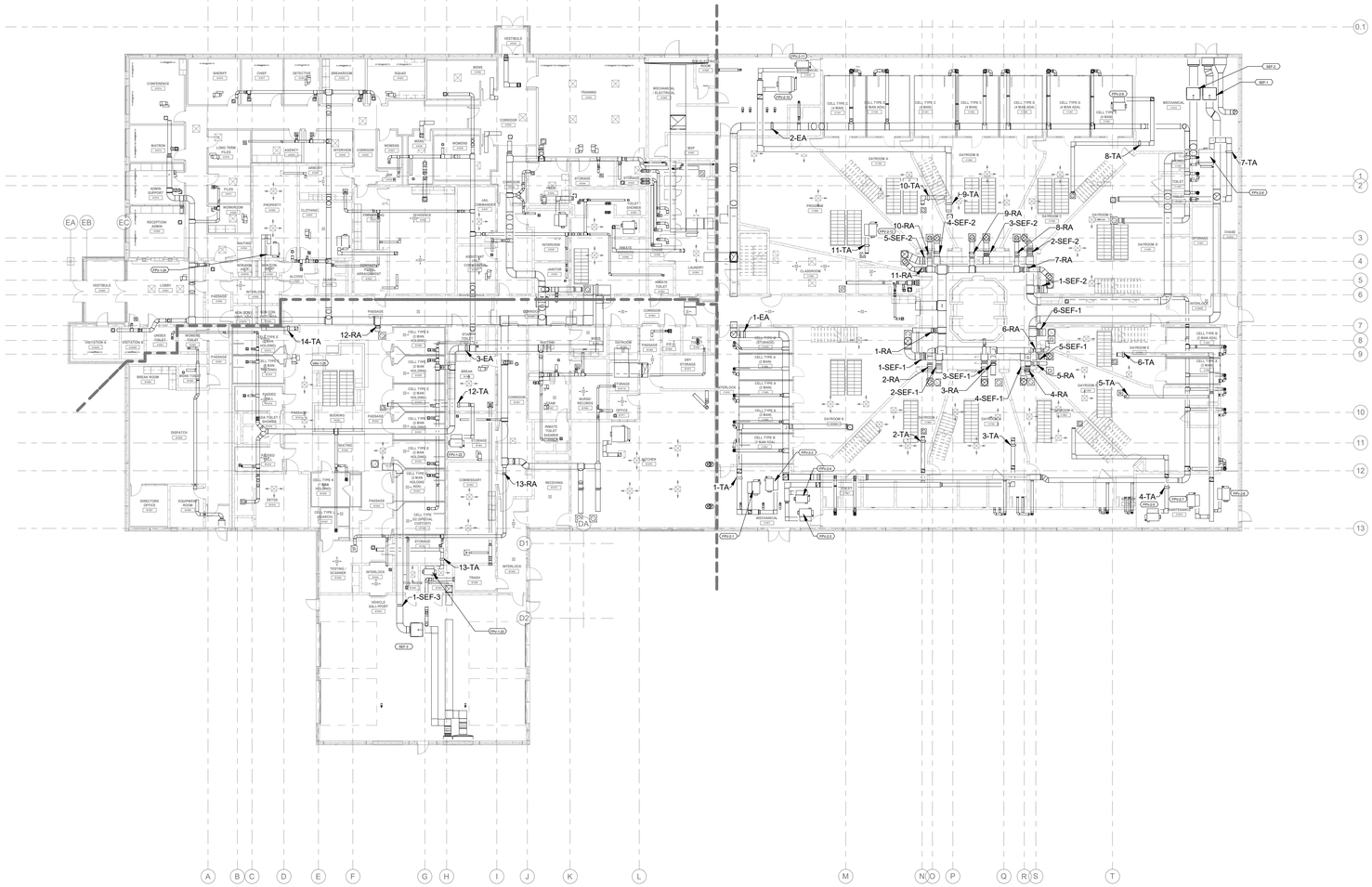
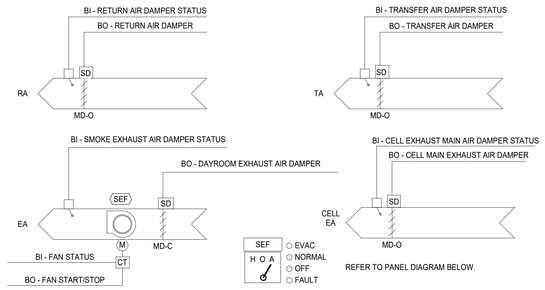


NORTH

3 OVERALL SMOKE EXHAUST PLAN
SCALE: 1/16" = 1'-0"

SMOKE EXHAUST FAN / SMOKE DAMPER SEQUENCE SCHEDULE			
ROOM NAME	SMOKE EXHAUST FAN IN OPERATION	SMOKE DAMPERS AND BOXES TO OPEN	SMOKE DAMPERS AND BOXES TO CLOSE
BOOKING - B1021	SEF-3	1-SEF-3 VAV-1-25 FPV-1-22 FPV-1-23 FPV-1-24	12-RA 13-RA 3-EA 12-TA 13-TA 14-TA
DAYROOM A - C1100	SEF-2	4-SEF-2 FPV-2-11	10-TA 10-RA 2-EA
DAYROOM B - C1200	SEF-2	3-SEF-2 FPV-2-10	9-TA 9-RA 2-EA
DAYROOM C - C1300	SEF-2	2-SEF-2 FPV-2-9	8-TA 8-RA 2-EA
DAYROOM D - C1400	SEF-2	1-SEF-2 FPV-2-8	7-TA 7-RA 2-EA
DAYROOM E - C1500	SEF-1	6-SEF-1 FPV-2-7	6-TA 6-RA 1-EA
DAYROOM F - C1550	SEF-1	5-SEF-1 FPV-2-6	5-TA 5-RA 1-EA
DAYROOM G - C1600	SEF-1	4-SEF-1 FPV-2-5	4-TA 4-RA 1-EA
DAYROOM H - C1700	SEF-1	3-SEF-1 FPV-2-4	3-TA 3-RA 1-EA
DAYROOM J - C1800	SEF-1	2-SEF-1 FPV-2-3	2-TA 2-RA 1-EA
DAYROOM K - C1900	SEF-1	1-SEF-1 FPV-2-2	1-TA 1-RA 1-EA
PROGRAM - C1006	SEF-2	5-SEF-2 FPV-2-12	11-TA 11-RA 2-EA

NOMENCLATURE	
(1) - (SEF- A)	(SMOKE DAMPER NUMBER) - (SMOKE EXHAUST FAN TAG)
(1) - (RA)	(SMOKE DAMPER NUMBER) - (AIR SYSTEM TYPE)



REFERENCE DUCTWORK PLANS FOR DAYROOM SMOKE DAMPER LOCATIONS.

1) RUN CONDITIONS:

A) THE SMOKE EXHAUST FAN SHALL BE INTERLOCKED TO RUN WHENEVER ENABLED BY ZONE SMOKE DETECTOR.

B) EACH SMOKE EXHAUST FAN MAY BE MANUALLY ACTIVATED THROUGH A SWITCH ON THE FIREFIGHTER'S SMOKE CONTROL PANEL.

2) SMOKE EXHAUST AIR DAMPER:
THE SMOKE EXHAUST AIR DAMPER ASSOCIATED WITH THE ROOM WITH THE EVENT SHALL OPEN AND THE SEF SHALL RUN.

DAMPERS SHALL CLOSE ANYTIME THE SMOKE EXHAUST FAN STOPS. THE EXHAUST AIR DAMPER SHALL CLOSE 30 SEC. (ADJ.) AFTER THE FAN STOPS.

A) ALARMS SHALL BE PROVIDED AS FOLLOWS:
I) DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
II) DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

3) RETURN AIR DAMPER:
THE RETURN AIR DAMPER(S) SERVING THE AFFECTED SPACE SHALL CLOSE ANYTIME THE SMOKE EXHAUST FAN RUNS, AND SHALL OPEN 30 SEC (ADJ.) AFTER THE SMOKE EXHAUST FAN STOPS.

A) ALARMS SHALL BE PROVIDED AS FOLLOWS:
I) DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
II) DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

4) TRANSFER AIR DAMPER:
THE TRANSFER AIR DAMPER(S) SERVING THE AFFECTED SPACE SHALL CLOSE ANYTIME THE SMOKE EXHAUST FAN RUNS, AND SHALL OPEN 30 SEC (ADJ.) AFTER THE SMOKE EXHAUST FAN STOPS.

A) ALARMS SHALL BE PROVIDED AS FOLLOWS:
I) DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
II) DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

5) EXHAUST AIR DAMPER:
THE EXHAUST AIR DAMPER(S) SERVING THE AFFECTED SPACE SHALL CLOSE ANYTIME THE SMOKE EXHAUST FAN RUNS, AND SHALL OPEN ANYTIME THE SMOKE EXHAUST FAN STOPS.

DAMPERS SHALL OPEN ANYTIME THE SMOKE EXHAUST FAN STOPS. THE EXHAUST AIR DAMPER SHALL OPEN 30 SEC. (ADJ.) AFTER THE FAN STOPS.

A) ALARMS SHALL BE PROVIDED AS FOLLOWS:
I) DAMPER FAILURE: COMMANDED OPEN, BUT THE STATUS IS CLOSED.
II) DAMPER IN HAND: COMMANDED CLOSED, BUT THE STATUS IS OPEN.

6) FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.
A) ALARMS SHALL BE PROVIDED AS FOLLOWS:
I) FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
II) FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

7) ALL CONTROLLERS RELATED TO THE SMOKE EXHAUST SYSTEM SHALL BE UL-864 LISTED, INCLUDING BUT NOT LIMITED TO THE SMOKE EXHAUST FANS, DAMPERS, AIR-HANDLING UNITS, AND THE VAV BOXES.

NOTE:
REFER TO FAN POWERED AND SHUTOFF VAV BOX SCHEMATIC FOR OTHER SMOKE CONTROL RELATED SEQUENCE.

2 EXHAUST FAN - SMOKE CONTROL SCHEMATIC
SCALE: N.T.S.

SEQUENCE OF SMOKE FAN CONTROL

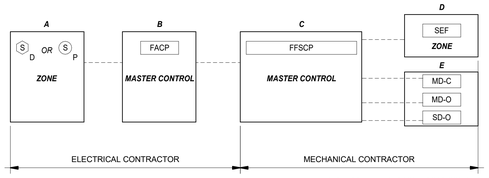
A. SMOKE DETECTION FROM EITHER A ZONE SMOKE DUCT DETECTOR OR A FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR.

B. SIGNAL TO BE MONITORED AT FIRE ALARM CONTROL PANEL (FACP).

C. SIGNAL TO BE MONITORED AND CONTROLLED AT FIREFIGHTER SMOKE CONTROL PANEL (FFSCP).

D. SMOKE EXAUST FAN (SEF) TO ACTIVATE UPON SMOKE DETECTION OR BY MANUAL ACTIVATION AT FIREFIGHTER SMOKE CONTROL PANEL (FFSCP) .

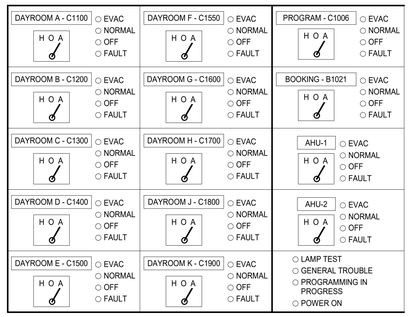
E. MOTORIZED / SMOKE DAMPERS NORMALLY OPEN / CLOSED (MD-O / MD-C / N.O. / N.C.) TO BE SEQUENCED PER SCHEDULE BELOW.



MD-C NORMALLY CLOSED MOTORIZED SMOKE CONTROL DAMPER

MD-O NORMALLY OPEN MOTORIZED SMOKE CONTROL DAMPER

SD-O NORMALLY OPEN SMOKE DAMPER



FIREFIGHTER SMOKE CONTROL PANEL

1 SMOKE EXHAUST SEQUENCE OF CONTROL DIAGRAM
SCALE: N.T.S.

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

JOSHUA R. APLING REGISTERED PE 10010024 STATE OF INDIANA PROFESSIONAL ENGINEER
12/20/21

NO.	REVISION	DATE

DRAWN: SSB
DESIGNED: SSB
CHK'D: ESA
APPR'D: JRA
DATE: DECEMBER 20, 2021

PROJECT NUMBER
2063-1048-90

SULLIVAN COUNTY SHERIFF'S OFFICE AND CORRECTIONAL FACILITY
2357 NORTH SECTION STREET SULLIVAN, INDIANA 47882

SMOKE EXHAUST CONTROL SCHEMATICS

DRAWING NUMBER
M7.5

MECHANICAL

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