROVIDE 8X8 BRICK VENT THROUGH EXTERIOR WALL. CUT

VAV BOX FOR PRESENTATION ROOM SHALL BE TIED TO THE

ROOM IS UNOCCUPIED, THE MINIMUMS ON THE VAV BOX

NEW LIGHTING OCCUPANCY SENSOR SUCH THAT WHEN THE

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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

No. Description **BID & PERMIT** 



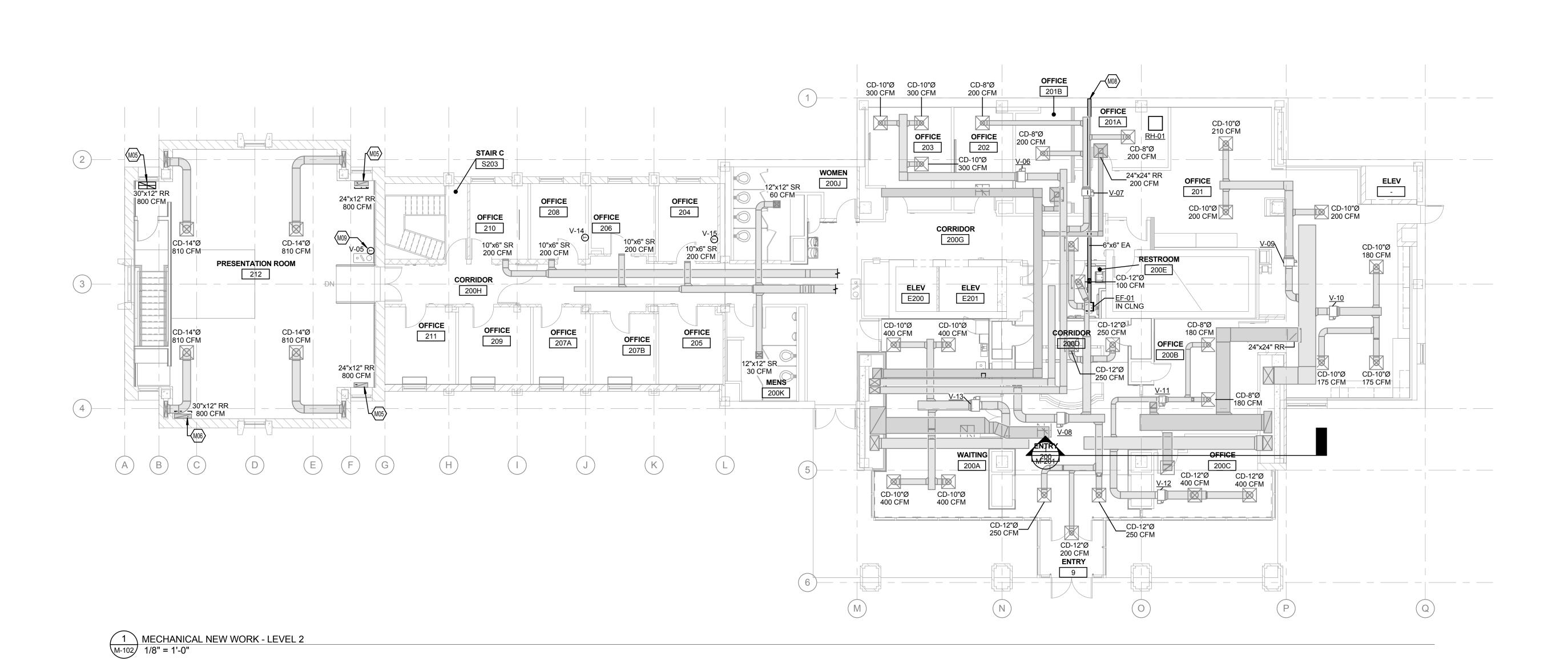
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MECHANICAL

DUCTWORK - NEW - 2ND FLR

July 14, 2017 M-102



- PROVIDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO COMPLETELY FURNISH, INSTALL, AND PLACE INTO OPERATION, ALL SYSTEMS SHOWN ON THE DRAWINGS AND DELINEATED IN THE SPECIFICATIONS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES. REPORT ANY KNOWN DISCREPANCIES TO THE ARCHITECT/ENGINEER
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- REMOVAL AND REPLACEMENT OF MECHANICAL MEZZANINE GRATING IS THE RESPONSIBLITY OF THE MECHANICAL CONTRACTOR. REUSE EXISTING GRATING WHERE FEASIBLE.
- REMOVE, CLEAN AND RE-INSTALL ALL AIR DEVICES

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MECHANICAL - PIPING -NEW -**BASEMENT** PLAN

July 14, 2017

MP100

## **GENERAL NOTES**

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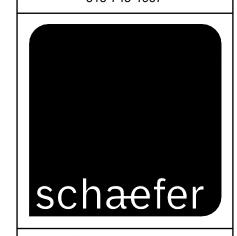
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No.	Description	Date
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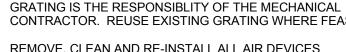
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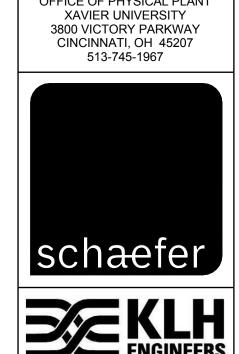
MECHANICAL - PIPING -NEW - 1ST FLR

July 14, 2017

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No.	Description	Date
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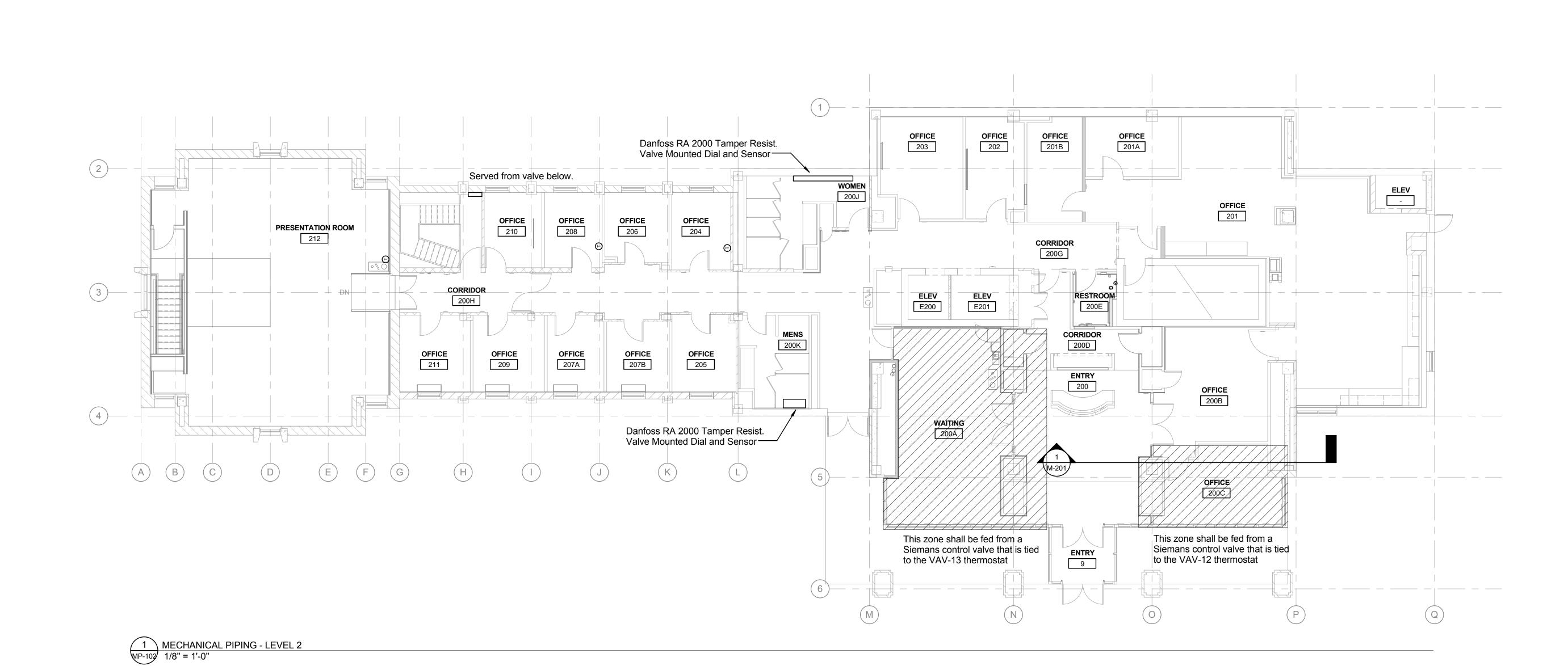
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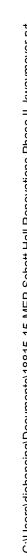
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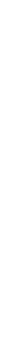
NEW - 2ND FLOOR

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July 14, 2017 MP-102







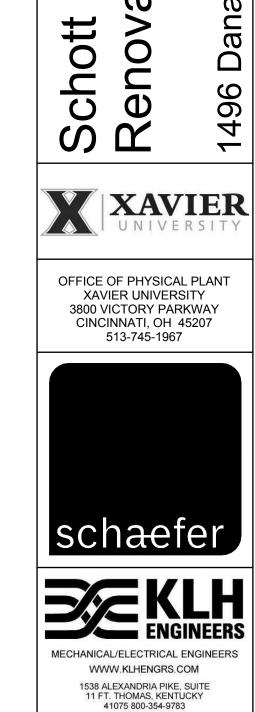




- Level 2 9' - 6 5/8"

\_Level 1 0"

Level 0 -9' - 6 5/8"



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**KEYED NOTES** 

THE RESPONSIBLITY OF THE MECHANICAL CONTRACTOR. REUSE EXISTING GRATING WHERE FEASIBLE.

REMOVAL AND REPLACEMENT OF MECHANICAL MEZZANINE GRATING IS

EXTEND OUTSIDE AIR DUCTWORK FROM EXISTING PLENUM.

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24"x48" SA

<u>AHU-1</u>

MECHANICAL ROOM SECTION - 3

M-201 1/4" = 1'-0"

42"x26" RA

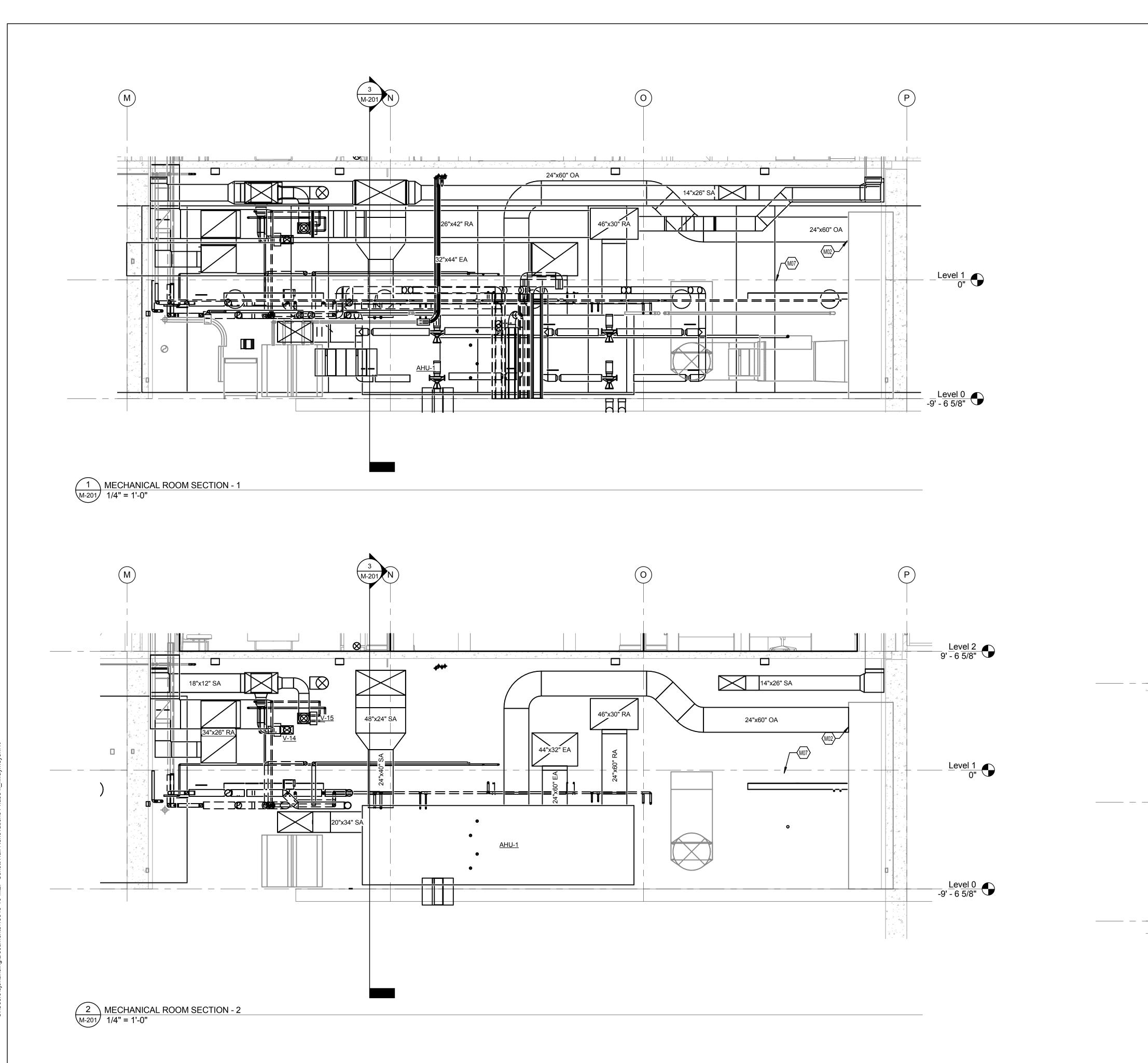
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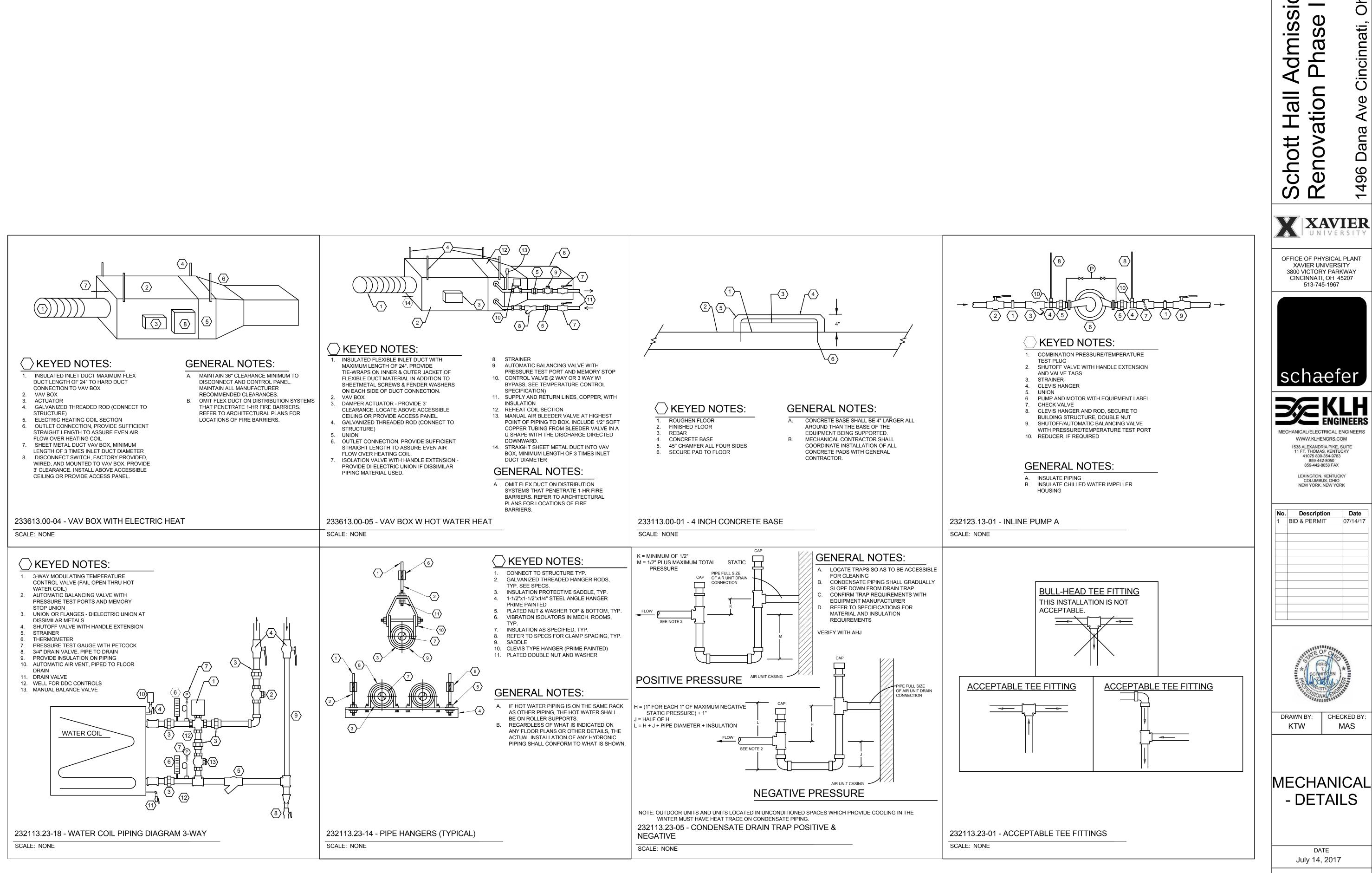
MECHANICAL - SECTIONS

> DATE July 14, 2017

M-201







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**XAVIER** 

41075 800-354-9783

859-442-8050

859-442-8058 FAX

CHECKED BY:

DATE

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Job number

Unit type

Unit configuration

Floor construction

Floor underliner material

Supporting structure

Perimeter material

Perimeter finish

Insulation

Floor R-Value

017534

Indoor

Modular

: A level and flat surface

Texture bone white (PT311W564)

: HeatLok Soy Polyurethane

: Galvanized G90

: Galvanized G90

: R-19.5

: No Thru-Metal

: R-19.5

: Stainless steel

: Galvanized G90 18 ga

: Texture bone white (PT311W564)

: HeatLok Soy Polyurethane

abinet construction

Panel type

Panel thickness

External liner

Insulation

Wall R-Value

External hardware

External liner finish

General internal construction

AHU-1

017534

Galvanized G90

Customer tag number

Job number

Blanking wall

: White anti-microbial (PS241W460AM)

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Electrical equipmen	t summary	ineēnia
Customer tag number	: AHU-1	HIOCHIO
Job number	: 017534	H.V.A.C. INNOVATION & TECHNOLOGIES

General electrical specifications **EMT** galvanized Conduit type

1/2 inch

#14 AWG

Equipment	Model	Quantity	Amp	V/Ph/Hz	Supplied by	Installed by	Wired by
Breaker panel	Q024L70TS 240V 70A 2 space load center (NEMA 1) - Q024L70TS	1	70	120/1/60	Ingenia	Ingenia at the factory	Ingenia
Light fixture kit	Marine light fixture / LED 10 watts, 120VAC	5	0.11	120/1/60	Ingenia	Ingenia at the factory	Ingenia
Light switch kit	Indoor single pole switch with pilot light 15A, 120VAC - 1/2" conduit	1	15	120/1/60	Ingenia	Ingenia at the factory	Ingenia
Main electrical panel	Fan Electrical Panel	1		460/3/60	Ingenia	Ingenia at the factory	Ingenia
Motor	Motor - Ziehl Abegg EC - 2.4 KW	4	3.10	460/3/60	Ingenia	Ingenia at the factory	Ingenia
Motor	Motor - Ziehl Abegg EC - 5.6 KW	4	7.10	460/3/60	Ingenia	Ingenia at the factory	Ingenia
Receptacle kit	Indoor GFCI Duplex 15A, 120VAC - 1/2" Conduit	1	15	120/1/60	Ingenia	Ingenia at the factory	Ingenia

: Galvanized G90 22 ga Internal floor liner : Alum. checkered plate 10 ga Internal wall liner ; Solid Internal finish Internal seal : White silaprene White anti-microbial (PS241W460AM) Internal paint Internal hardware : Stainless steel Atypical sections Section E : Chilled water coil section Stainless steel 304-2B 22 ga Internal floor liner Stainless steel 304-2B 16 ga Internal wall liner Internal finish : Grey silaprene Internal seal Not painted Internal paint Internal hardware : Stainless steel nternal construction details Section B : Return fan section Blanking wall : Galvanized G90 Blank paint : White anti-microbial (PS241W460AM) Section D : Front loading filter section : White anti-microbial (PS241W460AM) Filter frame : Galvanized G90 Blank paint Section E : Chilled water coil section Rack : Stainless steel 304-2B Rack Paint : Not painted () Coil Blank : Stainless steel 304-2B Blank paint : Not painted () Section G : Supply fan section

Blank paint

3 of 71

Refer to drawing and electrical wiring diagram for more information.

Minimum conduit size

Minimum wire size

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ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS

WWW.KLHENGRS.COM

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41075 800-354-9783 859-442-8050

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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

No. Description

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FANselect compact edition **FANselect** 02.06.2017 fan data version FANselect V 1.01 (170602), AMCA V 1.01 May, 2015 / 1.17.06.02 | 20110 | (user ZAFS10110) type article no. 115514/A01 | Portfolio STD-WW technical data motor mains supply ECblue 3~ 460V 60Hz ambient temperature, max. limit (t<sub>r</sub>) efficiency η<sub>statA</sub> efficiency Nactual | Nterge 74,9 | 62 2015 | EC controller integrated grille | influence no | no fan data SFP-class | SFP-value (PSFP) 3 | 877 ft3/min 3750.0 airflow volume (q<sub>V</sub>) pressure, stat.  $(p_{sF})$  | tot.  $(p_F)$ electrical power input (Psy 56.8 | 65.9 system eff., stat.  $(\eta_{sF,sys})$  | tot.  $(\eta_{F,sys})$ 2170 | 2400 an speed (n) | max. (n<sub>max</sub>) an speed, set value (%n<sub>ma:</sub> requency (f<sub>BP</sub>) | (f<sub>max</sub>) acoustics, suction side (L<sub>w(A),5</sub>) | (L<sub>w,5</sub>) acoustics, pressure side (Lw(A),6) | (Lw,6 dB 550 x 550 x 355 dimensions (w x h x d) product weight (mpr) k-factor nozzle pres. (k) differential pres. nozzle (psF nozzle 3~ 380-480V 50Hz P1 2.40kW 3.90-3.10A 2400/MIN 40°C 3~ 380-480V 60Hz P1 2.40kW 3.90-3.10A 2400/MIN 40°C IP54 THCL155

4 of 71 compact edition **FANselect** TUV SSD **FANselect** 02.06.2017 performance curve / acoustics version FANselect V 1.01 (170602), AMCA V 1.01 May, 2015 / 1.17.06.02 | 20110 | (user ZAFS10110) GR40C-ZID.DC.CR measured in standard nozzle in installation type A according to ISO 5801 measurement density 0.072 [lbs/ft³] STD-WW air performance psF 4000 qv [ft3/min] acoustics (Lw(A),6) acoustics (Lw(A).5) [Hz] sum 63 125 250 500 1000 2000 4000 8000  $L_{w(A),6}$  85 46 57 74 76 81 78 74 77 L<sub>w(A),5</sub> 79 45 54 70 71 70 71 69 75 87 72 72 82 79 81 77 73 78

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MECHANICAL - DETAILS

> DATE July 14, 2017

M-502

www.ziehl-abegg.com Technical data are subject to change.

nominal values

Bewegung durch Perfektion | Movement by Perfection

PF:PF\_00; BR:BR\_01; q<sub>y</sub>:3750.0 ft<sup>0</sup>/min; p<sub>at</sub>:2:000 in.wg.; mains:3~ / 460V / 60 Hz; t;68 °F; p:0.072 lbs/ft<sup>5</sup>; STot:+-0 %

www.ziehl-abegg.com Technical data are subject to change.

83 70 69 79 75 70 70 68 76

Bewegung durch Perfektion | Movement by Perfection

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**2** | 2

19 of 71

fan data

type		GR40C-ZID.GG.CR
article no.		115527/A01   Portfolio STD-WW
technical data		
motor		ECblue
mains supply	2	3~ 460V 60Hz
ambient temperature, max. limit (t <sub>r</sub> )	°C	40
efficiency n <sub>statA</sub>	%	61.8
efficiency Nactual   Ntarget	%	64.4   62
ErP-conformity	NT	2015   EC controller integrated
grille   influence		no   no
fan data $ \begin{array}{l} \text{SFP-class} \mid \text{SFP-value} \left( P_{\text{SFP}} \right) \\ \text{airflow volume} \left( q_{\text{V}} \right) \\ \text{pressure, } \textbf{stat.} \left( \textbf{p}_{\text{sF}} \right) \mid \text{tot.} \left( p_{\text{F}} \right) \\ \text{electrical power input} \left( P_{\text{sys}} \right) \\ \text{system eff., } \textbf{stat.} \left( \textbf{\eta}_{\text{sF,sys}} \right) \mid \text{tot.} \left( \textbf{\eta}_{\text{F,sys}} \right) \\ \text{fan speed} \left( \textbf{n} \right) \mid \text{max.} \left( \textbf{n}_{\text{max}} \right) \\ \text{fan speed, set value} \left( \% \textbf{n}_{\text{max}} \right) \\ \text{frequency} \left( \textbf{f}_{\text{BP}} \right) \mid \left( \textbf{f}_{\text{max}} \right) \\ \text{voltage} \left( \textbf{U}_{\text{DP}} \right) \end{aligned} $	-   Ws/m <sup>3</sup> ft <sup>3</sup> /min in.wg. W % rpm % Hz	5   2353 3750.0 5.650   5.947 4165 59.8   62.9 2930   3170 92 60   60 460
current (I <sub>DP</sub> )	A	5.52
acoustics, suction side $(L_{w(A),5}) \mid (L_{w,5})$	dB	<b>85</b>   89
acoustics, pressure side $(L_{w(A),6}) \mid (L_{w,6})$	dB	<b>95</b>   95
dimensions (w x h x d)	mm	550 x 550 x 381
product weight (mpr)	kg	39
k-factor nozzle pres. (k)	-	154
differential pres. nozzle (p <sub>sF nozzle</sub> )	Pa	1712
nominal values		3~ 380-480V 50Hz P1 5.60kW 9.00-7.10A 3170/MIN 40°C 3~ 380-480V 60Hz P1 5.60kW 9.00-7.10A 3170/MIN 40°C IP54 THCL155

compact edition

performance curve / acoustics

**FANselect** 

GR40C-ZID.GG.CR measured in standard nozzle in installation type A according to ISO 5801

measurement density 0.072 [lbs/ft<sup>3</sup>]

**FANselect** 

TUV SSD 02.06.2017

> Company: Contact: Tel:

> > Fax or Email:

Physical Data

Number Of Coils

Fin Height (each)

Fin Length (each) Number Of Rows Deep

5055 Taylor Kidd Blvd T: (613) 544-2200 Millhaven, Ontario F: (613) 544-7779 Canada, KOH 1GO E-Mail: info@directcoil.com Website: directcoil.com

MPT Steel

June 02, 2017 Reference: Prepared By: XU Schott Hall Project Name:

Coil Tag: 017534\_CC\_E Coil Model Number: 5W-06-27.0-09-80.0-13 Two (2) 5/8 1.50 x 1.299 **Tube Diameter** 27.000" Tube Turbulators 80.000" Tube Material Copper - 0.025 Plain Six (6) Fin Material Aluminum 0.010 0.72 Fin Style Corrugated

Circuit Ratio Connection Type Fins Per Inch Nine (9) Supply Connection Size Coil Weight Each (operating) 367 (464) LBS Return Connection Size Coil Internal Volume 11.70 gal Air Data Fluid Data Total Airflow (all coils) 15,000 SCFM Fluid Type Water Airflow Per Coil 7,500 SCFM Glycol Ratio 0 % 500 FPM Entering Fluid Temp 42.00°F Face Velocity Altitude 0.00FT Leaving Fluid Temp 54.00°F Entering Dry Bulb 78.00°F Fluid Flow Per Coil 58.34 GPM 66.02°F 5.18 FPS Tube Velocity Entering Wet Bulb Leaving Dry Bulb 50.21°F Fluid Pressure Drop 15.47'WG Leaving Wet Bulb 50.05°F

0.94"WG Air Pressure Drop Capacity **Total Capacity** 702.98 MBH Sensible Capacity 460.00 MBH

CHILLED WATER COIL REPORT

Certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org



www.ziehl-abegg.com Technical data are subject to change.

Bewegung durch Perfektion | Movement by Perfection

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OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY 3800 VICTORY PARKWAY

CINCINNATI, OH 45207 513-745-1967

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ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

No. Description

1 BID & PERMIT



CHECKED BY: MAS KTW

MECHANICAL - DETAILS

July 14, 2017

PF.PF\_00; BR:BR\_01; q<sub>2</sub>:3750.0 ft<sup>2</sup>/min; p<sub>3</sub>::5,850 in.wg.; mains:3= / 460V / 60 Hz; t;68 °F; p:0.072 lbs/ft<sup>3</sup>; STol:+-0 %

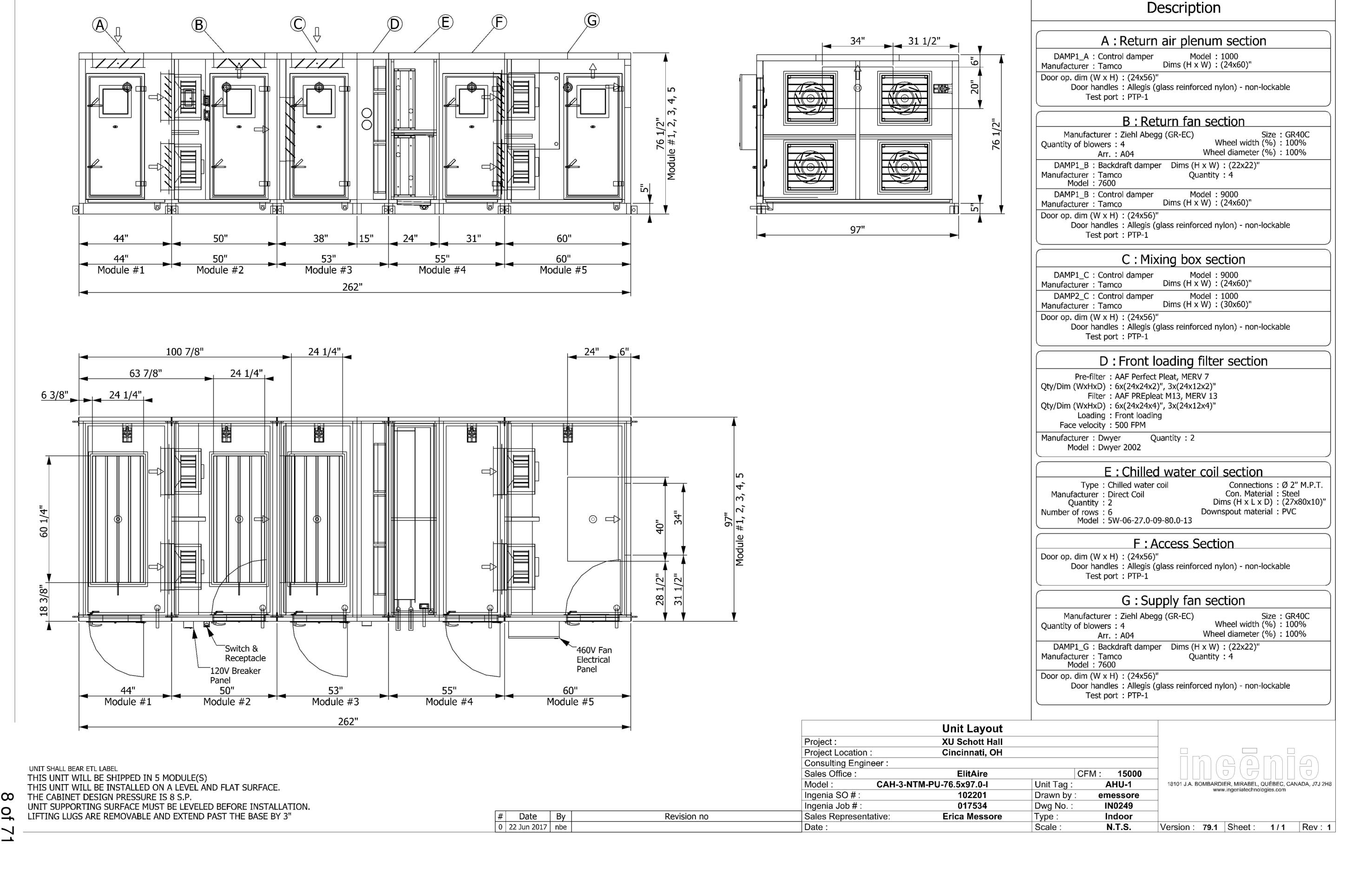
air performance psF

3000 40 qv [ft3/min] acoustics (Lw(A),6) acoustics (Lw(A),5)

version FANselect V 1.01 (170602), AMCA V 1.01 May, 2015 / 1.17.06.02 | 20110 | (user ZAFS10110

f [Hz] sum 63 125 250 500 1000 2000 4000 8000 f [Hz] sum 63 125 250 500 1000 2000 4000 8000 L<sub>w(A),5</sub> 85 52 60 75 80 79 78 76 w(A),6 95 53 64 78 83 88 92 87 80 L<sub>w,5</sub> 89 79 76 82 84 79 77 75 74 95 79 79 85 87 88 91 86 81

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Office Admissions Phase Renovation Schott Hall

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XAVIER

OFFICE OF PHYSICAL PLANT

3800 VICTORY PARKWAY

CINCINNATI, OH 45207 513-745-1967

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**ENGINEERS** 

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> 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050

859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

Description

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DRAWN BY:

MAS

CHECKED BY:

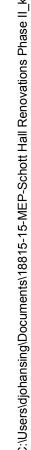
KTW

July 14, 2017 M-504

MECHANICAL

- DETAILS

DATE



FAN, OPEN/CLOSE DO AI SPACE TEMP SEQUENCE OF OPERATION A. 1.1 CV Fan Coil Unit (HW/CW, Supply Fan only) water coils. All setpoints listed in this section are adjustable through the BAS.

FAN COIL UNIT

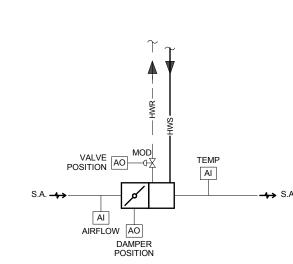
- a. Provide two-way, failsafe closed, modulating control valve for chilled water coils. Provide two-way, failsafe open, modulating control valve for hot
- 2. Startup
  a. During the "start-up" cycle the fan shall run with the dampers in the full recirculation position. Provide morning warm-up sequence with optimum start function. When the return air temperature reaches setpoint (68 deg F adjustable), the minimum outside air damper shall open to the controlled minimum outdoor air position.
- 3. Supply Fan Control a. The supply fan shall run continuously at constant speed. Provide a high limit static pressure sensor in the supply fan discharge that will alarm the system and fail safe the fan coil unit with manual reset on a high limit of 4.0 " (adjustable). Provide a current transducer to prove fan operation. Provide a high limit current cutout for the transducer that will alarm the system b. Control and monitoring points shall include but not be limited to the following:
- 1) Supply Fan motor start/stop (DO) 2) Supply Fan motor current status (DI)
- 3) Supply Fan static pressure (DI) 4. Minimum Outside Air Control a. Provide a modulating motor operated damper on the outside air duct. During occupied mode, the outside air damper shall open. During
- unoccupied mode, the outside air damper shall close. b. Control and monitoring points shall include but not be limited to the following: 1) Outside air damper position (% open) (AO)
- a. Provide dual enthalpy economizer control. Economizer control shall be enabled whenever the outside air enthalpy is lower than the return air enthalpy. Enthalpy shall be calculated from sensors which are tied to the same controller for accuracy. During economizer mode, the economizer damper shall be
- set at 100% opened. The economizer damper shall modulate open on a call for cooling and modulate closed on a call for heating. The return damper shall modulate inversely with the economizer damper
- b. Control and monitoring points shall include but not be limited to the following: 1) Outside air temperature (AI)
- 3) Return air temperature (AI)
- 5) Return air damper position (% open) (AO) 6) Economizer damper position (% open) (AO)
- Cooling Control a. Cooling shall be controlled to maintain space temperature setpoint. When chilled water is available, on a call for cooling the dual temperature water valve shall modulate open. When chilled water is not available, the dual temperature water valve shall be closed and economizer mode shall be active. b. Control and monitoring points shall include but not be limited to the following:
- 1) Dual temp water valve position (% open) (AO) 7. Heating Control a. Heating shall be controlled to maintain space temperature setpoint. When hot water is available, on a call for heating the dual temperature water valve shall modulate open. When hot water is not available, the dual temperature water valve shall be closed. b. Control and monitoring points shall include but not be limited to the following:
- 1) Dual temp water valve position (% open) (AO) a. Provide a mixed air low limit whenever the mixed air temperature drops below 40 deg. F dry bulb that will alarm the system, close the outside air
- b. Control and monitoring points shall include but not be limited to the following: 1) Mixed air temperature (DI) Freeze Stat Control a. A low temperature cutout thermostat located in the discharge of the cooling coil, will alarm the system and put the air handler in fail safe position when the temperature falls below 37 degrees. Provide an adjustable time delay of 5 minutes for start-up. The low temperature cutout thermostat
- shall require manual reset. b. Control and monitoring points shall include but not be limited to the following: 1) Freeze-stat status (GA)

a. During the unoccupied mode of operation, the outdoor air damper shall be closed. The Supply Fan shall be cycled to maintain the space

temperature setback at a setpoint range of 55-60 deg. F (adjustable) during the heating season and 80 deg. F (adjustable) during the cooling season. Occupancy shall be predetermined by the Owner and programmed into the BAS. a. At shutdown the air handler shall go to fail safe position. Fail safe position is defined by the following: The supply fan is off, the minimum outside air damper is closed, the heating valve is open and the cooling valve is closed

#### 23T-015 - FAN COIL UNIT

SCALE: NONE



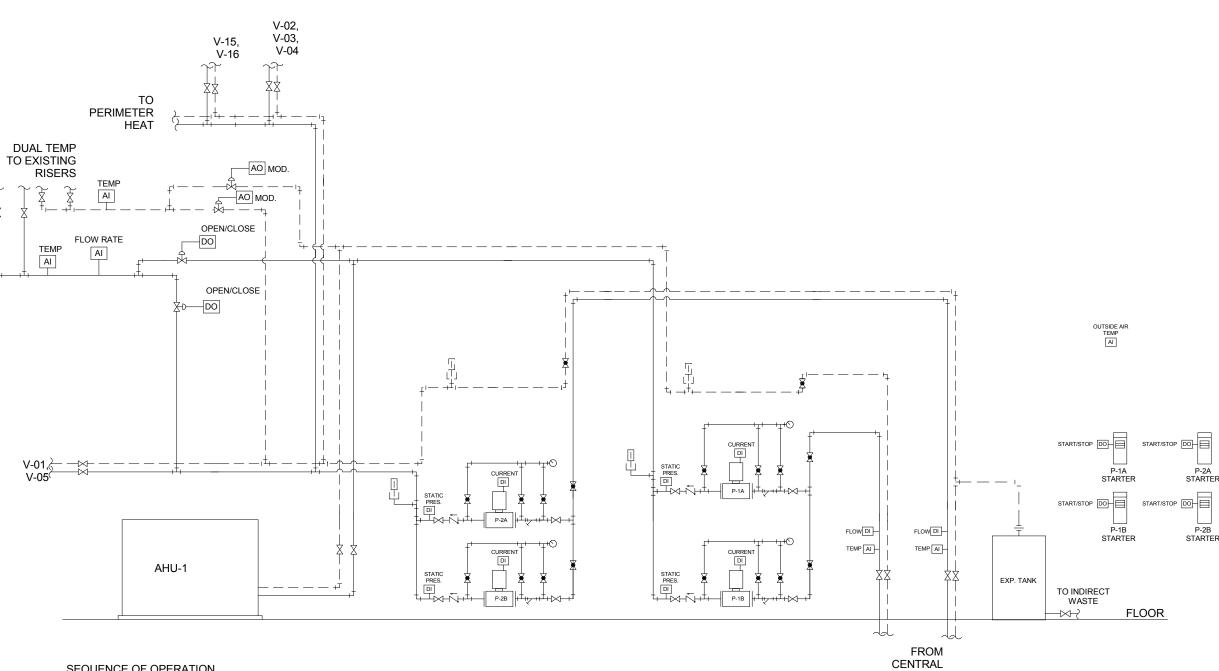
#### AI OCC. OVERRIDE Central Air Terminal Units

- AI SPACE TEMP. A. VAV Boxes w/Hot Water Reheat 1. Provide two-way, fail open, modulating control valve for hot water coils. 2. Provide low voltage DDC controller, differential pressure transmitter, actuator and wiring for VAV boxes.
- Temperature Controls Contractor shall field or factory mount controller at their expense. VAV box manufacturer shall furnish flow ring, 1/2 " round damper shaft for direct mounting of actuator, and control enclosure. Temperature Controls Contractor shall provide transformers with connection to line voltage junction box above ceiling provided by electrical contractor in various locations. Provide room temperature sensor(s) with room temperature setpoint adjustment capability (+/- 3 deg. F., adjustable thru BAS) and override feature (2 hours, adjustable thru BAS). On a call for heat, VAV damper shall modulate down to minimum setpoint position. On a further call for heating, control valve shall open and modulate to maintain space temperature. On a call for cooling, control valve shall close and damper shall modulate open to
- satisfy room temperature. Provide supply air temperature sensor tied to BAS Control and monitoring points shall include but not be limited to the following: a. Reheat valve position (% open) (AO) b. Damper position (AO)
- c. Zone space temperature (AI) d. Zone occupancy temperature override (AI) e. Actual CFM (AI) f. Discharge air temperature (AI)
- 23T-033 SINGLE DUCT VAV BOX W/ HOT WATER REHEAT

SCALE: NONE

#### **GENERAL NOTES**

- ALL ANALOG INPUTS (AI) SHALL BE CONFIGURED BY USER FOR HIGH AND LOW LIMITS ALL DIGITAL OUTPUTS (DO) FOR ELECTRIC MOTOR LOADS SHALL INCORPORATE RUN TIME TOTALIZATION.
- AI GRAY SENSOR INDICATES DEVICE IS PROVIDED BY EQUIPMENT MANUFACTURER AI BLACK SENSOR INDICATES DEVICE IS PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR

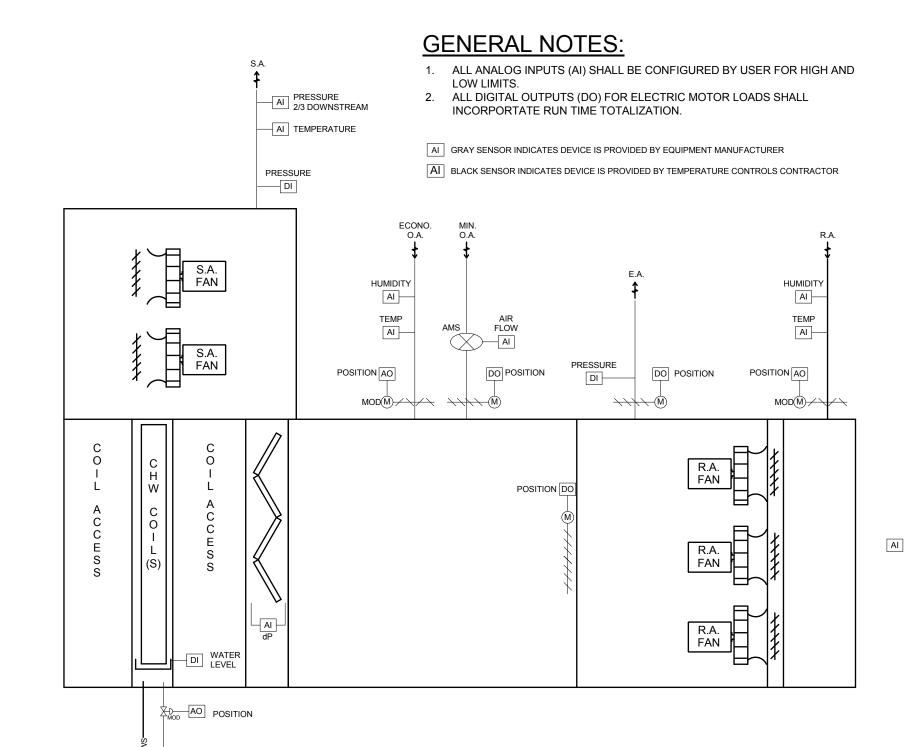


#### SEQUENCE OF OPERATION

- A. Secondary Chilled Water Pumps (P-1A and P-1B) 1. The secondary pumps shall be enabled via the BAS and shall modulate to maintain pressure differential setpoint in the piping system.
- 2. The DDC controller shall alarm the system and automatically activate the stand-by pump when the lead pump fails after a 30 second time
- delay. Provide current sensors with a time delay function that, if flow is interrupted for more than thirty seconds, shall de-energize the lead pump and energize the stand-by pump. Provide lead/lag capability with BAS software to alternate the pump sequence
- 3. Control and monitoring points shall include but not limited to the following: a. P-1A motor start/stop (DI)
- b. P-1A motor current status (DI) c. P-1A chilled water flow (DI)
- d. P-1B motor start/stop (DI) e. P-1B motor current status (DI)
- f. P-1B chilled water flow (DI)
- B. Secondary Hot Water Pumps (P-2A and P-2B) 1. The secondary pumps shall be enabled via the BAS and shall modulate to maintain pressure differential setpoint in the piping system. 2. The DDC controller shall alarm the system and automatically activate the stand-by pump when the lead pump fails after a 30 second time
- delay. Provide current sensors with a time delay function that, if flow is interrupted for more than thirty seconds, shall de-energize the lead pump and energize the stand-by pump. Provide lead/lag capability with BAS software to alternate the pump sequence
- 3. Control and monitoring points shall include but not limited to the following: a. P-1A motor start/stop (DI)
- b. P-1A motor current status (DI) c. P-1A chilled water flow (DI)
- d. P-1B motor start/stop (DI) e. P-1B motor current status (DI)
- f. P-1B chilled water flow (DI)
- C. Dual Temperature Change Over 1. Temperature controls contractor shall provide an outside air temperature sensor. 2. When dual temperature loop in tower riser calls for chilled water, and chilled is available, the system shall commence chilled water changeover sequence. The change over sequence shall involve closing the hot water supply and return control valves, and once those
- valves have completely shut, opening the chilled water supply control valve and modulating the chilled water return valve to 10% flow until dual temperature return loop temperature is below 70 deg. F (adj.) Once that temperature is achieved, open return water valve to 100%. 2. When dual temperature loop in tower riser calls for hot water, the system shall commence hot water changeover sequence. The change over sequence shall involve closing the chilled water supply and return control valves, and once those valves have completely shut, opening the hot water supply control valve and modulating the hot water return valve to 10% flow until dual temperature return loop
- temperature is above 85 deg. F (adj.) Once that temperature is achieved, open return water valve to 100%.
- 3. Control and monitoring points shall include but not limited to the following:
- a. Outside air temperature (DI) b. Chilled Water Supply Valve position (DO)
- b. Chilled Water Return Valve position (AO)
- b. Hot Water Supply Valve position (DO) b. Hot Water Return Valve position (AO)

#### HYDRONIC RISER DIAGRAM

SCALE: NONE



#### SEQUENCE OF OPERATIONS VAV AIR HANDLING UNIT

- General:
   a. Provide three-way, fail close, modulating control valve for chilled water coil.
- All setpoints listed in this section are adjustable through the BAS. Control and monitoring points shall include but not be limited to the following: Shutdown / Startup
   a. At shutdown the air handler shall be at fail safe position. Fail safe position is defined by the following: The supply and khaust tans are off, the return air damper is fully open, the outside air and reliet/exhaust air dampers are closed,
- heating valve is open to the heating coil, and the cooling valve is closed. At startup, the supply and relief/exhaust fans shall be ramped up to operational speed. After a 5 minute time delay the minimum outside air control shall be enabled. Supply Fan Control a. The supply fan VFD speed shall be controlled from a duct static pressure sensor located 2/3 downstream in ductwork. Where this results in sensor being located downstream of major ductwork splits, multiple sensors shall be installed in each major branch to maintain minimum setpoint in each branch.
- b. The supply fan shall be modulated to operational speed to maintain static pressure setpoint of 1.0" (adjustable). When the sensor measures low pressure, the supply fan shall be ramped up to maintain setpoint. When the sensor measures high pressure, the supply fan shall be ramped down to maintain setpoint.
  c. For systems with DDC control of individual zone boxes reporting to a central control system, static pressure setpoint shall be
- reset based on the zone requiring the most pressure. In this way the setpoint is reset lower until one zone damper is nearly wide open to save fan energy.
  d. Provide a high limit static pressure sensor in the supply fan discharge that will alarm the system and fail safe the air handler with manual reset on a high limit of 4.0" (adjustable). Provide a current transducer to prove fan operation. Provide a high limit current cutout for the transducer that will alarm the system.
- Supply Fan motor enable/disable (DO) 2) Supply Fan motor current (AI) 3) Supply Fan VFD Speed controller (% max. speed) (AO) Supply air discharge high pressure limit (DI)
- 5) Supply air Duct static pressure 2/3rds (AI) 4. Relief/Exhaust Fan Control a. The relief/exhaust fan VFD speed shall be modulated to maintain the desired space pressure as dictated by a remote space pressure sensor. When the sensor measures low pressure, the relief/exhaust fan shall be ramped up to maintain space pressure set point (0.5" adjustable). As space pressure increases, the relief/exhaust fan shall ramp down to maintain space pressure setpoint. Interlock relief/exhaust fan operation with supply fan operation, so that the return/relief fan is off if supply an is off. Provide a current transducer to prove fan operation 1) Relief/Exhaust Fan motor start/stop (DO)
- ?) Relief/Exhaust Fan motor current (AI) 3) Relief/Exhaust Fan VFD Speed controller (% max. speed) (AO)
- 5. Minimum Outside Air Control

  a. Provide a two position outside air damper which will open to maintain a constant minimum outside airflow from the HRU as b. Provide an airflow measuring station to monitor minimum outside aire Outside air damper open/close (DO)
   Airflow measuring station (AI)
- a. Provide dual enthalpy economizer control. Economizer control shall be enabled whenever the outside air enthalpy is lower than the return air enthalpy. Enthalpy shall be calculated from sensors which are tied to the same controller for accuracy. During economizer mode, the minimum outside air damper shall be open and the economizer damper shall be set at 100% opened. The economizer damper shall modulate open on a call for cooling and modulate closed on a call for heating. The return damper shall modulate inversely with the outside air damper. 1) Outside air temperature (AI)
- 2) Outdoor Air Humidity (AI) 3) Return air temperature (AI) 4) Return Air Humidity (AI) 5) Return air damper position (% open) (AO
- 6) Economizer damper position (% open) (AO) 7. Supply Air Temperature Setpoint
- a. The supply air temperature setpoint shall be reset based on outside air temperature. Whenever the outside air temperature is above 30 degrees F (adj.), the supply air temperature setpoint shall be 55 degrees. Whenever the outside air temperature is 30 degrees or below, the supply air temperature setpoint shall be 60 degrees. Provide a supply air temperature high limit of 90 degrees and low limit of 40 degrees that will alarm the system and place the air handler in fail safe mode with manual reset. 1) Supply air temperature (AI) Outside air temperature (AI)
- Cooling Control
   a. Cooling shall be controlled to maintain supply air temperature setpoint. On a call for cooling the economizer damper shall be modulated to full open economizer position prior to the cooling valve being opened. On a further call for cooling, economizer damper shall modulate to closed position and the 3-way chilled water valve shall be modulated open. Chilled water valve position (% open) (AO)
- 2) Supply air temperature (AI) a. Provide a mixed air low limit whenever the mixed air temperature drops below 40 deg. F dry bulb, that will alarm the system and modulate the outside air damper below minimum to maintain mixed air setpoint equal to supply air setpoint. 1) Mixed air temperature (DI)
- a. When the smoke detector is alarmed, the system shall be alarmed and the air handler shall fail safe with manual reset. Electrical contractor shall furnish, HVAC Contractor shall mount & Electrical contractor shall wire a UL listed photoelectric smoke detector per local code authority having jurisdiction. 1) Fan Shutdown - Hard Wired

23T-042 - VAV AIR HANDLING UNIT - SA & RF FAN, CHW/HW

SCALE: NONE

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OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY

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**ENGINEERS** 

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LEXINGTON, KENTUCKY COLUMBUS, OHIO

NEW YORK, NEW YORK

Description

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July 14, 2017

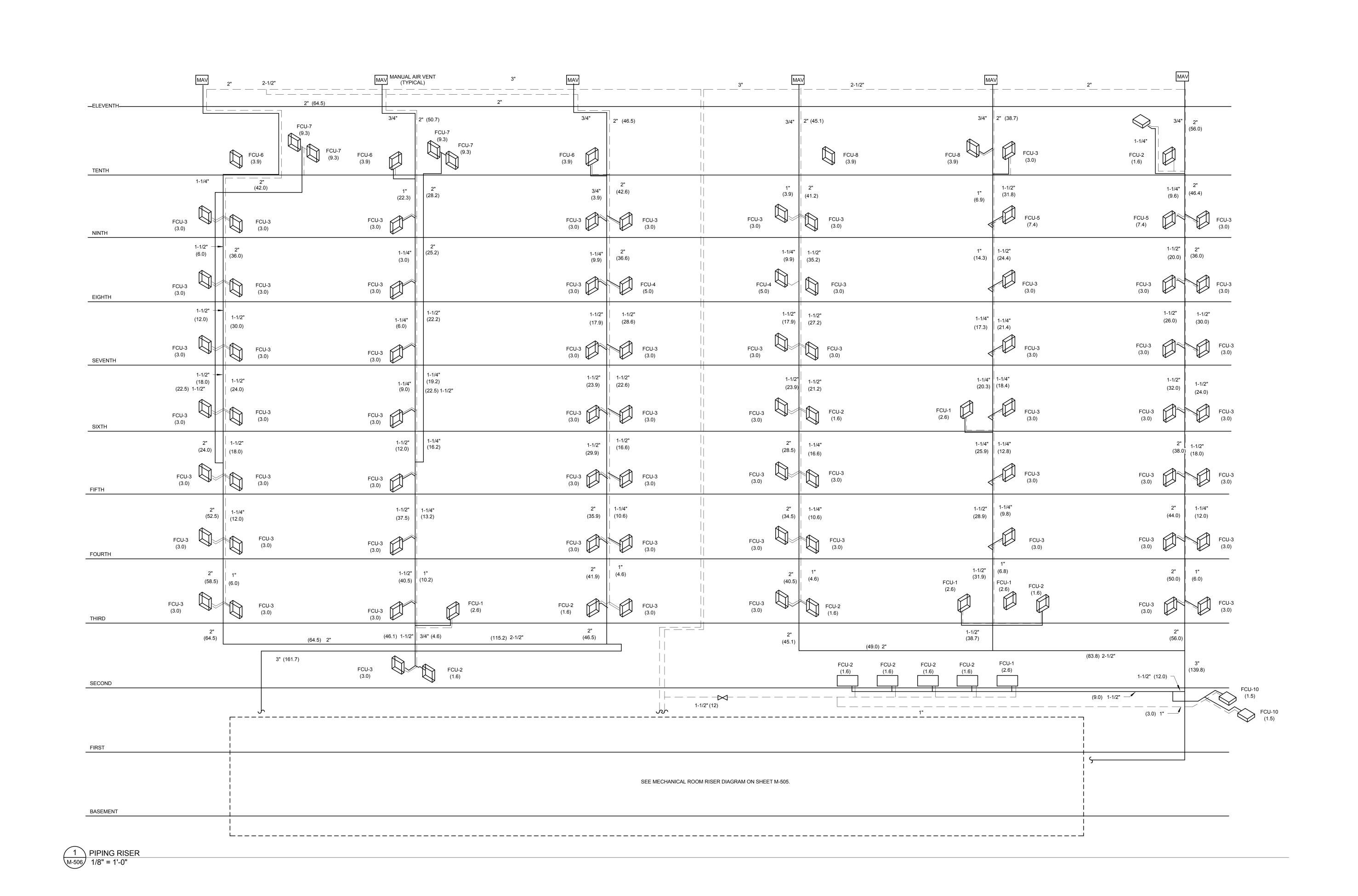
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> DATE July 14, 2017

Description **BID & PERMIT** 

Office Admissions Phase II Renovation Schott Hall XAVIER

OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967

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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

ABBREVIATI	ONS	CONT	RACTOR	TYPE			N	OTOR (	CONTROL TYPE				CON	CONTROL TYPE					
MC MOT SD DUC CN CON TS TOO C/B H.A. FUSE FUS FLA OPE MCA MIN	CAL DISCONNECT FOR CONTROL (POWER) CT SMOKE DETECTOR NTROLS GGLE SWITCH C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD SE AT LOCAL DISCONNECT (VERIFY FIELD RATING) ERATING FULL LOAD AMPS IMUM CIRCUIT AMPACITY RD AND PLUG CONNECTION	EC EX FC GC HC MFR PC OR	EXISTIN FIRE PF GENER HVAC C MANUF PLUMBI	NG	TOR : RACTOR	OR	N N V V	ICC MIG MIS MIS NIST MIST MIST MIST MIST MIST MIST MIST M	COMBINATION STAF MOTOR CONTROL S MAGNETIC STARTEI MANUAL STARTER VARIABLE FREQUEI MANUAL STARTER I OVERCURRENT PRO	STARTER R OR CONT NCY DRIVE N/ CONTRO			TC CPT BAS LOW LINE RLINI MAN FA CO INT	TIMECLOCK CONTROL PO BUILDING AUT LOW VOLTAG LINE VOLTAG E REVERSE ACT MANUAL FIRE ALARM CARBON MON INTEGRAL TO	TOMATION E CONTRO E CONTRO FING LINE  IOXIDE SEI	SYSTEM DLS DLS VOLTAGE NSOR	l	STAT	
EQUIPMENT N		Status	VOLTS	PHASE	EMERGENCY	ВНР Н	P HTG KW	FLA I	MCA OCP DC FURI	DC INST		MC FURN	MC INST	MC TYPE MC WIF	RE CN FURI	N CN INS	T CN TYP	E CN WIRE	SD TYPE
AC1	RISER MOUNTED AIR COMPRESSOR		110	1		1/2			EC	EC	EC		EC	EC EC					
AHU-1	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT	Γ	480	3					EC	EC	EC		EC	VFD EC	HC	HC	BAS		DUCT SMOK
EF-01	CEILING MOUNTED VENTILATOR		120	1					EC	EC	EC	MFR	MFR	MG MFR	EC	EC	MAN	EC	ļ
P-1A	CLOSED COUPLED INLINE CENTRIFUGAL PUMP		480	3	1	25			EC	EC	EC							'	<u> </u>
P-1B	CLOSED COUPLED INLINE CENTRIFUGAL PUMP		480	3		25			EC	EC	EC								
P-2A	CLOSED COUPLED INLINE CENTRIFUGAL PUMP		480	3		25			EC	EC	EC							'	
P-2B	CLOSED COUPLED INLINE CENTRIFUGAL PUMP		480	3		25			EC	EC	EC	1,,,,,		1.10	110	110			
RH-01	RADIANT HEATING ELECTRIC PANELS	EVICTIVE	208	1					EC	EC	EC	MFR	MFR	MG MFR	HC	HC	LOW	HC	
V-06	VAV BOX	EXISTING	208	3	1		4.5												
V-07	VAV BOX	EXISTING	208	3			3											'	
V-08	VAV BOX	EXISTING	208	3			7												
1.00	VAV BOX	EXISTING	208	3			4.5											'	
V-09	VAV BOX	EXISTING	208	3			5											'	
V-10		EXISTING	208	3			1.5												
V-10 V-11	VAV BOX	EVIOTING	000					1		1	1	1		1	1	1	1		1
V-10	VAV BOX VAV BOX VAV BOX	EXISTING EXISTING	208	3			4					+		+ + + + + + + + + + + + + + + + + + + +					

MAT CLG DB MAT CLG WB (Deg F)

Level 1

Level 1

Level 1

				EQUIPMENT MARK	DE	SCRIPTION	LOCATION	WEIGHT (lbs)	MAY HEIGHT (ft)	MAX LENGTH (ft)	MAX WIDTH (ft)	MANUFACTURER	MODEL	VOLTS	PHASE	CEM (cfm)	ESD (in W(	C) FAN RPM
				HU-1	_	DOOR CENTRAL	MECH 121		• , ,	262	97	INGENIA		480	PHASE	14630	ESF (III VVC	) FAIN KEIVI
				110-1		R HANDLING UNIT	IVILOIT 121		70.5	202	91	INGLINA	COSTON	+00	3	14030		U
							HVAC	AIR TERMINAL U	JNIT SCHEDULE									
EQUIPMENT	г															CALCE	HTG KW	
MARK	DESCRIPTION	DUCT CONN (in)	STATUS	VOLTS	PHASE	MAX CFM (cfm)	MIN CFM (cfm)	HMIN CFM (cfm	n) MBH (mbh)	EAT (Deg F)	LAT (Deg F)	HW GPM (gpm)	) EWT (De	g F)	LWT (Deg F)			HTG KW (kW)
V-01	VAV BOX	14		24	1	1420	710	1420	58	55	94	5.8	120	100	)	17	0	
V-02	VAV BOX	6		24	1	270	135	270	12	55	98	1.2	120	100	)	4	0	
V-03	VAV BOX	12		24	1	1280	640	1280	52	55	94	5.2	120	100	)	16	0	
V-04	VAV BOX	6		24	1	280	140	280	11	55	92	1	120	100	)	4	0	
V-05	VAV BOX	24x16		24	1	3240	1620	3240	151	55	99	15	120	100	)	44	0	
V-06	VAV BOX	10	EXISTING	208	3	900	450	452	17	55	90	0	120	100	)	5	4.5	5
V-07	VAV BOX	8	EXISTING	208	3	600	300	600	23	55	92	0	120	100	)	7	3	
V-08	VAV BOX	14	EXISTING	208	3	1600	800	1600	64	55	93	0	120	100		19	7	
V-09	VAV BOX	10	EXISTING	208	3	620	310	620	31	55	102	0	120	100		10	4.5	5
V-10	VAV BOX	10	EXISTING	208	3	530	265	530	25	55	99	0	120	100	)	8	5	
V-11	VAV BOX	7	EXISTING	208	3	360	180	180	4	55	74	0	120	100		2	1.9	5
V-12	VAV BOX	10	EXISTING	208	3	800	400	800	46	55	109	0	120	100		14	4	
V-13	VAV BOX	14	EXISTING	208	3	1600	800	1600	62	55	92	0	120	100		18	7	
V-14	VAV BOX	7		24	1	400	200	200	9	55	90	1.5	120	100				
V-15	VAV BOX	7		24	1	520	260	260	10	55	90	3.5	120	100				
V-16	VAV BOX	6		24	1	260	130	130	3	55	74	0.5	120	100	)	1	0	
V-17	VAV BOX	7		24	1	400	200	200	9	55	90	1.5	120	100	)			
			- 1	1	1	1	1							L		1	'	
										HVAC HYDRONIC	PUMPS SCHEDUL	_E						
				FOL	JIPMENT MARI	K DE	SCRIPTION	1.00	CATION MA	NUFACTURER	MODEL	VOLTS PHAS	E UEA	D (ft)	FLOW (gp	m) DII	JMP (rpm)	HP (hp)
				P-1A		CLOSED COUPL		MECH RO					120	· ,	420	1800		25
						CENTRIFUGAL F	PUMP											
				P-1B		CLOSED COUPL CENTRIFUGAL F		MECH RO	OM B&	G E-8	30 480	) 3	120		420	1800		25
				P-2A		CLOSED COUPL	ED INLINE	MECH ROO	OM B&	G E-8	30 480	) 3	120		350	1800		25

	200	130	130	J	55	/ 4	0.5		120	100	'	o .
	400	200	200	9	55	90	1.5		120	100		
						·	·					
				н	VAC HYDRON	NIC PUMPS SCHE	DULE					
NT MARK	DES	CRIPTION	LOCA	TION MANU	FACTURER	MODEL	VOLTS	PHASE	HEAD (ft)	FLOW (gpm)	PUMP (rpm)	HP (hp)
	CLOSED COUPLE CENTRIFUGAL PI		MECH ROOM	B&G	E	E-80	480	3	120	420	1800	25
	CLOSED COUPLE CENTRIFUGAL PI		MECH ROOM	B&G	E	E-80	480	3	120	420	1800	25
	CLOSED COUPLE CENTRIFUGAL PI		MECH ROOM	B&G	E	E-80	480	3	120	350	1800	25
	CLOSED COUPLE CENTRIFUGAL PI		MECH ROOM	B&G	E	E-80	480	3	120	350	1800	25

EQUIPMENT MARK D	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	VOLTS	PHASE	WATTS (Watts)	CFM (cfm)	ESP (in WC)	FAN RP
MC	EILING DUNTED ENTILATOR	RESTROOM	GREENHECK	SP-B110	120	1	80	80	0.5	950

HVAC AIR HANDLING UNITS SCHEDULE

1ST FLR WAITING 1ST FLR WAITING

CORRIDOR

CORRIDOR

EQUIPMENT MARK	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	VOLTS	S PHASE	WATTS (Watts)	CFM (cfm)	ESP (in WC)	FAN RF (rpm)
F-01	CEILING MOUNTED VENTILATOR	RESTROOM	GREENHECK	SP-B110	120	1	80	80	0.5	950
EQUIPME MARK		CRIPTION	LOCATION	MANUFAC	TURER	MODEL	VOLTS	PHAS	SE	Watts
RH-01	RADIANT H ELECTRIC		RM 201A	MARLEY		CP311	208	1	310	

-	CORRIDOR	154 SF	Level I	U		0.06	125	90	10	1	90	<b>E</b>
-	CORRIDOR	194 SF	Level 1	0		0.06	57	60	8	8	60	E
-	CORRIDOR	213 SF	Level 1	0		0.06	0	0	0	0	0	E
-	ENTRANCE	41 SF	Level 1	0		0.06	12	10	1	1	10	E
-	MECH	92 SF	Level 1	0			57	60	8	8	60	E
9	ENTRY	79 SF	Level 2	0		0.06	186	200	26	28	200	E
101	OFFICE	168 SF	Level 1	1	5	0.06	186	200	26	28	200	E
102	OFFICE	133 SF	Level 1	1	5	0.06	200	210	28	29	210	E
103	OFFICE	187 SF	Level 1	1	5	0.06	171	180	24	25	180	E
103A	CLST	14 SF	Level 1	0			21	20	3	3	20	E
105	OFFICE	133 SF	Level 1	1	5	0.06	143	150	20	21	150	E
106	OFFICE	134 SF	Level 1	1	5	0.06	143	150	20	21	150	E
107	OFFICE	109 SF	Level 1	1	5	0.06	157	170	22	24	170	E
107A	CLST	13 SF	Level 1	0			21	20	3	3	20	E
108	OFFICE	100 SF	Level 1	1	5	0.06	143	150	20	21	150	E
109	OFFICE	105 SF	Level 1	1	5	0.06	143	150	20	21	150	E
110A	OFFICE	94 SF	Level 1	1	5	0.06	129	140	18	20	140	E
110B	OFFICE	93 SF	Level 1	1	5	0.06	129	140	18	20	140	E
110C	OFFICE	100 SF	Level 1	1	5	0.06	243	260	34	36	260	E
110D	OFFICE	112 SF	Level 1	1	5	0.06	243	260	34	36	260	E
110E	OFFICE	113 SF	Level 1	1	5	0.06	243	260	34	36	260	E
111	RECEPTION	121 SF	Level 1	1	5	0.06	38	30	3	2	30	E
112	OFFICE	106 SF	Level 1	1	5	0.06	38	30	3	2	30	E
115A	RESTROOM	101 SF	Level 1	0			0	30	5	0	30	E
118	VENDING	109 SF	Level 1	0		0.06	179	190	25	27	190	E
120	BREAK	87 SF	Level 1	0		0.06	0	20	3	0	20	E
200	ENTRY	449 SF	Level 2	4	5	0.06	943	1000	132	140	1000	E
200A	WAITING	477 SF	Level 2	5	5	0.06	1507	1600	211	224	1600	E
200B	OFFICE	288 SF	Level 2	1	5	0.06	336	360	47	50	360	E
200BB	CLST	8 SF	Level 2	0			0	0	0	0	0	E
200C	OFFICE	191 SF	Level 2	1	5	0.06	750	800	105	112	800	E
200D	CORRIDOR	122 SF	Level 2	0		0.06	0	0	0	0	0	E
200E	RESTROOM	45 SF	Level 2	0		0.00	93	100	13	14	0	P
200F	CLST	17 SF	Level 2	0			0	0	0	0	0	E
200G	CORRIDOR	744 SF	Level 2	0		0.06	279	300	39	42	300	E
200H	CORRIDOR	112 SF	Level 2	0		0.06	29	30	4	4	30	E
200J	WOMEN	180 SF	Level 2	0		1	0	60	10	0	60	E
200K	MENS	130 SF	Level 2	0			0	30	5	0	30	E
201	OFFICE	1033 SF	Level 2	3	5	0.06	586	620	82	87	620	E
201A	OFFICE	119 SF	Level 2	1	5	0.06	186	200	26	28	200	E
201B	OFFICE	122 SF	Level 2	1	5	0.06	186	200	26	28	200	E
202	OFFICE	124 SF	Level 2	1	5	0.06	186	200	26	28	200	E
203	OFFICE	172 SF	Level 2	1	5	0.06	843	900	118	126	900	E
204	OFFICE	99 SF	Level 2	1	5	0.06	186	200	26	28	200	E
206	OFFICE	95 SF	Level 2	1	5	0.06	186	200	26	28	200	E
208	OFFICE	93 SF	Level 2	1	5	0.06	186	200	26	28	200	E
	OI I IOL			<del>                                     </del>			_	200	26	28	200	E
	OFFICE	93 SF	I evel 2	11	15							
210	OFFICE PRESENTATION ROOM	93 SF	Level 2	90	5	0.06	186 3043					
	OFFICE PRESENTATION ROOM STAIR C	93 SF 1111 SF 133 SF	Level 2 Level 2 Level 1	90	10	0.06 0.12 0.06	3043 471	3240 500	426 66	454 70	3240 500	E

HVAC VENTILATION SCHEDULE

PEOPLE RED OA PER PERSON OA PER SQ FT.

 CLG MBH (mbh)
 CLG SENS (mbh)
 LAT CLG DB (Deg F)
 LAT CLG WB (Deg F)
 CHW EWT (Deg F)
 CHW LWT (Deg F)
 CHW GPM (gpm)

 472
 394
 55
 54
 42
 54
 108

1496

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ACT RET

PRESSURE

**EXECUTE**ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

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	Description	Da
1	BID & PERMIT	07/1



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MECHANICAL SCHEDULES

MAS

July 14, 2017

M-601

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45207

Ohio

Cincinnati,

Dana

#### COMcheck Software Version 4.0.6.0

### **Mechanical Compliance Certificate**

#### Project Information

2012 IECC Energy Code:

Xavier University - Schott Hall Project Title:

Cincinnati, Ohio Location:

Climate Zone:

Alteration Project Type:

Construction Site: Owner/Agent: Designer/Contractor:

1511 Herald Ave Cincinnati, OH 45207

#### Mechanical Systems List

#### Quantity System Type & Description

AHU-1 (Multiple-Zone):

Cooling: 1 each - Hydronic Coil, Capacity = 486 kBtu/h, Air Economizer

No minimum efficiency requirement applies

Fan System: FAN SYSTEM 1 | AHU-1 -- Compliance (Brake HP method) : Passes

FAN 1 Supply, Multi-Zone VAV, 15010 CFM, 20.0 motor nameplate hp, 14.8 design brake hp (14.8 max. BHP) FAN 2 Return, Multi-Zone VAV, 15010 CFM, 9.0 motor nameplate hp, 5.8 design brake hp (5.8 max. BHP)

Pressure Drop Credits:

Fully ducted return and/or exhaust air systems, 1.8168 credit

#### **Mechanical Compliance Statement**

Compliance Statement: The proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2012 IECC requirements in COMcheck Version 4.0.6.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Signature Name - Title Date

Project Title: Xavier University - Schott Hall Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 1 of 8



### COMcheck Software Version 4.0.6.0

### **Inspection Checklist**

Energy Code: 2012 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	□Complies □Does Not □Not Observable □Not Applicable	

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

Report date: 04/26/17

#### Additional Comments/Assumptions:

3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967

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XAVIER UNIVERSITY

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No.	Description	Date
1	BID & PERMIT	07/14/1



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MECHANICAL - ENERGY COMPLIANCE

July 14, 2017

M-701

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Report date: 04/26/17

Project Title: Xavier University - Schott Hall Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 2 of 8

1 High Impact (Tier 1)

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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
ALIVERY CONTRACTOR	Freeze protection and snow/ice melting system sensors for future	□Complies □Does Not	
[FO9] <sup>3</sup>	connection to controls.	□Not Observable □Not Applicable	

#### Additional Comments/Assumptions:

High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Project Title: Xavier University - Schott Hall Report date: 04/26/17 Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 3 of 8 Mech Comcheck.cck

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.3 [ME55] <sup>2</sup>	HVAC equipment efficiency verified.	□Complies □Does Not □Not Observable □Not Applicable	See the Mechanical Systems list for values.
C403.2.5. 1 [ME59] <sup>1</sup>	Demand control ventilation provided for spaces >500 sq.ft. and >25 people/1000 sq.ft. occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	□Complies □Does Not □Not Observable □Not Applicable	
C403.4.2 [ME75] <sup>2</sup>	VAV fan >= 7.5 hp are driven by mechanical or electrical variable speed drive, or driven by vane-axial with variable speed blades, or operate with motor demand <=30% design kW at 50% design flow - calculations required	□Complies □Does Not □Not Observable □Not Applicable	See the Mechanical Systems list for values.
C403.2.7 [ME60] <sup>2</sup>	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.8 [ME61] <sup>2</sup>	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.8. 1 [ME7] <sup>3</sup>	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.8 [ME41] <sup>3</sup>	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.		
C403.2.7 [ME10] <sup>2</sup>	Ducts and plenums sealed based on static pressure and location.	□Complies □Does Not □Not Observable □Not Applicable	
C403.4.3. 1 [ME50] <sup>2</sup>	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.2. 1 [ME53] <sup>3</sup>	Air outlets and zone terminal devices have means for air balancing.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.2. 2 [ME54] <sup>3</sup>	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	□Complies □	
C403.2.10 .1 [ME65] <sup>3</sup>	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	□Complies □Does Not □Not Observable □Not Applicable	See the Mechanical Systems list for values.

1 High Impact (Tier 1) 3 Low Impact (Tier 3) 2 Medium Impact (Tier 2) Report date: 04/26/17 Project Title: Xavier University - Schott Hall

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Ohio

Cincinnati,

Dana

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MECHANICAL - ENERGY COMPLIANCE

> DATE July 14, 2017

M-702

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
.2	HVAC fan motors not oversized beyond allowable limits.	□Complies □Does Not	
[ME21] <sup>2</sup>		□Not Observable □Not Applicable	
C403.4.2 [ME66] <sup>2</sup>	VAV fan motors >=7.5 hp to be driven by variable speed drive, have a vane-	□Complies □Does Not	
	axial fan with variable pitch blades, or have controls to limit fan motor demand.	□Not Observable □Not Applicable	
1	VAV fans have static pressure sensors positioned so setpoint <=1/3 total	□Complies □Does Not	
[ME67] <sup>2</sup>	design pressure.	□Not Observable □Not Applicable	
C403.4.2. 2	controlled VAV boxes reporting to	□Complies □Does Not	
[ME24] <sup>2</sup>	requiring the most pressure.	□Not Observable □Not Applicable	
C403.4.3.	Reduce flow in pumping systems >10 hp to multiple chillers or boilers when	□Complies □Does Not	
[ME26] <sup>3</sup>	others are shut down.	□Not Observable □Not Applicable	
C403.2.6 [ME57] <sup>1</sup>	Exhaust air energy recovery on systems meeting Table C403.2.6	□Complies □Does Not	
		□Not Observable □Not Applicable	
C403.4.6 [ME31] <sup>3</sup>	Condenser heat recovery system that can heat water to 85 °F or provide	□Complies □Does Not	
	60% of peak heat rejection is installed for preheating of service hot water.	□Not Observable □Not Applicable	
C403.2.11 [ME71] <sup>2</sup>	Unenclosed spaces that are heated use only radiant heat.	□Complies □Does Not	
		□Not Observable □Not Applicable	

Additional Comments/Assumptions:

High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Project Title: Xavier University - Schott Hall

Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 5 of 8 Mech Comcheck.cck

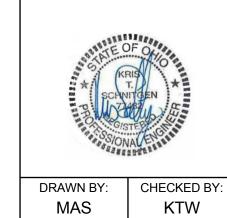
Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4. 1 [FI47] <sup>3</sup>	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.4. 2 [FI38] <sup>3</sup>	Thermostatic controls have a 5 °F deadband.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.4. 2 [FI20] <sup>3</sup>	Temperature controls have setpoint overlap restrictions.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.4. 3 [FI39] <sup>3</sup>	Each zone equipped with setback controls using automatic time clock or programmable control system.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.4. 3 [FI40] <sup>3</sup>	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2- hour occupant override, 10-hour backup	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.4. 3.3 [FI41] <sup>3</sup>	Systems include optimum start controls.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.5. 1 [FI7] <sup>3</sup>	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	
C303.3, C408.2.5. 3 [FI8] <sup>3</sup>	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.5. 3 [FI43] <sup>1</sup>	An air and/or hydronic system balancing report is provided for HVAC systems.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.3. 2 [FI10] <sup>1</sup>	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	□Complies □Does Not □Not Observable □Not Applicable	
C403.2.2 [FI27] <sup>3</sup>	HVAC systems and equipment capacity does not exceed calculated loads.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.1 [FI28] <sup>1</sup>	Commissioning plan developed by registered design professional or approved agency.	□Complies □Does Not □Not Observable □Not Applicable	

 1 High Impact (Tier 1)
 2 Medium Impact (Tier 2)
 3 Low Impact (Tier 3)

 Project Title:
 Xavier University - Schott Hall
 Report date: 04/26/17

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> DATE July 14, 2017

M-703

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.4 [FI29] <sup>1</sup>	Preliminary commissioning report completed and certified by registered design professional or approved agency.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.5. 4 [FI30] <sup>1</sup>	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	□Complies □Does Not □Not Observable □Not Applicable	
C408.2.3. 1 [FI31] <sup>1</sup>	HVAC equipment has been tested to ensure proper operation.	□Complies □Does Not □Not Observable □Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Project Title: Xavier University - Schott Hall Report date: 04/26/17 Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 7 of 8

Mech Comcheck.cck

Project Title: Xavier University - Schott Hall

Report date: 04/26/17

Data filename: G:\18000-18999\18800-18899\18842\Project Data\Energy\Compliance\Mechanical Report\1884 Page 8 of 8 Mech Comcheck.cck

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> DATE July 14, 2017

M-704

# & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.4 [FI29] <sup>1</sup>	Preliminary commissioning report completed and certified by registered design professional or approved	□Complies □Does Not	
1003	agency.	□Not Observable □Not Applicable	
C408.2.5.	Final commissioning report due to building owner within 90 days of	□Complies □Does Not	
[FI30] <sup>1</sup>	receipt of certificate of occupancy.	□Not Observable □Not Applicable	
C408.2.3.	HVAC equipment has been tested to ensure proper operation.	□Complies □Does Not	
FI31] <sup>1</sup>		□Not Observable □Not Applicable	

4 BUTTON PRESET/DIM KEYPAD LAYOUT

ALL ON

VIDEO

MEETING

CLEANING

ALL OFF

 $\triangle$   $\nabla$ 

PROVIDE MANUAL DIMMING CONTROLS



GLINETIAL NOTES.	
A. ALIGN ALL DEVICES SHOWN ON PLANS AT SAME DIMENSION FROM DOOR FRAME OR WALL.  B. CONDUIT/CABLES SHALL BE ROUTED WHERE YER NECESSARY TO KEEP DEVICES ALIGNED.  C. ALL DEVICES MOUNTED AT SAME HEIGHT TO BE ALIGNED HORIZONTALLY. ENSURE ALL DEVICES ARE LEVEL AND PLUMB AFTER INSTALLATION.  D. FOR MULTI-GANG DEVICES, ALIGN DEVICES AT CENTER OF GROUP. PROVIDE SINGLE FACEPLATE FOR GROUPS OF DEVICES WHERE APPLICABLE.  E. COORDINATE WITH ALL TRADES CASE-BY-CASE.	CIRCUIT BREAKER AT SOURCE PANELBOARD  LOCAL WALL SWITCH(ES)  LOCAL WALL SWITCH(ES)  OF OCCUPANCY SENSOR(S) OR RELAY PACK(S)
	A. THIS DETAIL IS SCHEMATIC IN NATURE INTENDED TO INDICATE HOW LOCAL SWITCHING SHALL INTERACT WITH RELATED OCCUPANCY SENSORS. THERE MAY ALSO BE OTHER LIGHTING CONTROL ELEMENTS AS SHOWN ON PLAN OR IN DETAILS THAT APPLY TO A PARTICULAR AREA.
60502.00-01 - DEVICE ALIGNMENT DETAIL	265100.00-13 - OCC SENSOR OVERRIDE
CALE: NONE	SCALE: NONE

<u>VIDEO</u> ADDITIONAL CONTROL: OCC. SENSOR

CONTROL TYPE

0-10V ZONED DIMMING

LEVEL

OFF

OFF

OFF

30 fc

30 fc

OFF

30 fc

ZONE

d

<u>CLEANING</u> ADDITIONAL CONTROL: OCC. SENSOR

CONTROL TYPE

0-10V ZONED DIMMING

LEVEL

50 fc

50 fc

50 fc

OFF

OFF

OFF

OFF

WALL FLAT PANEL DISPLAY

ZONE

d

ABBREVIATIONS		CONT	RACTOR 1	TYPE					MOTOR CONTROL TYPE					CONTRO	L TYPE							
MC MOTOR (SD DUCT SM) CN CONTRO TS TOGGLE C/B H.A.C.R. FUSE FUSE AT FLA OPERAT MCA MINIMUM		FC FIRE PROTECTION CONTRACTOR GC GENERAL CONTRACTOR				MG MS VFD	MCC MOTOR CONTROL STARTER MG MAGNETIC STARTER OR CONTACT MS MANUAL STARTER VFD VARIABLE FREQUENCY DRIVE MSR MANUAL STARTER W/ CONTROL RELAY					TC TIMECLOCK CPT CONTROL POWER TRANSFORMER BAS BUILDING AUTOMATION SYSTEM LOW LOW VOLTAGE CONTROLS LINE LINE VOLTAGE CONTROLS RLINE REVERSE ACTING LINE VOLTAGE THERMOSTAT MAN MANUAL FA FIRE ALARM CO CARBON MONOXIDE SENSOR INT INTEGRAL TO EQUIPMENT										
EQUIPMENT MARK	DESCRIPTION	Status	VOLTS	PHASE	ВНР	HP	HTG KW	WATTS	EI A	MCA OCP	DC FURN	DC INST	DC WIRE	E MC ELIDA	I MC INST	MC TVD	E MC WIE	E CN FUE	RN CN INST	CN TYPI	F CN WIR	E SD TYPI
								117110	FLA	WICA CCI	DC I OI III	DC II431	DC WILL		4   IVIC 11431	INICITE	L INC WII	CITIO	0.11.110.1	0.4	_   •	
AC1	RISER MOUNTED AIR COMPRESSOR		120	1		1/2	manu	WALLO	FLA		EC	EC	EC Will	EC	EC	EC	EC EC	IL OITTOI	iit Oitiitoi	- OIT III		
	RISER MOUNTED AIR COMPRESSOR CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT			1 3				WATTO	FLA		EC EC						_	HC	HC	BAS	HC	DUCT SMO
AC1	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR		120	1 3 1				80	FLA		EC EC	EC EC EC	EC EC EC	EC	EC	EC	EC					
AC1 AHU-1	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT		120 480	1 3 1 3	1				FLA		EC EC	EC EC	EC EC	EC HC	EC EC	EC VFD	EC EC	НС	HC	BAS	HC	
AC1 AHU-1 EF-01	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR		120 480 120	1 3 1	2	1/2			rla		EC EC	EC EC EC	EC EC EC EC	EC HC	EC EC	EC VFD	EC EC	НС	HC	BAS	HC	
AC1 AHU-1 EF-01 P-1A	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP		120 480 120 480	1 3 1 3	2 2 2	1/2 25 25 25 25			PLA		EC EC EC	EC EC EC	EC EC EC	EC HC	EC EC	EC VFD	EC EC	НС	HC	BAS	HC	
AC1 AHU-1 EF-01 P-1A P-1B	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP CLOSED COUPLED INLINE CENTRIFUGAL PUMP		120 480 120 480 480	1 3 1 3 3	2 2 2	1/2 25 25					EC EC EC EC	EC EC EC EC	EC EC EC EC	EC HC	EC EC	EC VFD	EC EC	НС	HC	BAS	HC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP CLOSED COUPLED INLINE CENTRIFUGAL PUMP CLOSED COUPLED INLINE CENTRIFUGAL PUMP		120 480 120 480 480 480	1 3 1 3 3	2 2 2	1/2 25 25 25 25					EC EC EC EC EC	EC EC EC EC	EC EC EC EC EC	EC HC	EC EC	EC VFD	EC EC	НС	HC	BAS	HC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP	EXISTING	120 480 120 480 480 480 480	1 3 1 3 3	2 2 2	25 25 25 25 25		80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS	EXISTING EXISTING	120 480 120 480 480 480 480 208	1 3 1 3 3	2 2 2	1/2 25 25 25 25 25		80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS VAV BOX		120 480 120 480 480 480 480 208 208	1 3 1 3 3 3 3 3 1 1 3	2 2 2	1/2 25 25 25 25 25	4.5	80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01 V-06 V-07	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS VAV BOX VAV BOX	EXISTING	120 480 120 480 480 480 480 208 208 208	1 3 1 3 3 3 3 3 1 1 3 3	2 2 2	1/2 25 25 25 25 25	4.5	80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01 V-06 V-07	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS VAV BOX VAV BOX VAV BOX	EXISTING EXISTING	120 480 120 480 480 480 480 208 208 208 208	1 3 1 3 3 3 3 3 1 1 3 3 3	2 2 2	1/2 25 25 25 25 25	4.5	80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01 V-06 V-07 V-08 V-09	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS VAV BOX VAV BOX VAV BOX VAV BOX	EXISTING EXISTING EXISTING	120 480 120 480 480 480 480 208 208 208 208 208	1 3 1 3 3 3 3 1 1 3 3 3 3 3 3 3 3 3 3 3	2 2 2	1/2 25 25 25 25 25	4.5 3 7 4.5	80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	
AC1 AHU-1 EF-01 P-1A P-1B P-2A P-2B RH-01 V-06	CUSTOM INDOOR CENTRAL STATION AIR HANDLING UNIT CEILING MOUNTED VENTILATOR CLOSED COUPLED INLINE CENTRIFUGAL PUMP RADIANT HEATING ELECTRIC PANELS VAV BOX VAV BOX VAV BOX VAV BOX VAV BOX VAV BOX	EXISTING EXISTING EXISTING EXISTING	120 480 120 480 480 480 480 208 208 208 208 208 208	1 3 1 3 3 3 3 3 1 3 3 3 3 3 3 3 3 3 3 3	2 2 2	1/2 25 25 25 25 25	4.5 3 7 4.5 5	80	FLA		EC EC EC EC EC EC	EC EC EC EC EC EC	EC EC EC EC EC	EC HC MFR	EC EC MFR	EC VFD MG	EC EC MFR	HC EC	HC EC	BAS MAN	HC EC	

		ELECTRIC IN\	ERTER SCHEDU	JLE	
specifications are labeled w inverter loadi	s. See floor plans vith "IN_". Coordi ing requirements	s for individual lum nate final inverter prior to purchase	for emergency egres inaires to be connec sizes with final lumin / rough in. Where a 924 control bypass o	ted to each inve aire selection a luminiare on an	erter. Luminaires nd maximum inverter is
on when pow locations in f	er is lost. Mount	inverters in an ea	sily accessible locati	on. Coordinate f	final inverter
on when pow	er is lost. Mount	inverters in an ea	sily accessible locati	voltage	Inverter Size

EQUIPMENT MARK	SUPPLY FROM	СКТ	EMERG.	LOAD (kVA)	VOLTS	POLE	HTG KW	WATT	HP	FLA (A)	MCA (A)	RQD OCP (A)	BREAKER RATING (A)
AC1	LP-1	28		1.18	120 V	1							20
AHU-1	MCC	17		33.88	480 V	3							60
EF-01	LP-K1	12		0.08	120 V	1		80					20
P-1A	MCC	1		11.64	480 V	3			25				25
P-1B	MCC	3		11.64	480 V	3			25				25
P-2A	MCC	4		11.64	480 V	3			25				25
P-2B	MCC	5		11.64	480 V	3			25				25
RH-01	LP-2	5.7		0.31	208 V	2		310					20

	A 135 VA EXIST. EXIST.	120 V 200 VA	P-2A MCC 4 11.64 480 V 3 25 25 25 25 25								
		, - , - , - , - , - , - , - , - , - , -	RH-01 LP-2 5,7 0.31 208 V 2 310 20								
	ELECTRIC LEGEND		ELECTRIC LEGEND								
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION								
	LUMINAIRES		MISCELLANEOUS								
0	LUMINAIRE (SEE LUMINAIRE SCHEDULE)	T	THERMOSTAT								
o 🖸	RECESSED / SURFACE MOUNTED LUMINAIRE	<b>®</b> ——	LINE VOLTAGE MOTOR OPERATED DAMPER PROVIDE POWER, INTERLOCK WIRING AND LOCAL KEYED TOGGLE TYPE DISCONNECT SWITCH (MOTOR								
• <b>•</b> ••	SHADED LUMINAIRES DENOTE THOSE CONNECTED TO EMERGENCY POWER SOURCE (UNSWITCHED LUMINAIRES ARE EGRESS LIGHTS THAT OPERATE 24/7)	•	PUSHBUTTON PAD FOR MANUAL CONTROL OF ELECTRIC DOOR OPERATOR INSTALL WITH HEAVY DUTY BLOCKING IN WALL AND WIRE								
H⊗ ⊗ H <b>⊗</b> ®	SINGLE / DOUBLE SIDED EXIT SIGN CONNECT AHEAD OF SWITCHING & CONFIGURE ARROWS TO INDICATE DIRECTION OF EGRESS TRAVEL	4	HAND DRYER OR HAND/HAIR DRYER PROVIDE LOCK-OUT/TAG-OUT DEVICE								
<b></b> 24 ∮ •• ∳	EMERGENCY BATTERY PACK AND ASSOCIATED REMOTE HEADS CONNECT AHEAD OF SWITCHING		RECESSED OR SURFACE MOUNTED PANELBOARD AS INDICATED ON PLANS								
A,B,C	LUMINAIRE TYPE	Т	TRANSFORMER								
	LIGHTING CONTROL/SWITCHING		SINGLE LINE DIAGRAM								
a,b,c	SWITCHING DESIGNATION	÷	INDICATES GROUNDING ELECTRODE PER NFPA 70 ARTICLE 250 MINIMUM								
NL nl	UNSWITCHED LIGHTING LUMINAIRE USED AS "NIGHT LIGHT"		CUSTOMER ELECTRIC METER AND ASSOCIATED CURRENT TRANSFORMER(S) AND WIRING								
EL	INDICATES AN EGRESS LIGHTING LUMINAIRE WIRED AHEAD OF ALL SWITCHING AND INTENDED TO PROVIDE REQUIRED EGRESS ILLUMINATION	LIAA 200A MCB	RECESSED OR SURFACE MOUNTED PANELBOARD AS INDICATED ON PLANS TRIANGLE SYMBOL (RIGHT) WITHIN PANELBOARD = PROVIDE WITH FEED-THROUGH OR SUB-FEED LUGS								
<b>\$</b> <sup>3</sup>	3-WAY SWITCH		SWITCHBOARD / DISTRIBUTION PANEL								
D \$ <sup>D</sup>	DIMMER SWITCH	IG 200%N NEMA 3R FLUSH	PROVIDE ISOLATED GROUND BAR (LEFT) - PROVIDE 200% SIZED NEUTRAL (RIGHT) PROVIDE NEMA 3R OR OTHER INDICATED ENCLOSURE (LEFT) - PROVIDE FLUSH ENCLOSURE (RIGHT)								
<b></b> TYPE  TYPE	CEILING-MOUNTED OCCUPANCY SENSOR. DUAL TECHNOLOGY UNLESS OTHERWISE NOTED BY TYPE. TYPE "IR" = INFRARED, TYPE "US" = ULTRASONIC		NON-FUSED HEAVY DUTY DISCONNECT SWITCH (LEFT) AND FUSED HEAVY DUTY DISCONNECT SWITCH (RIGHT)								
<b>▲</b> TYPE#	WALL-MOUNTED OCCUPANCY SENSOR SWITCH. DUAL TECHNOLOGY UNLESS OTHERWISE NOTED BY TYPE. TYPE "IR"=INFRARED, TYPE "US"=ULTRASONIC, "V"=VACANCY SENSOR, "#" = CONTROLLED CIRCUITS.	**	AUTOMATIC TRANSFER SWITCH (UNLESS NOTED OTHERWISE)								
	RECEPTACLES/MISCELLANEOUS OUTLETS		DOOR OPERATORS/DEVICES								
Ф	DUPLEX RECEPTACLE	M////A	AUTOMATIC ELECTRIC DOOR OPERATOR PROVIDE POWER AND CONTROL WIRING AND CONNECTIONS								
<b>(</b>	DUPLEX RECEPTACLE - AT COUNTER HEIGHT OR SPECIAL HEIGHT - VERIFY IN FIELD		RACEWAY/WIRE/CABLE								
<del></del>	DOUBLE DUPLEX ("QUAD") RECEPTACLE	1,3	HOME RUN WITH CIRCUIT NUMBER(S)								
<del> </del>	DUPLEX GFCI RECEPTACLE - COUNTER HEIGHT OR SPECIAL HEIGHT - VERIFY IN FIELD - DO NOT FEED DOWNSTREAM OUTLETS FROM LOAD SIDE TERMINALS UNLESS SPECIFICALLY NOTED OTHERWISE ON DWGS.		CABLING/RACEWAY, CEILING OR WALL. SEE SPECS. FOR APPLICABLE CONDUIT/RACEWAY REQ'TS. (FULLY CONCEALED IN FINISHED AREAS, CONCEALED TO OVERHEAD STRUCTURE IN UNFIN. AREAS)								
Ф	DUPLEX RECEPTACLE ON EMERGENCY OR STANDBY POWER CIRCUIT		CABLING / RACEWAY BELOW FLOOR OR GRADE.								
Ф	DUPLEX RECEPTACLE - SURGE PROTECTIVE DEVICE (PROVIDE DEDICATED NEUTRAL FOR EACH SPD RECEPT. BRANCH CCT. PHASE CONDUCTOR - DO NOT SHARE NEUTRALS)		CABLE TRAY								
	DOOR OPERATORS/DEVICES	J	JUNCTION BOX OR PULL BOX AS APPLICABLE - INSTALL WALL MOUNTED BOXES FLUSH IN FINISHED AREAS INSTALL OUTDOOR IN-GROUND BOXES FLUSH WITH FINISHED GRADE OR PAVEMENT AS APPLICABLE								
M////A	AUTOMATIC ELECTRIC DOOR OPERATOR PROVIDE POWER AND CONTROL WIRING AND CONNECTIONS	0	CONDUIT UP OR DOWN								
	FIRE ALARM DEVICES		ABBREVIATIONS AND NOTES								
F M	FIRE ALARM SYSTEM MANUAL PULL STATION	E.C.	WORK UNDER DIVISION 26								
(E) (S)	FIRE ALARM SYSTEM SMOKE DETECTOR - PHOTOELECTRIC TYPE   TAG "IZ" = IONIZATION TAG "SB" = AUDIO SOUNDER BASE, TAG "M" = MULTI-STATION SMOKE ALARM UNIT	42"	DISTANCE ABOVE FINISHED FLOOR (OR GRADE/PAVEMENT WHERE APPLIC.) TO CENTER OF OUTLET								
(51)	SMOKE DAMPER, FURNISHED/INSTALLED UNDER DIV. 23, CONTROLLED VIA F.A. SYSTEM PROVIDE 120VAC POWER (W/LOCAL KEYED TOGGLE DISC. SW.), SMOKE DETECTION, CONTROL MODULES, ETC.	AFF	ABOVE FINISHED FLOOR (OR GRADE/PAVEMENT WHERE APPLICABLE) TO CENTER OF OUTLET (UNLESS OTHERWISE NOTED)								
(FSD)	COMBINATION FIRE/SMOKE DAMPER, FURNISHED/INSTALLED UNDER DIV. 23, CONTROLLED VIA F.A. SYSTEM PROVIDE 120VAC POWER (W/LOCAL KEYED TOGGLE DISC. SW.), SMOKE DETECTION, CONTROL MODULES, ETC.	GND	GROUND								
	FIRE ALARM SYSTEM STROBE-ONLY UNIT (PROVIDE CANDELA RATING FOR STROBE AS INDICATED ON DRAWINGS)	GFI / GFCI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE (UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS, DO NOT FEED DOWNSTREAM OUTLETS FROM LOAD SIDE TERMINALS OF GFI RECEPTS.)								
FD D	FIRE ALARM SYSTEM HORN/STROBE UNIT (PROVIDE CANDELA RATING FOR STROBE AS INDICATED ON DRAWINGS)	FP	RECEPTACLE TO BE USED FOR A FLAT PANEL DISPLAY. VERIFY EXACT LOCATION AND HEIGHT OF RECEPTACLE WITH C.T.C. PRIOR TO ROUGH-IN.								
CO	OMMUNICATION/INFORMATION TECHNOLOGY		PLAN-VIEW LINE TYPES								
COORDINATE WITH	H SYSTEM INSTALLERS PRIOR TO INSTALLATION FOR LOCATIONS, HEIGHTS, CONDUIT TERMIANTIONS, ETC.		WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK (UNLESS INDICATED OTHERWISE)								
	COMMUNICATIONS OUTLET - VOICE/DATA/MISC. (PROVIDE 4"X4" OUTLET BOX WITH 1-GANG RING PROVIDE (1) 1" CONDUIT TO ABOVE ACCESSIBLE CEILING CAVITY UNLESS NOTED OTHERWISE.		WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE (UNLESS INDICATED OTHERWISE)								
HCP.	WALL CONTROL PANEL		WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK (UNLESS INDICATED OTHERWISE)								

# Office Admissions Phase Schott Hall, Renovation ation

45207

Ohio

Cincinnati,

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Dana

1496

OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY
3800 VICTORY PARKWAY
CINCINNATI, OH 45207
513-745-1967



**EXECUTE**ENGINEERS MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

10.	Description	Date
	BID & PERMIT	07/14/17

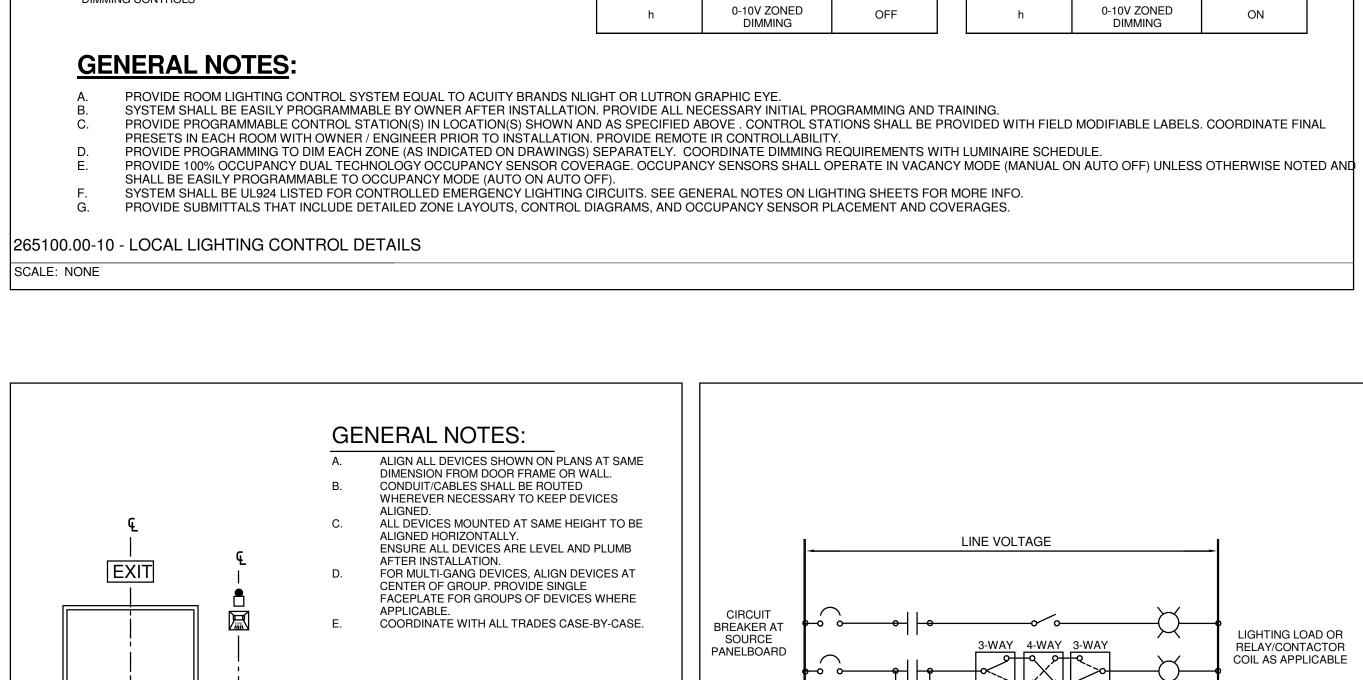


DRAWN BY: CHECKED BY: RTT DTJ

ELECTRIC -LEGEND AND **DETAILS** 

> DATE July 14, 2017

E-000



ALL ON
ADDITIONAL CONTROL: OCC. SENSOR

CONTROL TYPE

0-10V ZONED DIMMING

MEETING
ADDITIONAL CONTROL: OCC. SENSOR

CONTROL TYPE

0-10V ZONED DIMMING

ZONE

SYMBOL ON DRAWINGS

LEVEL

50 fc

LEVEL

45207

 $\Box$ 

496

CHECKED BY: DTJ

E-100

**GENERAL NOTES** A. SWAP OUT DEMOLISHED LUMINAIRES WITH NEW ENERGY EFFICIENT REPLACEMENTS AS SPECIFIED ON THE DRAWINGS. NEW TOTAL LUMINAIRE CIRCUIT LOADS MUST BE LESS THAN OR EQUAL TO THE EXISTING LUMINIAIRE CIRCUIT LOADS. VERIFY CIRCUIT LOAD AND VOLTAGE IN FIELD PRIOR TO INSTALLATION. EXTEND / MODIFY EXISTING LIGHTING CIRCUITING WITHIN EACH ROOM / AREA TO ACCOMMODATE NEW LUMINAIRE LOCATIONS, ADDED LUMINAIRES, AND NEW CONTROLS AS SHOWN (NOT ALL NEW WIRING IS SHOWN ON THESE PLANS). B. PROTECT ALL EXISTING FEEDERS TO REMAIN DURING ALL PHASES OF CONSTRUCTION.

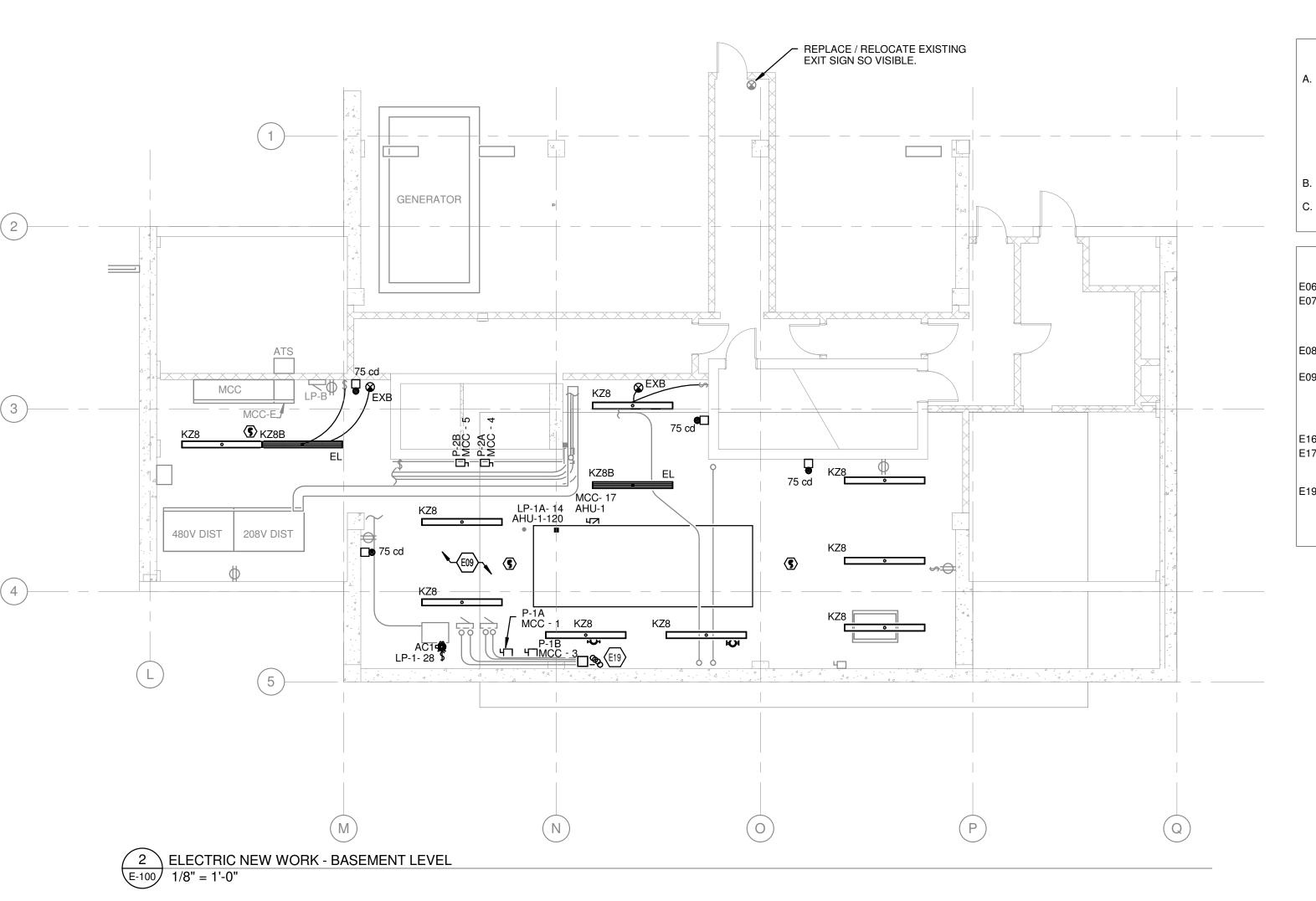
## 2. PROVIDE 500' OF 3/4" CONDUIT DEMOLITION IN THE AREA OF THE NEW

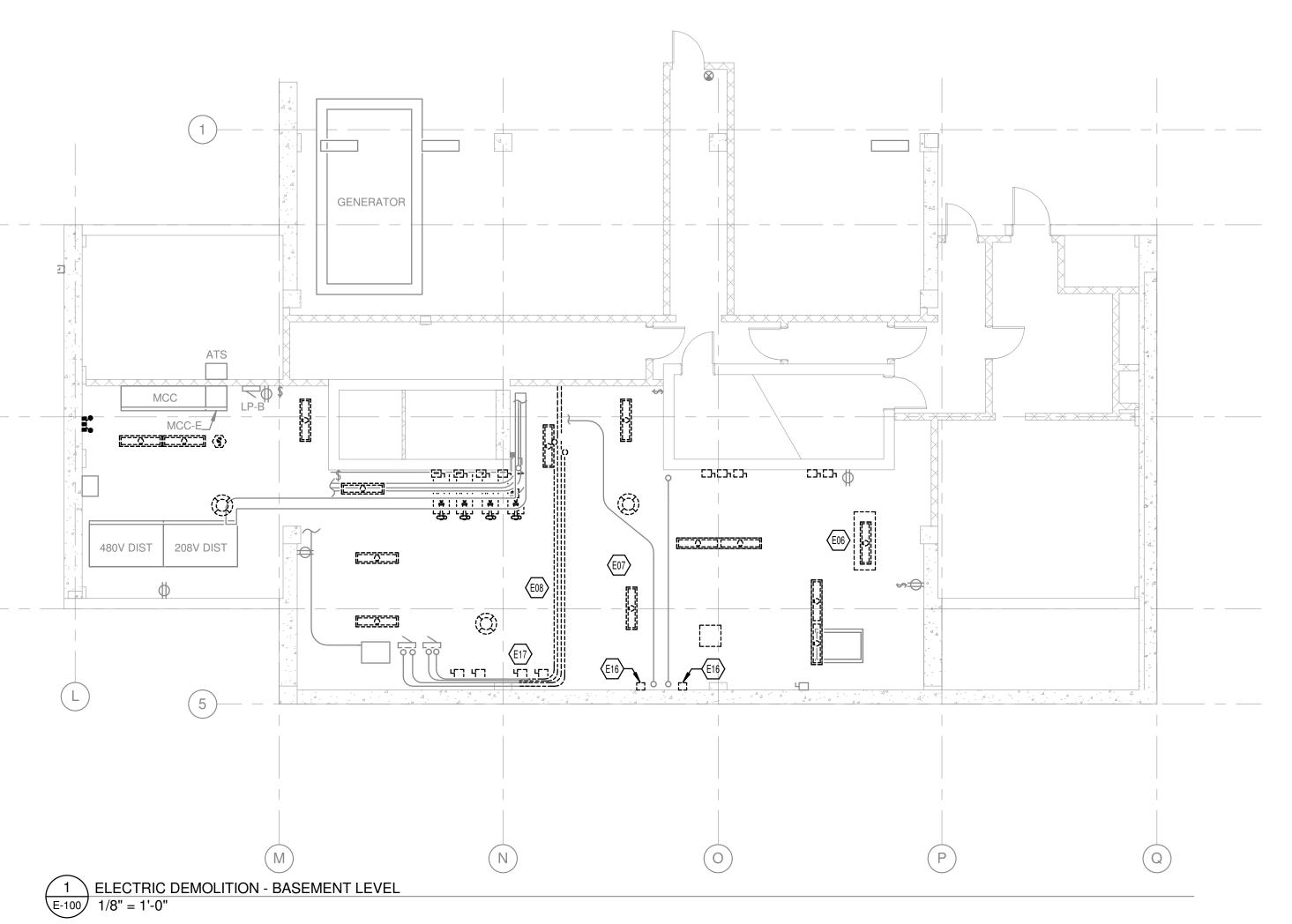
### **KEYED NOTES**

REMOVE AIR COMPRESSOR AND TURN OVER TO OWNER. ALL CONDUITS CURRENTLY ROUTED THROUGH PROPOSED POSITION OF NEW AIR HANDLER SHALL BE RE-ROUTED, INCLUDING THOSE FOR BRANCH CIRCUITS, FEEDERS, AND CONTROLS. VERIFY IN FIELD PRIOR TO

CONDUITS FEEDING VERIZON EQUIPMENT SHALL BE REROUTED BY VERIZON. COORDINATE WITH VERIZON. COORDINATE FINAL LOCATIONS OF NEW LUMINAIRES IN THIS ROOM WITH NEW/EXISTING MECHANICAL EQUIPMENT. REGARDLESS OF FINAL POSITIONING, PROVIDE NUMBER OF LUMINAIRES SHOWN ON PLAN. UTILIZE EXISTING LIGHTING CIRCUIT IN THE SPACE. EXTEND/MODIFY CIRCUITING AS NECESSARY. TURN OVER REMOVED VFD CONTROLLER IN THIS LOCATION TO OWNER. PUMP 6 MUST STAY TEMPORARILY ACTIVE. COORDINATE WITH THE

GENERAL CONTRACTOR TO PROTECT POWER AND CONTROLS TO THIS EQUIPMENT. PROPOSED PATH FOR REROUTING OF VERIZON CONDUITS, REROUTING OF CONDUITS SHALL BE THE RESPONSIBILITY OF VERIZON. INTERCEPT EXISTING FEEDER WITH NEW JUNCTION BOXES. SPLICE INTO EXISTING FEEDER WITH NEW CONDUCTORS TO MATCH EXISTING. WORK SHOWN FOR REFERENCE ONLY.

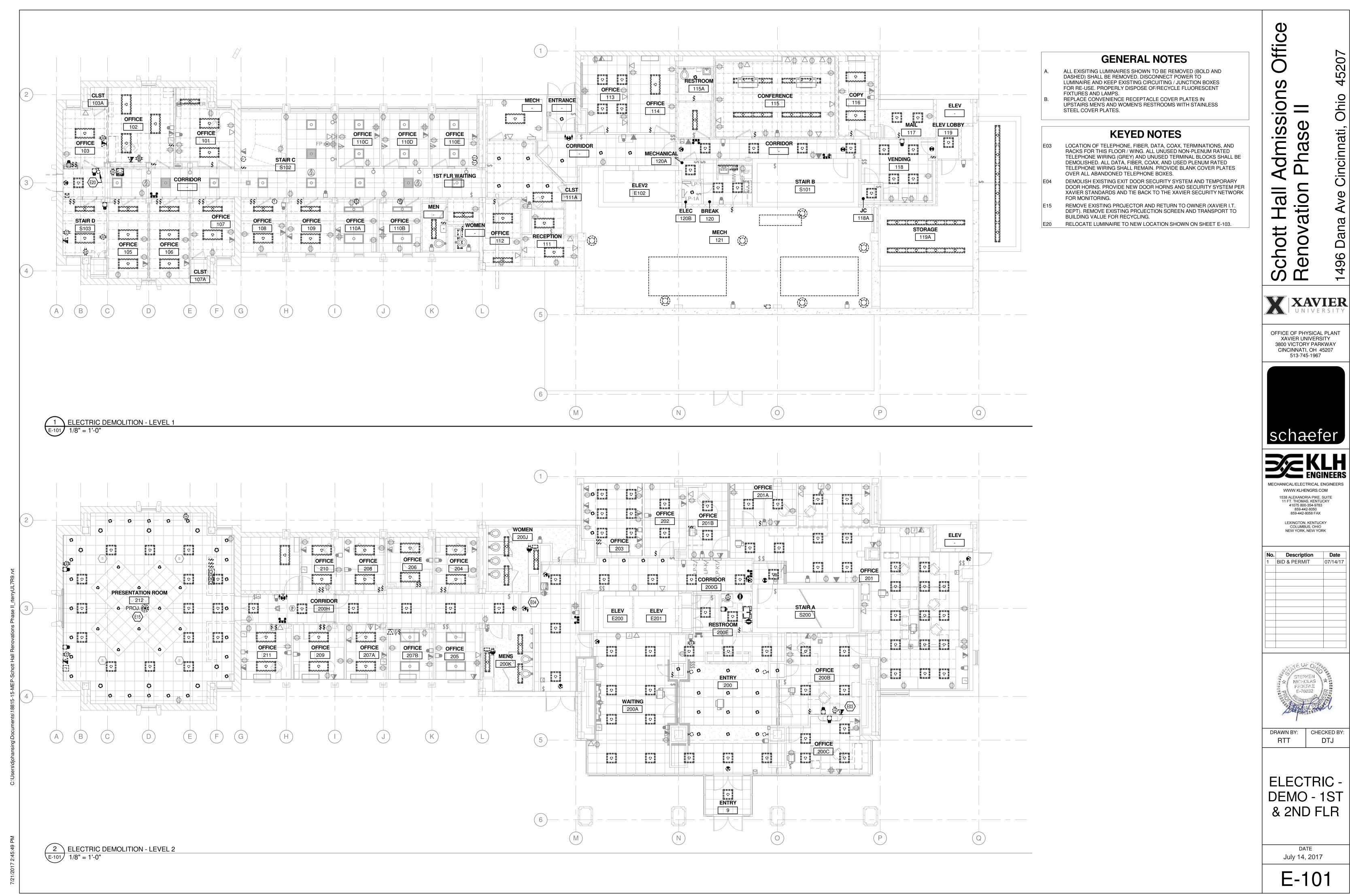




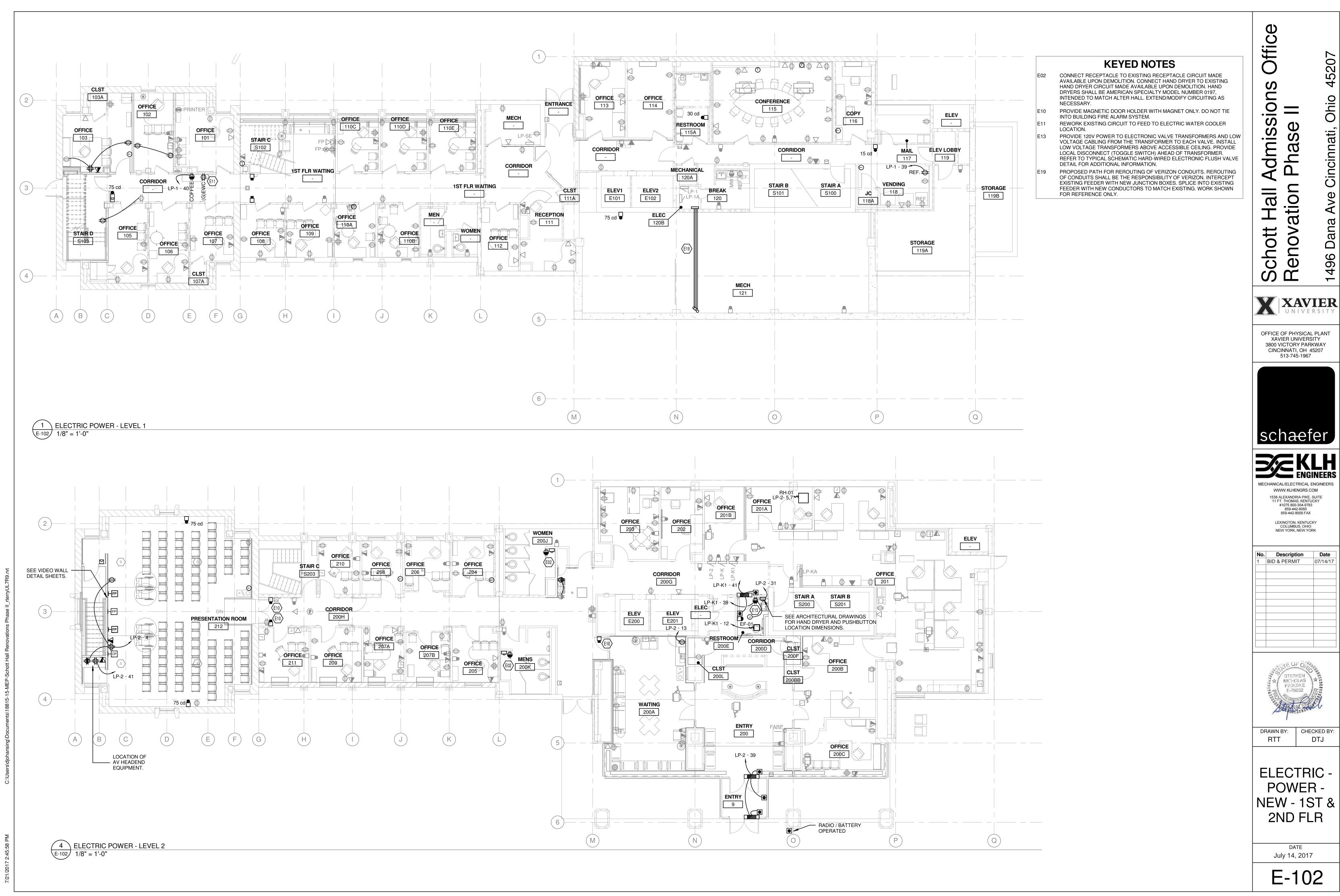
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45207 Ohio Cincinnati, Ave Dana 496



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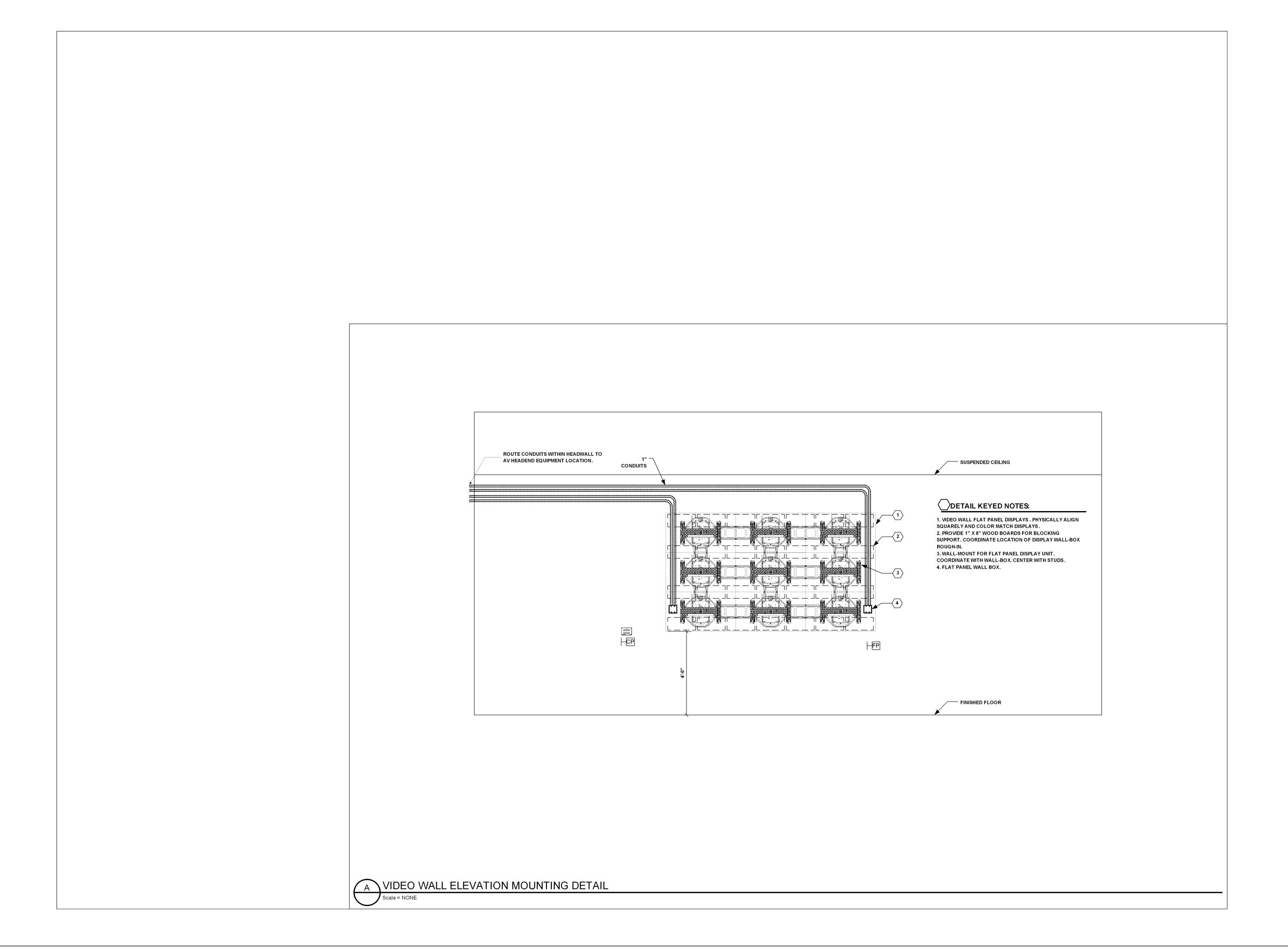
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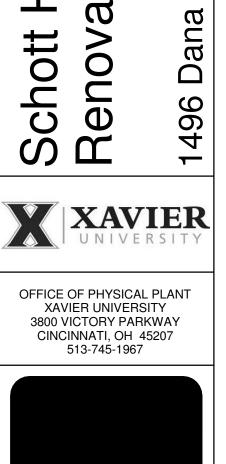
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DATE July 14, 2017

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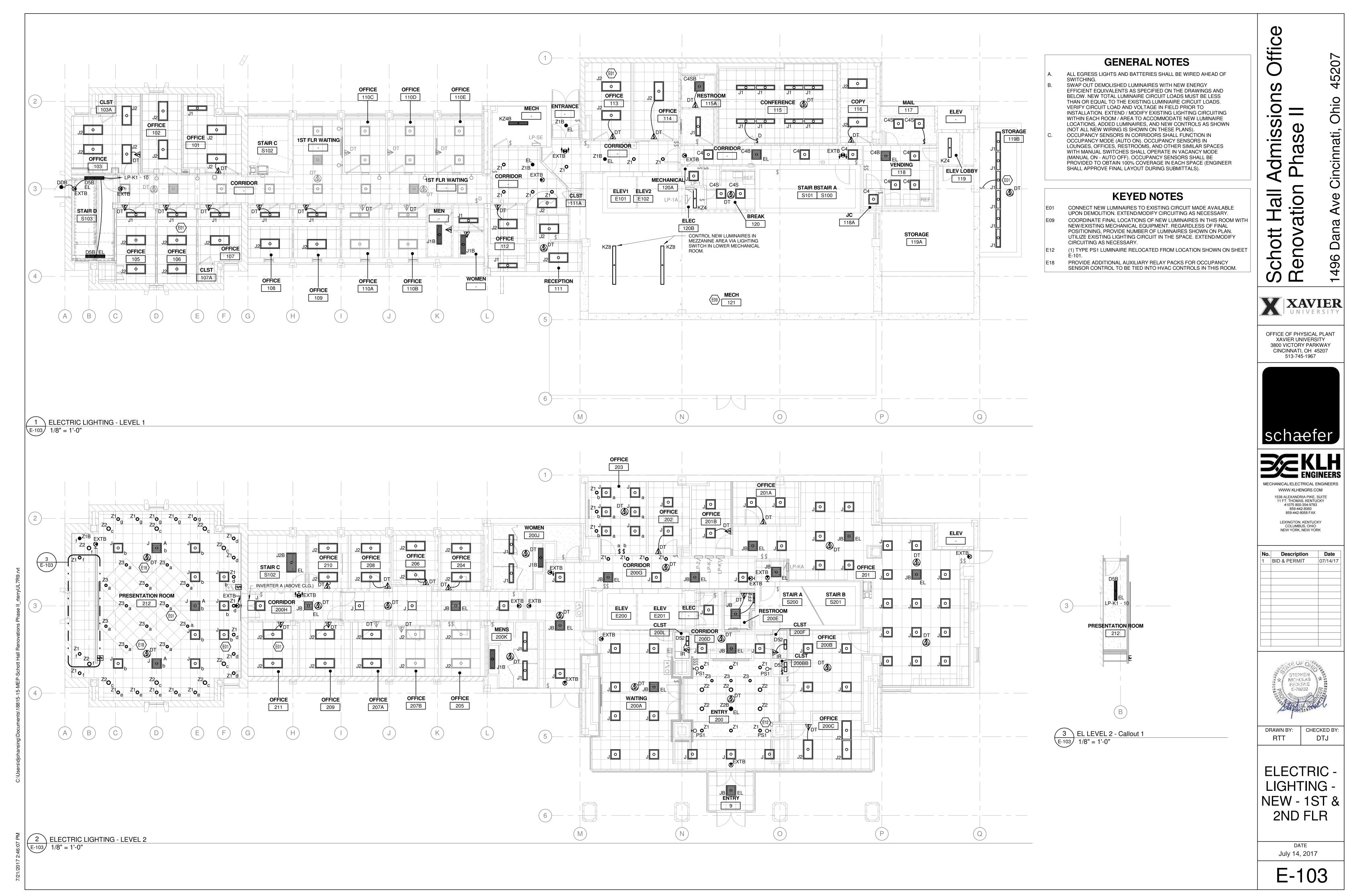
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1 BID & PERMIT

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ELECTRIC -VIDEO WALL **DETAILS** 

DATE July 14, 2017 E-642



Phase **XAVIER** 

45207 Ohio Cincinnati, Ave Dana 496

DATE July 14, 2017

E-103

DTJ

# Interior Lighting Compliance Certificate

2009 IECC

**Section 1: Project Information** 

Project Type: Alterations

Section 2: Interior Lighting and Power Calculation

Floor Area (sq. ft.) Watts per sq. ft. Allowed Watts Proposed Watts Compli

Postion 2: Interior Lighting Eighture Cohodule

Туре	Lamp Type	Ballast / Driver	Lamp Qty	Count	Load	Total Load
C4	39W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 7		39 VA	274 VA
C4B	39W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 2		39 VA	78 VA
C4S	40W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 4		40 VA	160 VA
C4SB	40W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 1		40 VA	40 VA
D5B	40W LED, 3500K, 80 CRI	INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE, 1400 LUMEN EMERGENCY BATTERY PACK	1 3		40 VA	120 VA
D52	7.5W LED, 3500K, 80 CRI	INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE	1 3		8 VA	23 VA
DDB	54W LED, 4000K, 70+ CRI	INTEGRAL ELECTRONIC, MVOLT, -20 DEGREE, 1100 LUMEN EMERGENCY BATTERY PACK	1 1		54 VA	54 VA
FF2	26W LED, 3500K, 90+ CRI	INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE	1 1		26 VA	26 VA
J	36W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 72	2	36 VA	2592 VA
J1	30W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 26	3	30 VA	780 VA
J1B	30W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 4		30 VA	120 VA
J2	61W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 41		61 VA	2501 VA
J2B	61W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP	1 1		61 VA	61 VA
JB	36W LED, 3500K, 82 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 13	3	36 VA	468 VA
KZ4	45W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 2		45 VA	90 VA
KZ4B	45W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V, BATTERY BACKUP	1 1		45 VA	45 VA
KZ8	88W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 11		88 VA	968 VA
KZ8B	88W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 2		88 VA	176 VA
PS1	29 W LED, 3500K, 85+CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 4		29 VA	116 VA
Z1	18W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 40	)	18 VA	720 VA
Z1B	18W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 4		18 VA	72 VA
<b>7</b> 2	18W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 15	5	18 VA	270 VA
Z2B	23W LED, 3500K, 80 CRI	PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	1 1		23 VA	23 VA
Z3	15W LED, 3500K, 80 CRI	ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	1 15	5	15 VA	225 VA

<b>Type</b>	Description RECESSED SHALLOW	Manufacturer / Series NEW STAR STARTILE 22-24	Size	Housing / Mounting  RECESSED - SEE ALU	<b>Material</b> JMINUM	Lens Description OPAL POLYCARBONATE LENS	Qty Lamp Type		Qty	Ballast / Driver ELECTRONIC,	Finish WHITE	Comments	Fixture Load	Voltage 120 V
C4	RECESSED SHALLOW	GRID MARK ARCHITECTURAL PHILLIPS OR APPROVED EQUAL	2 X2 X.56	DRAWINGS FOR CEILING TYPE	JMINUM	OPAL POLYCARBONATE LENS	39W LED, 3500K, 82 CRI	LUMENS		INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHILE		39 VA	120 V
C4B	RECESSED SHALLOW		2'x2'x.56"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	OPAL POLYCARBONATE LENS 1	39W LED, 3500K, 82 CRI	3750 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	WHITE		39 VA	120 V
C4S	SURFACE	NEW STAR STARTILE 22-24 SURFACE MARK ARCHITECTURAL PHILLIPS	2'x2'x1.31"	WALL/SURFACE ALU	JMINUM	OPAL POLYCARBONATE LENS 1	40W LED, 3500K, 82 CRI	3750 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE		40 VA	120 V
C4SB	SURFACE	OR APPROVED EQUAL  NEW STAR STARTILE 22-24 SURFACE MARK ARCHITECTURAL PHILLIPS OR APPROVED EQUAL	2'x2'x1.31"	WALL/SURFACE ALU	JMINUM	OPAL POLYCARBONATE LENS 1	40W LED, 3500K, 82 CRI	3750 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP,	WHITE		40 VA	120 V
D5B	WALL BRACKET - BATTERY	LITHONIA WL4 DAYBRITE COLUMBIA WILLIAMS SL4	4'x7"x3-1/4"	SURFACE WALL STE	EEL	ACRYLIC PRISMATIC DIFFUSER - BATTERY 1	40W LED, 3500K, 80 CRI	4100 1 LUMENS		I120V-277V  INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE, 1400 LUMEN EMERGENCY	WHITE	FIELD REPLACEABLE LED MODULE AND DRIVER	40 VA	120 V
D52	WALL BRACKET	METALUX  LITHONIA WL2  DAYBRITE  COLUMBIA  WILLIAMS SL4	4'x7"x3-1/4"	SURFACE WALL STE	EEL	ACRYLIC PRISMATIC DIFFUSER 1	7.5W LED, 3500K, 80 CRI	800 LUMENS 1		INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE	WHITE	FIELD REPLACABLE LED MODULE AND DRIVER	8 VA	120 V
DDB	EXTERIOR WALL MOUNT CUTOFF - BATTERY	METALUX  GARDCO 101L LITHONIA WST LED 2 MCGRAW-EDISON IST B02	16-1/4"x9"x7"	SURFACE ALU	JMINUM	CLEAR FLAT TEMPERED GLASS LENS, TYPE 1 III OPTICAL DISTRIBUTION	54W LED, 4000K, 70+ CRI	4000 2 LUMENS		INTEGRAL ELECTRONIC, MVOLT, -20 DEGREE, 1100 LUMEN EMERGENCY	FINISH SELECTED BY ARCHITECT	WET LISTED, FIELD REPLACEABLE LED MODULE AND DRIVER, INTEGRAL PHOTOCELL CONTROL	54 VA	120 V
EXB	EXIT SIGN - BATTERY - THERMOPLASTIC	LITHONIA LOM EL-N DUAL-LITE LX-E SURELITES LPX-7	12"x8"x2"	UNIVERSAL, REFER THE	ERMOPLASTIC	STENCIL FACE 1	0W LED, WITH SIGN	0		NO BALLAST	WHITE	RED LETTERS, NI-CAD BATTERY OPERATION	1 VA	120 V
EXTB	EXIT SIGN - EDGE LIT - BATTERY - CLEAR ACRYLIC	WILLIAMS EXIT-EM  LITHONIA LRP  CHLORIDE ER45VXL  DUAL-LITE LE EL N  SURE-LITES ELX6	12"x8"x2"	UNIVERSAL, REFER STE	EEL	STENCIL FACE, ACRYLIC PANEL MIRRORED 1 BACKGROUND	0W LED, WITH SIGN	0		NO BALLAST	WHITE	RED LETTERS, NI-CAD BATTERY OPERATION	3 VA	120 V
FF2	LINEAR RECESSED - DIRECT	EXITRONIX 900E  FOCAL POINT SEEM 4 NULITE REGOLO PRUDENTIAL MARK ARCHITECTURAL FINELITE FOCAL POINT PINNACLE LEDALYTE AXIS LIGHTING NEO-RAY	2'x3.5"x3.75"	RECESSED (COORDINATE CEILING TYPE WITH REFLECTED CEILING PLANS)	EEL	FROSTED 1	26W LED, 3500K, 90+ CRI	2000 1 LUMENS		INTEGRAL ELECTRONIC, MVOLT, 0-10V DIMMABLE	FINISH SELECTED BY ARCHITECT	FIELD REPLACEABLE LED MODULE AND DRIVER	26 VA	120 V
J	LED ARCHITECTURAL LUMINAIRE	LITHONIA 2AVL COLUMBIA PHILIPS METALUX TO MATCH AESTHETIC OF PRIOR PHASE	2'x2'x5-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	36W LED, 3500K, 82 CRI	3000 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE		36 VA	120 V
J1	LED ARCHITECTURAL LUMINAIRE	LITHONIA AVL COLUMBIA PHILIPS METALUX TO MATCH AESTHETIC OF	4'x1'x5-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	30W LED, 3500K, 82 CRI	2500 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE		30 VA	120 V
J1B	LED ARCHITECTURAL LUMINAIRE	PRIOR PHASE3  LITHONIA AVL COLUMBIA PHILIPS METALUX TO MATCH AESTHETIC OF	4'x1'x5-1/2"	RECESSED - SEE STE DRAWINGS FOR CEILING TYPE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	30W LED, 3500K, 82 CRI	2500 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP,	WHITE		30 VA	120 V
J2	LED ARCHITECTURAL LUMINAIRE	PRIOR PHASE  LITHONIA 2AVL  COLUMBIA  PHILIPS  METALUX  TO MATCH AESTHETIC OF	4'x2'x5-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	61W LED, 3500K, 82 CRI	5000 1 LUMENS		120V-277V ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE		61 VA	120 V
J2B	LED ARCHITECTURAL LUMINAIRE	PRIOR PHASE  LITHONIA 2AVL  COLUMBIA  PHILIPS  METALUX	4'x2'x4-5/16"	RECESSED GRID STE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	61W LED, 3500K, 82 CRI	5000 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN	WHITE		61 VA	120 V
JB	LED ARCHITECTURAL LUMINAIRE	LITHONIA 2AVL COLUMBIA PHILIPS METALUX TO MATCH AESTHETIC OF PRIOR PHASE	2'x2'x5-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	EEL	HIGH TRANSMISSION EXTRUDED ACRYLIC 1	36W LED, 3500K, 82 CRI	3000 LUMENS		BATTERY BACKUP  ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	WHITE		36 VA	120 V
KZ4	LED ENCLOSED NON-METALLIC INDUSTRIAL	LITHONIA FEM LED COLUMBIA LXEM4 DAYBRITE DWA ILP WT METALUX 4VT2	4'x8-1/8"x5-3/4"	SURFACE OR CHAIN FIBE	ERGLASS	GASKETED ACRYLIC LINEAL FROSTED DIFFUSER	45W LED, 3500K, 80 CRI	6000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE	MOUNTING AS INDICATED ON PLANS, IP67 RATING, FIELD REPLACEABLE LED MODULE AND DRIVER	45 VA	120 V
KZ4B	LED ENCLOSED NON-METALLIC INDUSTRIAL - BATTERY	LITHONIA FEM LED COLUMBIA LXEM4 DAYBRITE DWA ILP WT METALUX 4VT2	4'x8-1/8"x5-3/4"	SURFACE OR CHAIN FIBE	ERGLASS	GASKETED ACRYLIC LINEAL FROSTED DIFFUSER	45W LED, 3500K, 80 CRI	6000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V, BATTERY BACKUP	WHITE	MOUNTING AS INDICATED ON PLANS, IP67 RATING, FIELD REPLACEABLE LED MODULE AND DRIVER	45 VA	120 V
KZ8	LED ENCLOSED NON-METALLIC INDUSTRIAL	LITHONIA FEM LED COLUMBIA LXEM4 DAYBRITE DWA ILP WT METALUX 4VT2	8'x6-4/5"x5-3/4"	SURFACE OR CHAIN FIBE	ERGLASS	GASKETED ACRYLIC LINEAR FROSTED DIFFUSER	88W LED, 3500K, 80 CRI	12000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	WHITE	MOUNTING AS INDICATED ON PLANS, IP67 RATING, FIELD REPLACEABLE LED MODULE AND DRIVER	88 VA	120 V
KZ8B	LED ENCLOSED NON-METALLIC INDUSTRIAL	LITHONIA FEM LED COLUMBIA LXEM4 DAYBRITE DWA ILP WT METALUX 4VT2	8'x6-4/5"x5-3/4"	SURFACE OR CHAIN FIBE	ERGLASS	GASKETED ACRYLIC LINEAR FROSTED DIFFUSER	88W LED, 3500K, 80 CRI	12000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	WHITE	MOUNTING AS INDICATED ON PLANS, IP67 RATING, FIELD REPLACEABLE LED MODULE AND DRIVER	88 VA	120 V
PS1	WALL SCONCE	WAC LIGHTING BLOK WS OF APPROVED EQUAL TO MATCH EXISTING	R 1'x7"x3-3/4"	WALL/SURFACE ALU	JMINUM	UP/DOWN ACRYLIC LENS	29 W LED, 3500K, 85+CRI	1162 1 LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE,	WHITE		29 VA	120 V
Z1	LED ARCHITECTURAL DOWNLIGHT	PORTFOLIO LD610 JUNO TC922LED LITEFRAME LF6LED	6" DIAx15"x7-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	SEMI-SPECULAR REFLECTOR, MEDIUM DOWNLIGHT OPTIC	18W LED, 3500K, 80 CRI	1000 1 NOMINAL LUMENS		120V-277V ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	SELF TRIM	REMOTE PHOSPHOR LENS, FIELD REPLACEABLE LED MODULE AND DRIVER	18 VA	120 V
Z1B	LED ARCHITECTURAL DOWNLIGHT	PATHWAY 6VLFLX PORTFOLIO LD610 JUNO TC922LED LITEFRAME LF6LED LIGHTOLIER C6L	6" DIAx15"x7-1/2"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	SEMI-SPECULAR REFLECTOR, MEDIUM DOWNLIGHT OPTIC	18W LED, 3500K, 80 CRI	1000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	SELF TRIM	REMOTE PHOSPHOR LENS, FIELD REPLACEABLE LED MODULE AND DRIVE	18 VA	120 V
72	LED ARCHITECTURAL DOWNLIGHT	PATHWAY 8VLFLX PORTFOLIO JUNO LITEFRAME LIGHTOLIER	8" DIAx15"x8-1/4"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	SEMI-SPECULAR REFLECTOR, MEDIUM DOWNLIGHT OPTIC	18W LED, 3500K, 80 CRI	1500 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	SELF TRIM	REMOTE PHOSPHOR LENS, FIELD REPLACEABLE LED MODULE AND DRIVE	18 VA	120 V
Z2B	LED ARCHITECTURAL DOWNLIGHT	PATHWAY A6LBV PORTFOLIO JUNO LITEFRAME LIGHTOLIER	6" DIAx19"x9-1/4"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	SEMI-SPECULAR REFLECTOR, MEDIUM DOWNLIGHT OPTIC	23W LED, 3500K, 80 CRI	2000 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, PROVIDE 1400 LUMEN BATTERY BACKUP, 120V-277V	SELF TRIM	REMOTE PHOSPHOR LENS, FIELD REPLACEABLE LED MODULE AND DRIVE	23 VA	120 V
<b>Z</b> 3	LED ARCHITECTURAL DOWNLIGHT	PATHWAY 4VLFLX PORTFOLIO JUNO LITEFRAME LIGHTOLIER INNOVATIVE	4" DIAx12"x7"	RECESSED - SEE DRAWINGS FOR CEILING TYPE	JMINUM	SEMI-SPECULAR REFLECTOR, MEDIUM DOWNLIGHT OPTIC, PROVIDE ROUNDED GLASS CAP TO MATCH EXISTING	15W LED, 3500K, 80 CRI	1100 1 NOMINAL LUMENS		ELECTRONIC, INTEGRAL DRIVER, 0-10V DIMMABLE, 120V-277V	SELF TRIM	REMOTE PHOSPHOR LENS, FIELD REPLACEABLE LED MODULE AND DRIVER	15 VA	120 V

ENERGY INCENTIVES
ALL NEW LED LUMINAIRES SHALL BE ON THE DLC LIST (DESIGNLIGHTS CONSORTIUM).
AFTER PRODUCT PURCHASE, SUBMIT TO DUKE-ENERGY FOR PRESCRIPTIVE LED
REBATES FOR EACH LED LUMINAIRE THAT REPLACED A FLUORESCENT LUMINAIRE OR
HID LUMINAIRE. THE REBATES SHALL BE RETURNED BACK TO THE OWNER.

ELECTRIC -LUMINAIRE SCHEDULE

> DATE July 14, 2017

Automatic Transfer Switch

Switchboard

Branch Panelboard

Busway/Busduct

Branch Panelboard

ATS

208V DIST

LP-2

LP-K1

LP-1

----- LP-1A

LP-K

- LP-KA

208V BUS

- MCC-E

---- LP-SE

Existing

Existing

Existing

Existing

TYPICAL EQUIPMENT NAME NOMENCLATURE: 1 - POWER DISTRIBUTION SYSTEM (BLANK - NORMAL, E - EMERGENCY, S - STANDBY, L - LIFE SAFETY) 2 - DESCRIPTION (H - 480Y/277V, L - 208Y/120V) 3 - FLOOR / LEVEL 4 - SEQUENCE

VOLTAGE POLES WIRES DEMAND (kVA)

232.5 kVA

212.9 kVA

46.4 kVA

46.4 kVA

1.4 kVA

190.8 kVA

183.6 kVA

27.8 kVA

31.8 kVA

21.8 kVA

41.4 kVA

15.2 kVA

59.7 kVA

27.5 kVA

510 A

FEEDER ID NOMENCLATURE: \* - INDICATES FEEDER SIZED TO COMPENSATE FOR VOLTAGE DROP 1 - GROUND TYPE (MAY BE BLANK) U = EQUIPMENT GROUND CONDUCTOR REMOVED FOR SERVICE ENTRANCE FROM UTILITY P = PARITY-SIZED EQUIPMENT GROUND CONDUCTOR X = EXISTING FEEDER TO REMAIN UNLESS OTHERWISE NOTED

ELECTRIC SINGLE LINE EQUIPMENT SCHEDULE1

FRAME

DEMAND (A) RATING (A) RATING (A)

2 - CONDUCTOR AMPACITY 3 - TOTAL NUMBER OF PHASE AND GROUNDED ("NEUTRAL") CONDUCTORS 4 - CONDUCTOR MATERIAL: C = COPPER, A = ALUMINUM I = ISOLATED GROUND (PROVIDE CONTINUOUS INSULATED ISOLATED EQUIPMENT GROUNDING CONDUCTOR(S) FROM INSULATED ISOLATED GROUND BAR(S) TO

T:	= UPSIZED GROUND CONDU	JCTORS FOR T	RANSFORMER SECONDARY RESPE	CTIVE UPSTREAM SI	ERVICE ENTRANCE	OR DE	RIVED	SYSTEM GRO	DUNDING ELEC	TRODE CONDUCTOR A	S APPLICA	BLE.	
S E (A)	MAINS TYPE	FEEDER ID	FEEDER	VD S	6 LUGS TYPE	SPD	ULSE	MOUNTING	ENCLOSURE TYPE	200% NEUTRAL K-RATING	FAULT CURRENT (A)	SHORT CIRCUIT RATING (A)	NOTES
FL	ISED	X600	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERW	'ISE 0.052	:		Yes	Floor	NEMA 1		16908	EXISTING	
10	0% ELECTRONIC LSI	XC-620-4C	EXISTING FEEDER, (2) SETS OF (4) #350 KCMIL CU, (1) #1 AWG CU GND. IN 3" CON	NDUIT EACH 0.105				Floor	NEMA 1		16465	EXISTING	
T⊦	IERMAL MAGNETIC	X125	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERW	'ISE 0.122				Surface	NEMA 1		15852	EXISTING	
T⊢	IERMAL MAGNETIC	X125	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERW	'ISE 0.125				Floor	NEMA 1		15771	EXISTING	
T⊦	IERMAL MAGNETIC	X20	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERW	'ISE 0.147	'			Surface	NEMA 1		7110	EXISTING	
FL	ISED	X1000	EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERW	'ISE 0.135			Yes	Floor	NEMA 1		16559	EXISTING	
10	0% ELECTRONIC LSI	XC-MANUAL	EXISTING, 1000A 3-PHASE, 4-WIRE CU BUSWAY WITH 100% GROUND AND 100% N	NEUTRAL 0.175				Floor	NEMA 1		16420	EXISTING	
FL	ISED	XC-230-4C	EXISTING FEEDER, (4) #4/0 AWG CU, (1) #4 AWG CU GND. IN 3" CONDUIT	0.376				Surface	NEMA 1		12940	EXISTING	
FL	ISED	XC-230-4C	EXISTING FEEDER, (4) #4/0 AWG CU, (1) #4 AWG CU GND. IN 3" CONDUIT	0.383				Surface	NEMA 1		13053	EXISTING	
FL	ISED	XC-230-4C	EXISTING FEEDER, (4) #4/0 AWG CU, (1) #4 AWG CU GND. IN 3" CONDUIT	0.352				Surface	NEMA 1		12859	EXISTING	
T⊦	IERMAL MAGNETIC	XC-230-4C	EXISTING FEEDER, (4) #4/0 AWG CU, (1) #4 AWG CU GND. IN 3" CONDUIT	0.309				Surface	NEMA 1		14392	EXISTING	
T⊦	IERMAL MAGNETIC	!XC-95-4C	EXISTING FEEDER, (4) #2 AWG CU, (1) #8 AWG CU GND. IN 1-1/4" CONDUIT	0.331				Surface	NEMA 1		13548	EXISTING	
FL	ISED	XC-230-4C	EXISTING FEEDER, (4) #4/0 AWG CU, (1) #4 AWG CU GND. IN 3" CONDUIT	0.635				Surface	NEMA 1		12910	EXISTING	
T⊦	IERMAL MAGNETIC	!XC-95-4C	EXISTING FEEDER, (4) #2 AWG CU, (1) #8 AWG CU GND. IN 1-1/4" CONDUIT	0.875				Recessed	NEMA 1		9684	EXISTING	

#### **GENERAL ELECTRICAL INSTALLATION NOTES**

SPACE

NUMBER

MCC-E

UTILITY

208V DIST

208V BUS

208V BUS

208V BUS

208V BUS

208V BUS 200G

200G

200G

200G

120B ELEC

120B ELEC

SPACE NAME

CORRIDOR

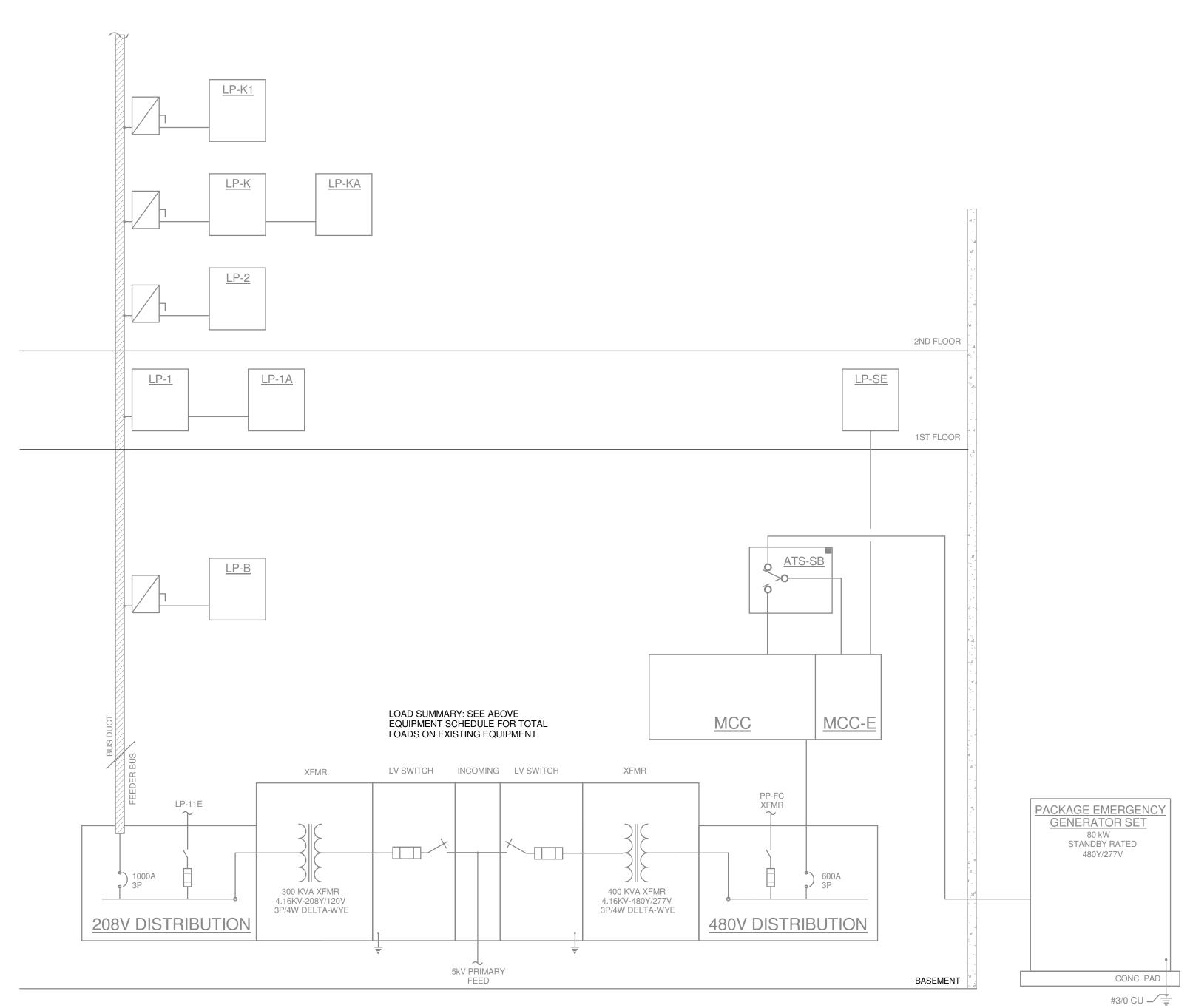
CORRIDOR

CORRIDOR

- EXTERIOR ELECTRICAL WORK SHALL NOT ONLY BE WEATHERPROOF AND WATER-TIGHT, BUT SHALL ALSO BE RUST-RESISTANT. PROVIDE XHHW-2 CONDUCTORS FOR ALL APPLICATIONS THAT ARE BELOW GRADE OR SUBJECT
- UNLESS INDICATED OTHERWISE, PROVIDE FULLY-RATED OR SERIES-RATED OVERCURRENT PROTECTION (OCP) AS REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NFPA 70. PROVIDE EQUIPMENT AND OCP RATED TO MEET OR EXCEED THE CALCULATED AVAILABLE SERIES-RATED FAULT CURRENT AT THE RESPECTIVE NODE IN THE POWER DISTRIBUTION SYSTEM. SERIES-RATED BREAKERS/SYSTEMS ARE NOT PERMITTED WHERE PROHIBITED BY PREVAILING CODES AND STANDARDS, INCLUDING APPLICATIONS INVOLVING MOTOR
- CONTRIBUTION AS ADDRESSED IN ARTICLE 240.86(C) OF NFPA 70. PROVIDE GROUNDING ELECTRODE CONDUCTORS IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), INCLUDING ARTICLE 250
- AND TABLE 250.66. THESE CONDUCTORS MAY OR MAY NOT BE INDICATED ON SINGLE-LINE DIAGRAMS, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), INCLUDING ARTICLE 250 AND TABLE 250.122. THESE CONDUCTORS MAY OR MAY NOT BE INDICATED ON SINGLE-LINE DIAGRAMS, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.
- LOCATIONS AND ROUTING INDICATED ON PLANS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. LAYOUT AND INSTALL ALL ELECTRICAL WORK IN STRICT COMPLIANCE WITH CHAPTER 1, PART II, ARTICLE 110.26 OF THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70).
- HOLD ALL NEW OVERHEAD ELECTRICAL WORK AS TIGHTLY AS POSSIBLE TO THE BOTTOM OF THE OVERHEAD STRUCTURE. DO NOT INSTALL ANY ELECTRICAL WORK WITHIN SIX INCHES OF LAYOUT ALL PROPOSED RACEWAY ROUTING, ELEVATIONS, INSTALLATION METHODS, ETC. ON

COORDINATION DRAWINGS AND COORDINATE ALL PROPOSED RACEWAY ROUTING WITH ALL

- AFFECTED TRADES PRIOR TO COMMENCING WITH WORK. IN ADDITION, REVIEW THE INFORMATION WITH ARCHITECT, ENGINEER AND OWNER FOR ALL AREAS WHERE THE RACEWAYS WILL BE VISIBLE AFTER COMPLETION OF CONSTRUCTION. REFER TO AND COORDINATE WITH POWER FLOOR PLANS, EQUIPMENT SCHEDULES (INCLUDING EQUIPMENT COORDINATION SCHEDULES), DRAWINGS OF ALL TRADES, ALL DIVISIONS AND SECTIONS OF SPECIFICATIONS AND INSTALLERS OF ALL TRADES. BASED ON ACTUAL EQUIPMENT BEING PROVIDED, DETERMINE AND PROVIDE APPROPRIATE BREAKERS, FUSES, CONDUCTORS, CONTROLS, POWER DISTRIBUTION EQUIPMENT, ETC. PERFORM THESE
- SERVICES PRIOR TO FURNISHING POWER DISTRIBUTION EQUIPMENT SUBMITTALS. LOCATE JUNCTION AND PULL BOXES SO THAT THEY REMAIN ACCESSIBLE AFTER ALL CONSTRUCTION WORK IS COMPLETE. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR
- TO COMMENCEMENT OF THE WORK. UNLESS INDICATED OTHERWISE, PROVIDE NEMA 3R ENCLOSURES FOR ALL OUTDOOR EQUIPMENT AND ALL INDOOR EQUIPMENT THAT IS SUBJECT TO MOISTURE. PROVIDE NEMA 1
- ENCLOSURES FOR ALL OTHER INDOOR EQUIPMENT. PROVIDE FLUSH MOUNTED EQUIPMENT FOR APPLICATIONS IN FINISHED AREAS AND COORDINATE THESE LOCATIONS AND INSTALLATIONS WITH ARCHITECT, OWNER AND AFFECTED TRADES. ELSEWHERE PROVIDE SURFACE MOUNTED EQUIPMENT UNLESS FLUSH MOUNTED
- EQUIPMENT IS NEEDED TO ACCOMMODATE UNUSUAL CONDITIONS. IN ADDITION TO PANEL LABELING REQUIRED WITHIN THE SPECIFICATIONS, EACH PANEL SHALL ALSO BE LABELED WITH ITS CORRESPONDING MAXIMUM AIC (AVAILABLE INRUSH CURRENT) AS INDICATED NEXT TO EACH PANEL ON THIS PLAN PER NEC REQUIREMENTS.
- PROVIDE LUGS, LUG KITS AND RELATED ACCESSORY WORK AS REQUIRED TO ACCOMMODATE THE CONDUCTOR SIZES AND QUANTITIES NEEDED FOR EACH APPLICATION. COORDINATE WITH SINGLE-LINE DIAGRAM, FIELD CONDITIONS, ETC.
- PROVIDE THE FOLLOWING SUPPLEMENTAL WORK FOR ALUMINUM-CONDUCTOR ELECTRICAL EQUIPMENT CONNECTIONS, REGARDLESS OF WHO FURNISHES THE EQUIPMENT: REVIEW EQUIPMENT SUBMITTALS, INSTALLATION DOCUMENTS AND NAMEPLATES TO DETERMINE IF THERE ARE ANY WARRANTY OR UL LIMITATIONS REGARDING COPPER VERSUS ALUMINUM WIRING CONNECTIONS AT EQUIPMENT; IF THERE ARE ANY LIMITATIONS, PROVIDE LOCAL DISCONNECT AT OR NEAR EQUIPMENT (EXTERNAL TO THE EQUIPMENT) AND TERMINATE ALUMINUM CONDUCTORS TO THE LINE-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH; PROVIDE COPPER CONDUCTORS FROM LOAD-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH TO THE RESPECTIVE EQUIPMENT FACTORY DISCONNECT OR LUG/TERMINALS AS APPLICABLE; COORDINATE ALL RELATED WORK WITH ALL AFFECTED INSTALLERS.
- PRIOR TO COMMENCEMENT OF WORK, TRACE ALL FEEDERS AND BRANCH CIRCUITS WITHIN THE PROJECT AREA, AND AFFECTED BY THE PROJECT, AND DOCUMENT THE RESULTS. DETERMINE AND DOCUMENT EXISTING LOADS FOR ALL CIRCUITS AND FEEDERS WITH LOADS THAT WILL REMAIN. CREATE CURRENT AS-BUILT DIRECTORIES FOR ALL POWER DISTRIBUTION EQUIPMENT. LIKEWISE. DETERMINE AND DOCUMENT ROUTING AND SPECIFICS FOR ALL RELEVANT EXISTING CONDUITS AND PATHWAYS FOR ALL SYSTEMS. SUBMIT THIS INFORMATION TO OWNER AND DESIGN PROFESSIONALS AS INFORMATIONAL SUBMITTALS.
- HOME-RUN DESIGNATIONS INDICATED ON PLANS ARE SCHEMATIC DESIGNATIONS ONLY. DETERMINE EXACT CIRCUIT ASSIGNMENTS IN FIELD BASED ON FIELD CONDITIONS. PROVIDE COLOR-CODED CONDUCTOR INSULATION ACCORDINGLY, CODED PROPERLY DEPENDING ON SYSTEM, PHASE, NEUTRAL, ETC. PROVIDE EQUIPMENT AND PANELBOARD SCHEDULES THAT ACCURATELY INDICATE INSTALLED CONDITIONS. IN CASES WHERE NEW LOADS ARE INDICATED TO BE CONNECTED TO EXISTING CIRCUITS WITH
- EXISTING LOADS, CHECK RESULTANT LOAD IN ADVANCE TO ENSURE COLLECTIVE LOAD DOES NOT EXCEED 80 PERCENT OF THE SOURCE CIRCUIT BREAKER AMPERE RATING. IF THAT LOAD IS EXCEEDED, PROVIDE ADDITIONAL CIRCUIT HOME-RUN WORK TO SOURCE PANELBOARD(S) AS REQUIRED TO ACCOMMODATE THE ENTIRE RESULTANT LOAD. DETERMINE ALL APPLICABLE CONDITIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK. IN CASES WHERE EXISTING CIRCUITS ARE REUSED (BASED ON INFORMATION SHOWN ON
- DRAWINGS OR BASED ON FIELD CONDITIONS) BUT MUST BE CONNECTED TO BREAKERS OTHER THAN THEIR ORIGINAL BREAKER. MODIFY COLOR-CODING AS REQUIRED IF THE NEW BREAKER ASSIGNMENT IS CONNECTED TO A DIFFERENT LINE/PHASE THAN THE ORIGINAL ONE. USE MEANS AND METHODS COMPLIANT WITH NFPA 70 AND WITH AUTHORITIES HAVING JURISDICTION. PROVIDE NEW BRANCH CIRCUIT BREAKERS, TO MATCH EXISTING IN MANUFACTURER, MODEL
- AND AIC RATING, AS REQUIRED TO RENDER ALL NEW AND MODIFIED ELECTRICAL WORK FULLY PERFORM FEEDER TAPS IN ACCORDANCE WITH NFPA 70. PERFORM FEEDER TAPS TO
- PARALLELED-SET FEEDERS BY RESPECTIVELY TAPPING ALL PHASE, GROUNDED AND GROUNDING CONDUCTORS TO ENSURE UNIFORM CURRENT FLOW IN ALL SETS. PROTECT EXISTING ELECTRICAL WORK SERVING EXISTING SPACES AND EQUIPMENT THAT MUST REMAIN OPERATIONAL DURING PART OR ALL OF THE CONSTRUCTION PERIOD, AND ENSURE POWER CONTINUITY IS MAINTAINED FOR SAME THROUGHOUT DURATION OF CONSTRUCTION
- ACTIVITIES. SEE SPECIFICATIONS FOR FURTHER INFORMATION. AMPERE RATINGS INDICATED ON DRAWINGS FOR CIRCUIT BREAKERS ARE SHOWN TO DEFINE OVERCURRENT REQUIREMENTS/TRIP RATINGS. PROVIDE BREAKER FRAMES IN SIZES AND TYPES GREATER THAN THE DESIGNATED OVERCURRENT TRIP RATINGS WHERE NECESSARY TO ACHIEVE THE REQUIRED SELECTIVE COORDINATION, AND/OR AS NECESSARY FOR OTHER APPLICABLE REASONS
- FOR ALL CIRCUIT BREAKERS WHERE THE CURRENT TRIP SETTING IS RATED AT, OR CAN BE ADJUSTED TO, 1200A OR LARGER, PROVIDE DOCUMENTATION AS TO THE LOCATION OF THESE CIRCUIT BREAKERS IN THE SYSTEM AND PROVIDE AT LEAST (1) OF THE (4) MEANS TO REDUCE THE CLEARING TIME AS NOTED IN ARTICLE 240.87(B) OF NFPA 70.



Offi mission ha 0 atio chott 

**ENGINEERS** MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY

41075 800-354-9783

859-442-8050 859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO

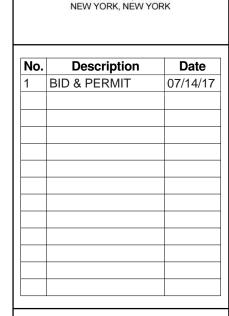
OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY

3800 VICTORY PARKWAY

CINCINNATI, OH 45207

513-745-1967





CHECKED BY: DRAWN BY:

RTT **ELECTRIC** -SINGLE

SCHEDULES July 14, 2017

SWBD: 208V DIST SUPPLY FROM: UTILITY LOCATION: **DISTRIBUTION SYSTEM:** 208V 3PH MAINS RATING (A): 1000

FAULT CURRENT (A): 16559 SHORT CIRCUIT RATING (A): EXISTING **ENCLOSURE TYPE:** NEMA 1 SURGE SUPRESSION: ULSE: Yes 200% NEUTRAL:

MAINS TYPE: FUSED FEEDER ID: X1000 FEEDER: EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE NOTES:

СКТ	TRIP	POLE	CIRCUIT DE	ESCRIPTION	Load
1	1000 A	3	208\	/ BUS	15.09 kVA
2	60 A	3	(EX) L	_P-11E	7.20 kVA
3					
4					
LOAD	CLASS	FICATION	N CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Contir	nuous		310 VA	125.00%	388 VA
Lightir	ng		177 VA	125.00%	221 VA
Misc			6240 VA	100.00%	6240 VA
Recep	otacle		3960 VA	100.00%	3960 VA
Motor			880 VA	122.73%	1080 VA
				-	

EXISTING CONNECTED LOAD: 175369 VA EXISTING DEMAND FACTOR: 100.00%

EXISTING DEMAND: 175369 VA PANEL TOTALS TOTAL CONNECTED LOAD: 190462 VA TOTAL ESTIMATED DEMAND: 190784 VA TOTAL ESTIMATED DEMAND AMPS: 530 A

NOTES:

SWBD: 480V DIST SUPPLY FROM: UTILITY FAULT CURRENT (A): 16908 SHORT CIRCUIT RATING (A): EXISTING LOCATION: **DISTRIBUTION SYSTEM:** 480V 3PH **ENCLOSURE TYPE:** NEMA 1 MAINS RATING (A): 600 SURGE SUPRESSION: MAINS TYPE: FUSED ULSE: Yes FEEDER ID: X600 200% NEUTRAL: FEEDER: EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE

CKT	TRIP	POLE	CIRCUIT DE	SCRIPTION	Load
1	600 A	3	MO	CC	80.44 kVA
2	30 A	3	(EX) F	PP-FC	19.60 kVA
3					
4					
LOAD	CLASSI	FICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND
Contin	uous		0 VA	0.00%	0 VA
Lightin	g		0 VA	0.00%	0 VA
Misc			0 VA	0.00%	0 VA
Recep	tacle		0 VA	0.00%	0 VA
Motor			80436 VA	110.53%	88906 VA
		<u> </u>			
			EXISTING CONNECTED LOA	<b>D:</b> 143550 VA	

**EXISTING DEMAND FACTOR:** 100.00% EXISTING DEMAND: 143550 VA PANEL TOTALS TOTAL CONNECTED LOAD: 223986 VA

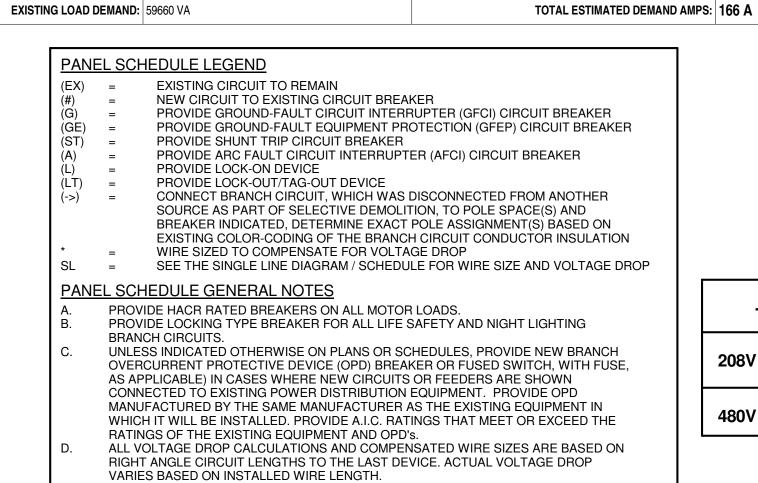
TOTAL ESTIMATED DEMAND: 232456 VA TOTAL ESTIMATED DEMAND AMPS: 280 A

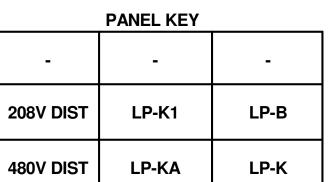
	SUPPLY FR	OM: 208V BUS		М	AINS I	RATING	(A): 22	25				ı	AULT C	URRE	JT (A):	12859			SURGE SUPRESSION:	
		ION: CORRIDOR 200G		•••		AINS TY					9		CIRCUIT				NG		ULSE:	
	DISTRIBUTION SYST							C-230-40						LUGS					200% NEUTRAL:	
	FEED	DER: EXISTING FEEDER, (4) #4/	0 AWG	CU, (1	) #4 A'	WG CU	GND. IN	13" CON	IDUIT				ENCLO	SURE	TYPE:	NEMA	1		MOUNTING: Surface	
СКТ	CIRCUIT	DESCRIPTION	VD%	AWG	GND	TRIP	POLE		4	ı	В		С	POLE	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	СКТ
1	(EX) COPIER-104					20 A	1	1.00	0.60					1	20 A				(EX) REC-220, 221	2
3	(EX) REC-112,118					20 A	1			0.80	1.00			1	20 A				(EX) COPIER-221	4
5	(EX) PLUGMOLD-122					20 A	1					0.60	0.60	1	20 A				(EX) PWR PART&REC-221	6
7	(EX) SPARE					20 A	1	0.00	0.40					1	20 A				(EX) PWR PART-222	8
9	(EX) REC-122					20 A	1			0.90	0.18			1	20 A	#12	#12	0.761	LIGHTING OFFICE 104	10
11	(EX) LTS-205, 207, 210, 2	12				20 A	1					1.20	0.08	1	20 A	#12	#12	0.049	EF-01   MOTOR	12
13	(EX) LTS-204, 206, 209, 2	11				20 A	1	1.50	0.00					1	20 A				(EX) SPARE	14
15	(EX) SPARE					20 A	1			0.00	0.60			1	20 A				(EX) REC-227	16
17	(EX) UNDERCOUNTER R	EFRIGERATOR				20 A	1					0.53	0.30	1	20 A				(EX) REC-228	18
19	(EX) SPARE					20 A	1	0.00	0.60					1	20 A				(EX) VENDING MACH-136	20
21	(EX) BUFFET COUNTER					20 A	1			0.60	0.60			1	20 A				(EX) VENDING MACH-136	22
23	(EX) PASS THRU REFRIC	GERATOR				20 A	1					0.70	0.60	1	20 A				(EX) VENDING MACH-136	24
25	(EX) TABLE					20 A	1	0.86	0.00					1	20 A				(EX) SPARE	26
27	(EX) SPARE					20 A	1			0.00	0.00			1	20 A				(EX) SPARE	28
29	(EX) LTS-218-220					20 A	1					1.20	0.80	1	20 A				(EX) LTS-228	30
31	(EX) LTS-222					20 A	1	0.80	0.70					1	20 A				(EX) LTS-227	32
33	(EX) LTS-224, 225, 227					20 A	1			0.80	0.80			1	20 A				(EX) PWR PART&REC-224, 225	34
35	(EX) COFFEE-128					20 A	1					0.80	0.00	_	00.4				(EV) ODADE	36
37	(EX) REFRIG-128					20 A	1	0.80	0.00					2	20 A				(EX) SPARE	38
39	RECEPT RESTROOM 200	DE .	0.094	#12	#12	20 A	1			0.18	0.00			1	20 A				(EX) SPARE	40
41	DOOR OPERATOR   RES	TROOM 200E	0.178	#12	#12	20 A	1					0.56	0.00	1	20 A				(EX) SPARE	42
			Т	OTAL	CONN	ECTED	LOAD:	7.3	kVA	6.5	kVA	8.0	kVA		1					
LOAI	D CLASSIFICATION	CONNECTED LOAD				DEMAN	ID FAC	ΓOR		'	ESTIM	ATED [	DEMAND	)	NOT	ES:				
Lighti	ing	177 VA				12	25.00%					221 V	4							
	ptacle	180 VA					0.00%					180 V								
Misc		60 VA					0.00%					60 VA								
Motor		80 VA					25.00%					100 V								
	en Equipment r Heater	0 VA 0 VA					0.00%					0 VA 0 VA			$\dashv$					
vvale	ו ו וכמוכו	EXISTING LOAI	os			U	.UU /0					UVA					P	ΔNFI	TOTALS	
	FXISTI	NG CONNECTED LOAD: 20688												TO	TAL CO	NNEC.			21.7 kVA	
		OAD DEMAND FACTOR: 100.00																	21749 VA	
		(ISTING LOAD DEMAND: 20688											TOT		IMATE					

	EXISTING I	DAD DEMAND FACTOR:	100.00%												TOT/	I FSTII	MATFI	D DFM	ΔΝΟ·	21749 VA	
		STING LOAD DEMAND:												TOT		IMATED					
	EXI	STING LOAD DEMAND.	20000 VA											101	AL ESI	IIVIAIEL	DEIVI	AND A	IVIPS.	00 A	
P	ANEL NAMI				М	AINS	RATING	i ( <b>A</b> ): 1	00				ı	FAULT C	URREN	IT (A):	9684			SURGE SUPRESSION:	
	LOCATION	ON: CORRIDOR 200G				M	IAINS T	YPE: T	HERMAL	MAGN	ETIC	5	SHORT	CIRCUIT	RATIN	G (A):	EXIST	ING		ULSE:	
	DISTRIBUTION SYSTI	EM: 208V 3PH					FEEDE	R ID: !>	(C-95-4C	;					LUGS	TYPE:				200% NEUTRAL:	
	FEED	ER: EXISTING FEEDER,	(4) #2 AW	G C	U, (1) ŧ	#8 AW	G CU G	ND. IN	1-1/4" CC	DNDUIT				ENCLO	SURE	TYPE:	NEMA	1		MOUNTING: Recessed	
СКТ	CIRCUIT	DESCRIPTION	v	D%	AWG	GND	TRIP	POLE		4		В		С	POLE	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	Ck
1									1.50	0.00					1	20 A				(EX) SPARE	2
3 (E	X) VAV - 1						20 A	3			1.50	0.00			1	20 A				(EX) SPARE	4
5													1.50	0.00	1	20 A				(EX) SPARE	6
7									1.00	0.50											8
9 (E	X) VAV - 2						20 A	3			1.00	0.50			3	20 A				(EX) VAV - 6	10
11													1.00	0.50							1:
13									1.50	1.30											14
15 (E	X) VAV - 3						20 A	3			1.50	1.30			3	20 A				(EX) VAV - 7	10
17													1.50	1.30							18
19									1.70	0.50					1	20 A				(EX) RCPT	20
21 (E	X) VAV - 4						20 A	3			1.70	0.50			1	20 A				(EX) RCPT	2
23	,												1.70	0.50	1	20 A				(EX) RCPT	24
25 (E	X)						20 A	1	0.50	0.50					1	20 A				(EX)	20
27 (E	•						20 A	1			0.50	0.50			1	20 A				(EX)	28
29 (E							20 A	1					0.50	0.50	1	20 A				(EX)	30
31 (E	<u> </u>						20 A	1	0.50	0.00										SPACE	3:
	PACE										0.00	0.00								SPACE	34
	PACE												0.00	0.00						SPACE	36
	PACE								0.00	0.00										SPACE	3
39 SF											0.00	0.00								SPACE	4
41 SF													0.00	0.00						SPACE	4:
				Т		1	  ECTED	1	9.5	⊥ kVA	9.0	kVA		kVA						0.7.02	
LOAD C	LASSIFICATION	CONNECTED I	LOAD		1		DEMAI							DEMAND	)	NOTI	ES:				
Lighting		0 VA						0.00%					0 VA		<u> </u>						
Receptad		0 VA					(	0.00%					0 VA								
Misc		0 VA					(	0.00%					0 VA								
Motor		0 VA						0.00%					0 VA								
	Equipment	0 VA						0.00%					0 VA								
Water He	eater	0 VA	010400				(	0.00%					0 VA						A NIT'	TOTALO	
	P1//A=11		G LOADS												T0	TAL 00	NINITA			TOTALS	
		NG CONNECTED LOAD:																		27.5 kVA	
		DAD DEMAND FACTOR:																		27500 VA	
	EXI	STING LOAD DEMAND:	27500 VA											TOT	AL EST	IMATED	DEM.	AND A	MPS:	76 A	

	LOCATION SYSTEM	EM: 208V 3PH	## 4/0 ANA O		M	RATING AINS TY FEEDER	PE: FUR ID: X	JSED C-230-4			S			RATINGS 1	G (A): [ TYPE:	EXISTI			SURGE SUPRESSION:  ULSE:  200% NEUTRAL:	
		ER: EXISTING FEEDER, (4)			<u> </u>									SURE 1					MOUNTING: Surface	1
CKT		DESCRIPTION				TRIP	POLE		A 7.00		В		C	POLE	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
	(EX)					20 A	1	0.00	7.20	0.00	7.00				400 A				(50)	2
	(EX)					20 A	1			0.00	7.20	0.00	7.00	3	100 A				(EX)	4
	(EX)					20 A	1	0.00	0.00			0.00	7.20	_	00.4				(EV)	6
	(EX)					20 A	1	0.00	0.00	0.00	0.00			1	20 A				(EX)	8
	(EX)					20 A	1			0.00	0.00	0.00	0.00	1	20 A				(EX)	10
	(EX)					20 A	1					0.00	0.00	1	20 A				(EX)	12
	(EX)					20 A	1	0.00	0.00					1	20 A				(EX)	14
	(EX)					20 A	1			0.00	0.00			1	20 A				(EX)	16
	(EX)					20 A	1					0.00	0.00	1	20 A				(EX)	18
	(EX)					20 A	1	0.00	0.00					1	20 A				(EX)	20
	(EX)					20 A	1			0.00	0.90			1	20 A				(EX) BUILDING FRONT LIGHTING	22
	(EX)					20 A	1					0.00	0.70	1	20 A				(EX) BUILDING FRONT RECEPTACLES	24
	(EX)					20 A	1	0.00	0.00					1	20 A				(EX)	26
	(EX)					20 A	1			0.00	0.00			1	20 A				(EX)	28
	(EX)					20 A	1					0.00	0.80	1	20 A				(EX) SITE RECEPTACLES	30
31	(EX)					20 A	1	0.00	1.00					1	20 A				(EX) SPARE	32
33	(EX) SITE LIGHTING					30 A	2			1.40	1.00			1	30 A				(EX) FOUNTAIN	34
35	(EX) OTTE EIGHTHING					0071	_					1.40	0.60	1	20 A				(EX) SITE POWER PEDESTAL	36
37	(EX) REC & TELE - SITE					20 A	1	0.80	0.00					2	30 A				(EX)	38
39	(EX) SITE LIGHTING					30 A	2			0.80	0.00				00 A					40
41	(LX) SITE EIGITTING					30 A						0.80	0.00	1	20 A				(EX)	42
			Т	OTAL	CONN	ECTED	LOAD:	9.0	kVA	11.3	kVA	11.5	kVA							
	CLASSIFICATION	CONNECTED LOA	/D			DEMAN		TOR			ESTIM/		EMAND	)	NOTE	ES:				
Lightir -	•	0 VA					.00%					0 VA								
Recep	tacle	0 VA					.00%					0 VA								
Misc		0 VA					.00%					0 VA								
Motor Kitche	n Equipment	0 VA 0 VA					.00%					0 VA 0 VA			$\perp$					
	Heater	0 VA					0.00%					0 VA			$\dashv$					
		EXISTING LO	DADS				/-										P	ANEL	TOTALS	
	EXISTII	NG CONNECTED LOAD: 31												TO	TAL CO	NNEC			31.8 kVA	
																			31800 VA	

	FROM: 208V BUS ATION: CORRIDOR 200G		M	M	RATING AINS TY	PE: FU		•		;		FAULT C		G (A):		ING		SURGE SUPRESSION: ULSE: 200% NEUTRAL:	
	EDER: EXISTING FEEDER, (4) #4.	/n awg	CII (1									ENCLO			NΕMΔ	1		MOUNTING: Surface	
	UIT DESCRIPTION		T		TRIP			A		В		C		TRIP			VD%		СКТ
1	DESCRIPTION	VD/0	AWG	GIND	111111	1 OLL	9.50	0.50	•				1	20 A				(EX) LOAD	2
3 (EX) LP-KA		SL	SL	SL	100 A	3	0.00	0.00	9.00	0.50			1	20 A				(EX) LOAD	4
5										1	9.00	0.50	1	20 A				(EX) LOAD	6
7 (EX) RECEPTACLE		-			20 A	1	0.18	2.30											8
9 (EX) REC&TV-228					20 A	1	-	1	0.70	2.30			3	30 A				(EX) VAV-8	10
11 (EX) REC-224,225		<b> </b>			20 A	1			-	1	0.40	2.30							12
13 (EX) POKE THRU-222		<b> </b>			20 A	1	0.80	0.50					1	20 A				(EX) LOAD	14
15 (EX) POKE THRU-222					20 A	1		1	0.80	0.50			1	20 A				(EX) LOAD	16
17 (EX) RECEPTACLE					20 A	1			0.00	0.00	0.18	2.30	•					(2.7) 20.12	18
19 (EX) REC&REFRIG-229					20 A	1	0.80	2.30			00		3	30 A				(EX) VAV-5	20
21 (EX) MICROWAVE-229					20 A	1	0.00	1.00	0.90	2.30								(2.7)	22
23 (EX) SPARE					20 A	1					0.00	0.60	1	20 A				(EX) REC-132	24
25 (EX) SPARE					20 A	1	0.00	0.60					1	20 A				(EX) REC-218, 219	26
27 (EX) LOAD					20 A	1			1.00	0.90			1	20 A				(EX) REC-216	28
29 (EX) LOAD					20 A	1					1.00	0.60	1	20 A				(EX) REC-216	30
31 (EX) LOAD					20 A	1	0.50	0.50					1	20 A				(EX) LOAD	32
33 (EX) FCU-11&REC-133					20 A	1			0.60	0.50			1	20 A				(EX) LOAD	34
35 (EX) LOAD					20 A	1					1.00	0.50	1	20 A				(EX) LOAD	36
37 (EX) LOAD					20 A	1	0.50	0.30					1	20 A				(EX) REC-221	38
39 (EX) LOAD					20 A	1			0.50	0.60			1	20 A				(EX) REC-216	40
41 (EX) LOAD					20 A	1					0.00	0.90	1	20 A				(EX) LTG-201	42
		1	TOTAL	CONN	ECTED	LOAD:	19.3	kVA	21.1	kVA	19.3	3 kVA			1				
LOAD CLASSIFICATION	CONNECTED LOAD				DEMAN	ID FAC	TOR			ESTIM	ATED [	EMAND		NOT	ES:				
Lighting	0 VA				C	.00%					0 VA								
Receptacle	0 VA					.00%					0 VA								
Misc	0 VA					0.00%					0 VA								
Motor	0 VA					0.00%					0 VA								
Kitchen Equipment	0 VA 0 VA					0.00%					0 VA								
Water Heater	EXISTING LOA	ns			U	0.00%					0 VA					P	VNEI .	TOTALS	
EVIC	TING CONNECTED LOAD: 59660												TO:	TAL CO	NNFC			59.7 kVA	
	LOAD DEMAND FACTOR: 100.0																	59660 VA	





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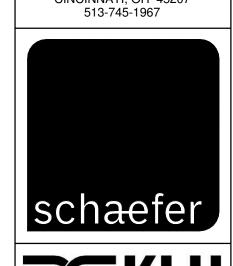
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OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY CINCINNATI, OH 45207 513-745-1967



**ENGINEERS** MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM 1538 ALEXANDRIA PIKE, SUITE 11 FT. THOMAS, KENTUCKY 41075 800-354-9783 859-442-8050 859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO

NEW YORK, NEW YORK

No. Description 1 BID & PERMIT



CHECKED BY: DRAWN BY: RTT DTJ

ELECTRIC -SCHEDULES

July 14, 2017

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SWBD: MCC-E SUPPLY FROM: ATS FAULT CURRENT (A): 15771 LOCATION: SHORT CIRCUIT RATING (A): EXISTING **DISTRIBUTION SYSTEM:** 480V 3PH **ENCLOSURE TYPE**: NEMA 1 MAINS RATING (A): 125 SURGE SUPRESSION: MAINS TYPE: THERMAL MAGNETIC ULSE: 200% NEUTRAL: FEEDER ID: X125 FEEDER: EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE CKT TRIP POLE CIRCUIT DESCRIPTION (EX) PASSENGER ELEVATOR EAST 15.00 kVA 1 30 A 3 2 20 A 3 (EX) LP-SE 1.35 kVA 3 15 A 3 (EX) INTAKE FAN IF-2 7.50 kVA 4 15 A 3 (EX) INTAKE FAN IF-1 7.50 kVA 15.00 kVA 5 30 A 3 (EX) PASSENGER ELEVATOR WEST LOAD CLASSIFICATION CONNECTED LOAD **DEMAND FACTOR ESTIMATED DEMAND** 0.00% 0 VA 0 VA 0.00% 0 VA Receptacle 0 VA 0.00% 0 VA EXISTING CONNECTED LOAD: 46350 VA **EXISTING DEMAND FACTOR:** 100.00% **EXISTING DEMAND:** 46350 VA PANEL TOTALS TOTAL CONNECTED LOAD: 46350 VA TOTAL ESTIMATED DEMAND: 46350 VA TOTAL ESTIMATED DEMAND AMPS: 56 A

	- 7	SMRD:	MCC		
	SU	PPLY FROM	: 480V DIST	FAUL	_T CURRENT (A): 16465
	00	LOCATION			CUIT RATING (A): EXISTIN
DICT	TDIDLITI	ON SYSTEM			CLOSURE TYPE: NEMA 1
סוט		RATING (A)			GE SUPRESSION:
			: 100% ELECTRONIC LSI	SUNU	ULSE:
	ļ		: XC-620-4C		200% NEUTRAL:
			: XC-020-4C : EXISTING FEEDER, (2) SETS		
		NOTES	, ( )	OF (4) #350 ROWIL CO, (1) #	I AWG CO GND. IN 3 CON
		NOTES	•		
СКТ	TRIP	POLE	CIRCUIT DE	SCDIDTION	Load
1	25 A	3	P-1A   PU		11.64 kVA
2	30 A	3	(EX) NORTH ZONE		6.30 kVA
3	25 A	3	P-1B   PU		11.64 kVA
4	25 A	3	P-2A   PU		11.64 kVA
5	25 A	3	P-2B   PU		11.64 kVA
6	50 A	3	(EX) L		24.90 kVA
7	7 A	3	(EX) TOILET EXH		2.70 kVA
8	30 A	3	(EX) AC UI		11.60 kVA
9	30 A	3	(EX) AC UI		17.40 kVA
10	3 A	3	(EX) AC 01		1.50 kVA
11	3 A	3	(EX) SI		0.00 kVA
12	3 A	3	(EX) SI		0.00 kVA
13	7 A	3	(EX) RETURN		2.50 kVA
14	7 A	3	(EX) RETURN		4.00 kVA
15	7 A	3	(EX) SI		0.00 kVA
16	7 A	3	(EX) HOOD EXHA		2.50 kVA
17	60 A	3	AHL		33.88 kVA
18	7 A	3	(EX) EQUIPMENT I		2.50 kVA
19	7 A	3	(EX) RETURN		1.70 kVA
20	15 A	3	(EX) CONDENSI		0.00 kVA
21	15 A	3	(EX) ZERO		0.00 kVA
22	3 A	3	(EX) ZENO (EX)		0.00 kVA
23	30 A	3	(EX) SI	<u>,                                      </u>	0.00 kVA
24	30 A	3	(EX) SI		0.00 kVA
25	3 A	3	(EX) SI		0.00 kVA
26	15 A	3	(EX) SI		0.00 kVA
27	50 A	3	(EX) SI		0.00 kVA
28	125 A	3	(EX) (EX)		0.00 kVA
29	50 A	3	(EX)		0.00 kVA
30	50 A	3	(EX) SI	<u>'</u>	0.00 kVA
31			(EX) SI		0.00 kVA
32	225 A	3	VERIZON M		0.00 kVA
		FICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAN
Motor			80436 VA	110.53%	88906 VA
Spare			123950 VA	100.00%	123950 VA

EXISTING CONNECTED LOAD: 123950 VA

**EXISTING DEMAND FACTOR: 100.00%** 

TOTAL CONNECTED LOAD: 204386 VA

TOTAL ESTIMATED DEMAND: 212856 VA

TOTAL ESTIMATED DEMAND AMPS: 256 A

EXISTING DEMAND: 123950 VA

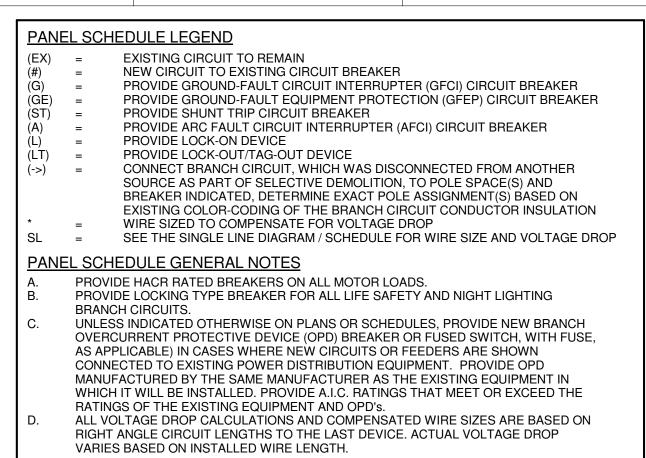
PANEL TOTALS

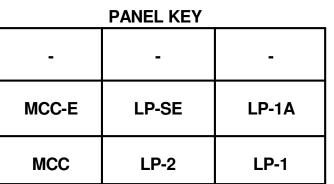
	PANEL NAM	E: LP-SE																
	LOCAT DISTRIBUTION SYST	IOM: MCC-E ION: MECH - TEM: 240 1PH DER: EXISTING FEEDER, AT RATI	ING IND		MAINS FEE	DER ID:	THERM. X20	AL MAGN			HORT CI	RCUIT R LI	RRENT ( ATING ( JGS TYF URE TYF	A): EXI PE:	STING		SURGE SUPRESSION:  ULSE:  200% NEUTRAL:  MOUNTING: Surface	
СКТ	CIRCU	IT DESCRIPTION	VD%	AWG	GND	TRIP	POLE	-	4	E	3	POLE	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	СКТ
1	(EX) LIGHTING RM 117					15 A	1	0.45	0.50			1	20 A				(EX) FIRE ALARM PANEL	2
3	(EX) ELEVATOR SHUNT	TRIP				20 A	1			0.20	0.20	1	15 A				(EX) RADIO/COMMUNICATION	4
5									0.00			1	20 A				SPARE	6
7	SPARE					20 A	1			0.00	0.00	1	20 A				SPARE	8
	1			TOT	AL CON	NECTE	LOAD:	1.0	kVA	0.4	kVA					•		
LOAD	CLASSIFICATION	CONNECTED LOAD			DEN	IAND FA	CTOR			ESTIMA	TED DE	MAND	ı	NOTES:				
Lightir	ng	0 VA				0.00%					0 VA							
Recep	otacle	0 VA				0.00%					0 VA							
Misc		0 VA				0.00%					0 VA							
Motor		0 VA				0.00%					0 VA							
Kitche	en Equipment	0 VA				0.00%					0 VA							
Water	· Heater	0 VA				0.00%					0 VA							
		EXISTING LOADS	3													PANEL	TOTALS	
	EXIST	ING CONNECTED LOAD: 1350 VA	١										TOTAI	L CONN	ECTED	LOAD:	1.4 kVA	
	EXISTING L	OAD DEMAND FACTOR: 100.00%	0										TOTAL E	ESTIMA <sup>®</sup>	TED DE	MAND:	1350 VA	
	EX	KISTING LOAD DEMAND: 1350 VA	١									TOTAL	ESTIMA	ATED DE	EMAND	AMPS:	6 A	

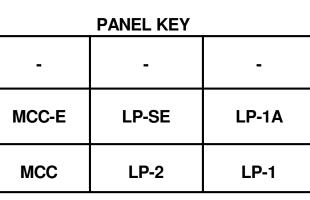
	<b>PANEL NAM</b>	E: LP-2																		
		OM: 208V BUS ON: CORRIDOR 200G EM: 208V 3PH				MAINS .	G (A): 22 TYPE: FU ER ID: XO	JSED			S		AULT C		G (A):		NG		SURGE SUPRESSION: ULSE: 200% NEUTRAL:	
	FEED	<b>ER</b> : EXISTING FEEDER,	(4) #4/0 AW	VG CU	, (1) #4	AWG CI	J GND. IN	3" CON	IDUIT				ENCLO	SURE	TYPE:	NEMA	1		MOUNTING: Surface	
CKT	CIRCUIT	DESCRIPTION	VD	% AV	/G GN	ID TRIE	POLE	1	4	i	3	(	C	POLE	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	СКТ
1	(EX) OFFICE 207A			-   -	-   -	- 20 A	. 1	0.54	0.18					1	20 A				(EX) RECEPTACLE 215	2
3	(EX) ROOM 207B, 205			-   -	-   -	- 20 A	. 1			0.36	0.72			1	20 A	#10	#10	1.866	RECEPT - PRESENTATION ROOM 212	4
5	   RH-01   CONTINUOUS OF	EICE 201A	0.10	05   #	2 #1	2 20 A	. 2					0.16	0.33	1	20 A				(EX) EXT. RECEPTACLE/LIGHTING	6
7	11110110011111000001	TIOL ZOTA	0.1	05 #	Δ π1	207		0.16	0.50					1	20 A				(EX)	8
9	(EX) SPARE			-   -	-   -	- 0 A	1			0.00	0.90			1	20 A				(EX) LIGHTING CORR. 201	10
11	(EX) SPARE			-   -	-   -	- 0 A	1					0.00	0.50	1	20 A				(EX)	12
13	(#) WINE COOLER WAITIN	NG 200A	0.1	23 #	2 #1	2 20 A	. 1	0.18	0.38					1	20 A				(EX) LIGHTING 211	14
15	(EX) KITCHEN LIGHTING	220		-   -	-   -	- 20 A	. 1			1.22	1.50			1	20 A				(EX) LIGHTING 202, 207, 209	16
17	(EX) KITCHEN LIGHTING	218		-   -	-   -	- 20 A	. 1					1.13	1.22	1	20 A				(EX) LIGHTING 203, 206, 208, 210	18
19	(EX) KITCHEN LIGHTING	220		-   -		- 20 A	. 1	1.22	0.54					1	20 A				(EX) RECEPTACLE	20
21	(EX) RECEPTACLE 206 N.	. WALL		-   -	-   -	- 20 A	. 1			0.54	0.36			1	20 A				(EX) RECEPTACLE E. WALL KITCHEN	22
23	(EX) RECEPTACLE 206 W	. WALL		-   -	-   -	- 20 A	. 1					0.36	0.36	1	20 A				(EX) RECEPTACLE	24
25	(EX) RECEPTACLE			-   -	-   -	- 20 A	. 1	0.36	0.72					1	20 A				(EX) RECEPTACLE 200, 201, 212	26
27	(EX) LIGHTING 212			-   -	-   -	- 20 A	. 1			0.55	0.72			1	20 A				(EX) RECEPTACLE 200, 201, 212	28
29	(EX) LIGHTING 212			-   -	-   -	- 20 A	1					0.80	1.00	1	20 A				(EX) DIMMER	30
31	(#) HAND DRYER BREAK	200E	0.8	79 #	2 #1	2 20 A	. 1	1.80	1.00					1	20 A				(EX) DIMMER	32
33	(EX) CHAPEL LIGHTS			-   -	-   -	- 20 A	. 1			0.80	1.00			1	20 A				(EX) CHAPEL LIGHTS	34
35	(EX) CHAPEL LIGHTS			-   -	-   -	- 20 A	. 1					0.80	1.00	1	20 A				(EX) CONFERENCE RM DIMMER	36
37	(EX) LOAD			-   -	-   -	- 20 A	. 1	1.00	0.50					1	20 A				(EX) RECPTACLE BT DINNING RM ENT.	38
39	DOOR OPERATOR   ENTE	RY 200	2.2	55 # <sup>-</sup>	2 #1	2 20 A	. 1			1.12	0.50			1	20 A				(EX) RECPTACLE BT DINNING RM ENT.	40
41	(#) PRESENTATION ROOI	M 212 - FLAT PANEL	0.7	64 # <sup>-</sup>	2 #1	2 20 A	. 1					0.18	0.50	1	20 A				(EX)	42
			·	TOT	AL CO	NNECTE	D LOAD:	9.1	kVA	10.3	kVA	8.3	kVA							
LOAI	O CLASSIFICATION	CONNECTED L	.OAD			DEM <i>A</i>	ND FACT	ΓOR			ESTIM.		EMAND		NOTI	ES:				
Lighti		0 VA					0.00%					0 VA								
	ptacle	1980 VA					100.00%					1980 V								
Misc		2920 VA 0 VA					0.00%					2920 V	4							
Motor	en Equipment	0 VA					0.00%					0 VA 0 VA			+					
	r Heater	0 VA				0.00%					0 VA			+						
	- 3	EXISTING												P	ANEL 1	OTALS				
	EXISTI								TO	TAL CO	NNEC	ΓED L	DAD:	27.7 kVA						
	EXISTING LO	DAD DEMAND FACTOR:	100.00%											TOTA	L ESTII	MATEC	DEM.	AND:	27774 VA	
	EXI	ISTING LOAD DEMAND:	22486 VA										TOT	AL ESTI	MATED	DEMA	ND AI	MPS:	77 A	

	DISTRIBUTION SYST	ON: ELEC 120B EM: 208V 3PH	(4) IIO ANNO O		M.	FEEDEF	PE: TH	HERMAL C-95-4C			S		CIRCUIT	RATIN LUGS		EXISTI			SURGE SUPRESSION:  ULSE:  200% NEUTRAL:									
СКТ		DESCRIPTION				TRIP					3		C		TYPE: 1			VD%	MOUNTING: Surface CIRCUIT DESCRIPTION	СКТ								
	(EX) 1ST FLR WAITING -	DESCRIPTION				20 A	1	0.66	1.08		,	,		1	20 A				(EX) RECEPTACLE OFFICE 100C	2								
	(EX) RECEPTACLE OFFIC	DE 110A				20 A	1	0.00		0.90	1.08			1	20 A				(EX) OFFICE 100B	4								
	(EX) LIGHTS - MECH. RO					20 A	1			0.00		1.10	0.72	1	20 A				(EX) RECEPT - MECH. ROOM	6								
	(EX) PLUG-IN STRIP ROC					20 A	1	1.10	1.08					1	20 A				(EX) PLUG-IN STRIP ROOM 101	8								
	(EX) PLUG-IN STRIP ROC					20 A	1			1.08	1.08			1	20 A				(EX) PLUG-IN STRIP ROOM 101	10								
	(EX) FREIGHT ELEVATOR					20 A	1					0.00	0.54	1	20 A				(EX) MISC OFFICE 100A	12								
_	(EX) RECPT					20 A	1	0.00	1.85					1	20 A	#12	#12	0.913	(#) AHU-1-120   NON-CONTINUOUS	14								
	(EX) RECPT					20 A	1			0.00	0.00			1	20 A				(EX) SPARE	16								
_	(EX) RECPT					20 A	1					0.00	0.00	1	20 A				(EX) SPARE	18								
19	(EX) EXTERIOR LIGHTS					20 A	1	0.48	0.00					1	20 A				(EX) SPARE	20								
21	(EX) EXTERIOR LIGHTS					20 A	1			0.40	0.00			1	20 A				(EX) SPARE	22								
23	(EX) SPARE					20 A	1					0.00	1.00						(EV) 000 HIGH HIT NO. 0	24								
25	(EX) SPARE					20 A	1	0.00	1.00					2	20 A				(EX) COOLING UNIT NO. 3	26								
27	(EX) SPARE					20 A	1			0.00	0.00			1	20 A				(EX) SPARE	28								
29	(EX) SPARE					20 A	1					0.00	0.00	1	20 A				(EX) SPARE	30								
			Т	OTAL	CONN	ECTED	LOAD:	7.3	kVA	4.5	kVA	3.4	kVA							'								
OAD	CLASSIFICATION	CONNECTED L	DAD			DEMAN	D FACT	ΓOR			ESTIM	ATED D	EMAND	)	NOTE	ES:												
ightir	ng	0 VA				0	.00%					0 VA																
ecep	tacle	1800 VA				10	0.00%					1800 V																
lisc		2460 VA					0.00%					2460 V	A															
lotor		0 VA					.00%					0 VA																
	n Equipment	0 VA				0.00%				0 VA																		
vater	Heater	0 VA <b>EXISTING</b>	LOADS			0	.00%					0 VA					ח	VNE:	TOTALS									
	EVIATI													TΩ	TAI CO	NNEC.												
		NG CONNECTED LOAD:  OAD DEMAND FACTOR:																	TOTAL CONNECTED LOAD: 15.2 kVA  TOTAL ESTIMATED DEMAND: 15150 VA									

	SUPPLY FROM: 208V BUS LOCATION: ELEC 120B DISTRIBUTION SYSTEM: 208V 3PH FEEDER: EXISTING FEEDER, (4)	#4/0 AWG		M.	FEEDEF	'PE: TH	HERMAL C-230-40	;	ETIC	S			RATIN	G (A): E	EXISTI			SURGE SUPRESSION: ULSE: 200% NEUTRAL: MOUNTING: Surface				
СКТ	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	POLE	A		E	3	(	С	POLE	TRIP	GND	AWG		CIRCUIT DESCRIPTION	CK			
	(EX) LIGHTS				20 A	1	1.00	0.00										SPACE	2			
	(EX) LIGHTS				20 A	1			1.00	0.70			1	20 A				(EX) WATER COOLER	4			
	(EX) LIGHTS - RMS: 128, 131, STORAGE				20 A	1					1.62	1.55	1	20 A				(EX) LIGHTS - RMS: 113-115, 119, 120, 133	6			
_	(EX) LIGHTS - RMS: 121, ELEV. LOBBY				20 A	1	1.35	1.83					1	20 A		-		(EX) LIGHTS - RMS: 105-110	8			
9	(EX) LIGHTS - RMS: 116, 118				20 A	1			0.90	1.64			1	20 A				(EX) LIGHTS - RMS: 101, 103, 104	10			
11	(EX) LIGHTS - RMS: 100, 112				20 A	1					1.50	1.26	1	20 A				(EX) RECEPT - RMS: 101-105	12			
13	(EX) RECEPT - RMS: 112, 118				20 A	1	0.36	1.26					1	20 A	-	-		(EX) RECEPT - RMS: 101-105	14			
15	(EX) RECEPT - RMS: 131, COORIDOR				20 A	1			0.54	1.08			1	20 A	-	-		(EX) RECEPT - RMS: 101-105	16			
17	(EX) RECEPT - RMS: 131, 136				20 A	1					0.36	0.80	1	20 A				(EX) RECEPT - RMS: 112, 117	18			
19	(EX) RECEPT - RMS: 108-110, 113, 119, 120				20 A	1	1.08	0.18					1	20 A	-	-		(EX) RECEPT	20			
21	(EX) RECEPT - RMS: 108-110, 113, 119, 120				20 A	1			1.08	0.18			1	20 A		-		(EX) RECEPT	22			
23	(EX) RECEPT - RMS: 108-110, 113, 119, 120				20 A	1					0.90	1.17		00.4				(EV) COOLING LINETAIO 4	24			
25	(EX)				0 A	1	0.00	1.17					2	20 A		-		(EX) COOLING UNIT NO.1	26			
27	(EX)				0 A	1			0.00	1.18			1	20 A	#12	#12	1.544	(#) AC1   NON-CONTINUOUS	28			
	(EX)				0 A	1					0.00	0.00	1	20 A		-		(EX) SPARE	30			
31	(EX)				0 A	1	0.00	3.59											32			
	(EX) SPARE				0 A	1			0.00	1.98			3	100 A	SL	SL	SL	(EX) LP-1A	34			
35	(EX) SPARE				0 A	1					0.00	0.54							36			
37	(EX) SPARE				0 A	1	0.00	0.00					1	0 A				(EX) SPARE	38			
39	REFRIGERATOR VENDING 118	1.214	#12	#12	20 A	1			0.80	0.80			1	20 A	#12	#12	2.386	COFFEE MAKER CORRIDOR	40			
41	SPACE										0.00	0.00						SPACE	42			
		Т	OTAL	CONN	ECTED	LOAD:	11.8	kVA	11.9	kVA	9.7	kVA										
LOAD CLASSIFICATION CONNECTED LOAD DEMAND FACTOR										ESTIM	ATED D	EMAND	)	NOTE	NOTES:							
Lighting 0 VA					0.00%						0 VA											
Receptacle 1800 VA				100.00%						1800 VA												
Misc 3260 VA				100.00%						3260 VA												
Motor 800 VA				125.00%						1000 VA												
Kitchen Equipment 0 VA Water Heater 0 VA			0.00%						0 VA													
vvater		ADS			0	.00%					0 VA					D	ANEI 1	TOTALS				
EXISTING LOADS  EXISTING CONNECTED LOAD: 33535 VA												PANEL TOTALS  TOTAL CONNECTED LOAD:   42.4 kVA										
EXISTING LOAD DEMAND FACTOR: 100.00%  EXISTING LOAD DEMAND: 33535 VA											TOTAL ESTIMATED DEMAND: 42621 VA  TOTAL ESTIMATED DEMAND AMPS: 118 A											







Office Admissions Phase ation Hall Schott Renova

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1496

OFFICE OF PHYSICAL PLANT XAVIER UNIVERSITY 3800 VICTORY PARKWAY

CINCINNATI, OH 45207 513-745-1967

**ENGINEERS** MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM

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LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

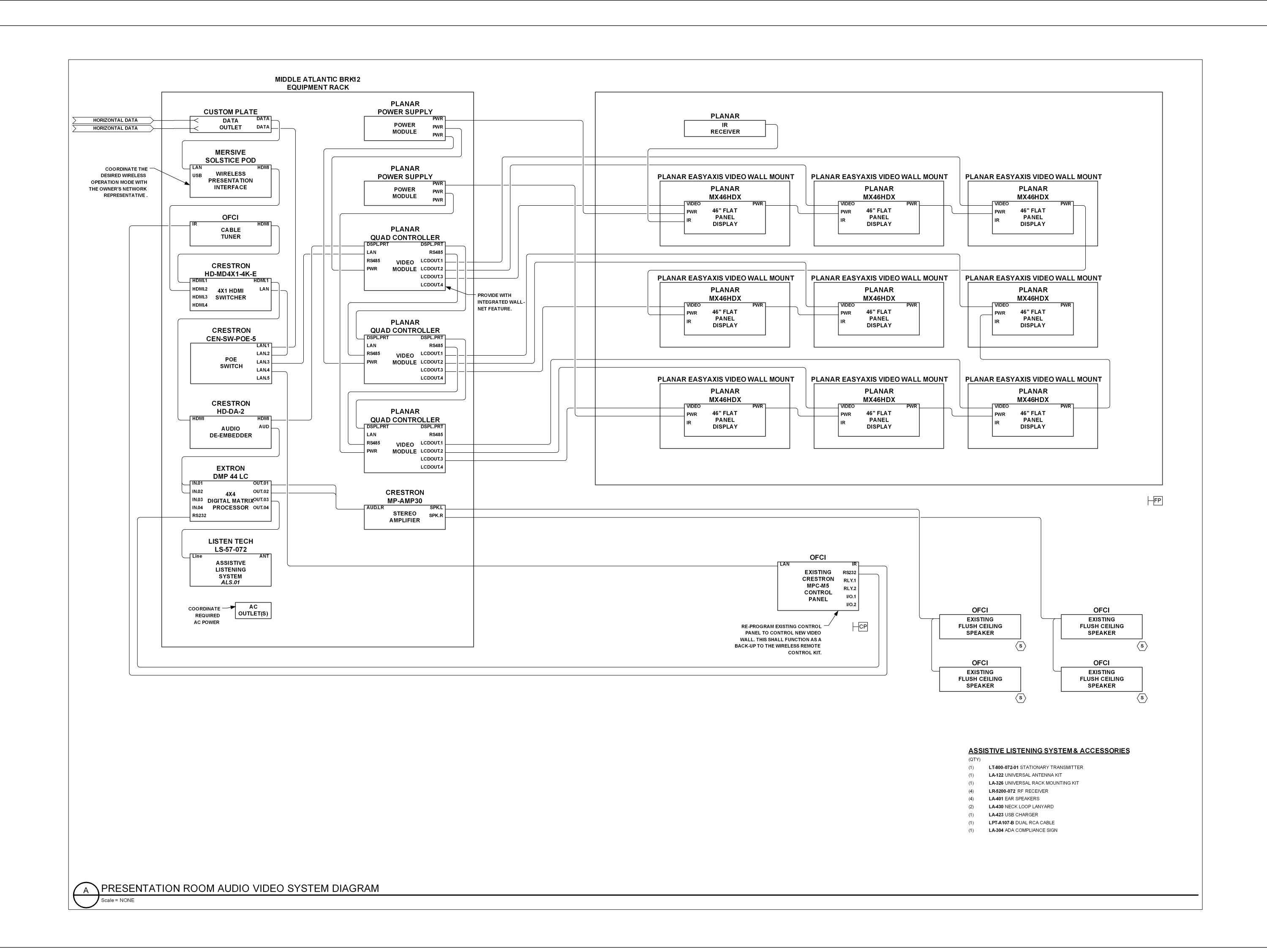
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OFFICE OF PHYSICAL PLANT

XAVIER UNIVERSITY

3800 VICTORY PARKWAY

CINCINNATI, OH 45207 513-745-1967

**EXECUTE**ENGINEERS

MECHANICAL/ELECTRICAL ENGINEERS WWW.KLHENGRS.COM

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859-442-8058 FAX

LEXINGTON, KENTUCKY COLUMBUS, OHIO NEW YORK, NEW YORK

No. Description

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DATE
July 14, 2017 **E-641** 

ELECTRIC -

**VIDEO WALL** 

**DETAILS** 

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