

SMOKE CONTROL SEQUENCES OF OPERATIONS

Tenant Zones

In the automatic mode, the floors not in alarm have their return air dampers closed. The return air damper, for the floor in alarm, remains open while Exhaust Fan F-1 exhausts smoke from the space.

A tenant alarm signal de-energizes the supply fan, indexes the return air dampers to exhaust smoke from alarmed areas, energizes Exhaust Fan F-1 and indexes the adjacent zones to 100% outside air.

A tenant ON signal energizes Exhaust Fan F-1, while a tenant OFF signal from the Fire Command Center supersedes the controls and de-energizes the respective fan.

When a zone is placed into alarm mode, the adjacent zones are indexed into 100% outside air. The remaining zones remain in normal operation mode.

A mall or tenant alarm signal from either AH4 or AH12 (Metro Level), moves a battery of dampers to switch the supply air ductwork into the path for smoke removal, indexes all pertinent equipment to alarm mode, and energizes the respective Exhaust Fan (F-1 or F-2).

Mall Zones

The supply air risers index to the closed position and energizes Exhaust Fan F-2 when an alarm signal is received. A mall ON signal energizes the respective Exhaust Fan F-2, while a mall OFF signal supersedes the controls and de-energizes the fan.

A Mall ON signal energizes Exhaust Fan F-2, while a Mall OFF signal from the Fire Command Center supersedes the controls and de-energizes the respective fan (s).

A mall or tenant alarm signal from either AH4 or AH12 (Metro Level), moves a battery of dampers to switch the supply air ductwork into the path for smoke removal, indexes all pertinent equipment to alarm mode, and energizes the respective Exhaust Fan (F-1 or F-2).

When a zone is placed into alarm mode, the adjacent zones are indexed into 100% outside air. The remaining zones remain in normal operation mode.

Notes

Tenant smoke exhaust is through the tenant return plenum. A minimum 14 square feet free opening with a fire damper is required in demising walls of adjacent tenants. Food Court tenant smoke exhaust is through the mall common area.

Supply air for mall and tenant smoke control zones is provided by air handling units (AH) and supplied into the mall common area on each level.

The sprinkler system is zoned in the same manner as the smoke control zones. Within each zone and on each floor of that zone the tenant areas are separated from the mall area in which the tenant areas are controlled by a control valve and flow switch and the mall area is controlled by a control valve and flow switch.

Tenant Space H30/R30 (expansion) Sequence of Operation

Under normal operation, return air fire/smoke dampers shall be open and Rooftop Unit (RTU) 1-7 will control space temperature. Smoke Exhaust Fan (R30) 1-5 dampers shall be closed and SEF 1-5 shall be off.

When a fire alarm signal is received for Tenant Zone 11, the RTU 1-7 return air dampers will close, R30 1-5 dampers will open and R30 1-5 shall start. The smoke evac module in RTU 1-7 will trigger an input to the BAS controller. When the BAS sees the smoke evac signal, the outside air dampers shall open to 100% and the power exhaust fans of RTU 1-7 will be disabled. The supply fans and all other RTU functions will be disabled.

Tenant Space H20/R20 (expansion) Sequence of Operation

When a fire alarm signal is received for Tenant Zone 11, all supply air systems into the space (MUA 1 and R20 1-4) will shut off.

Kitchen exhaust fans will go all on purging the kitchen and back of house of smoke.

R20 1-4 will shut off compressors and supply fans. Controls will engage factory installed power exhaust modules purging smoke from bar and dining areas.

Tenant Space H25 (expansion) Sequence of Operation

When a fire alarm signal is received for Tenant Zone 11, H25-1 and H25-2 will go into a smoke exhaust mode. The RTU's indoor fan will shut off and the outdoor dampers will be fully closed. The RTU's power exhaust will be turned on.

Tenant Space H37 (expansion) Sequence of Operation

To Be Determined

Tenant Space H40 (expansion) Sequence of Operation

When a fire alarm signal is received for Tenant Zone 11, the grease hood make up air fan will shut down and the kitchen exhaust fans will remain operational. The RTU-1 and RTU-2 compressors will lock-out and RTU-1 and RTU-2 will provide 100% outside air supply. Smoke exhaust fan H40-1 will start and the associated damper will open.

**SMOKE CONTROL SEQUENCES
OF OPERATIONS**
FASHION CENTRE AT PENTAGON CITY
ARLINGTON, VIRGINIA

DATE: 6-23-16

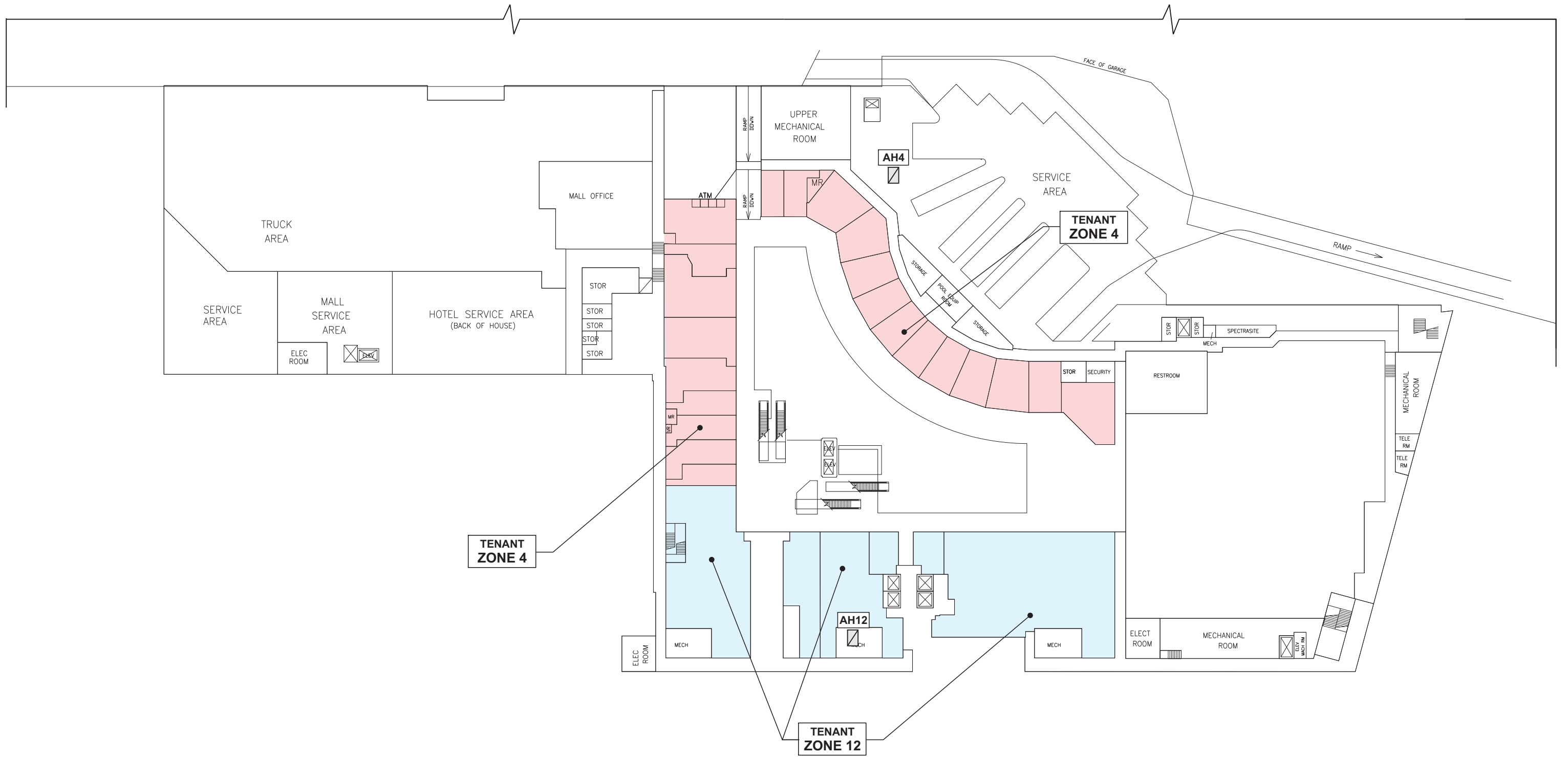
FIGURE NO.

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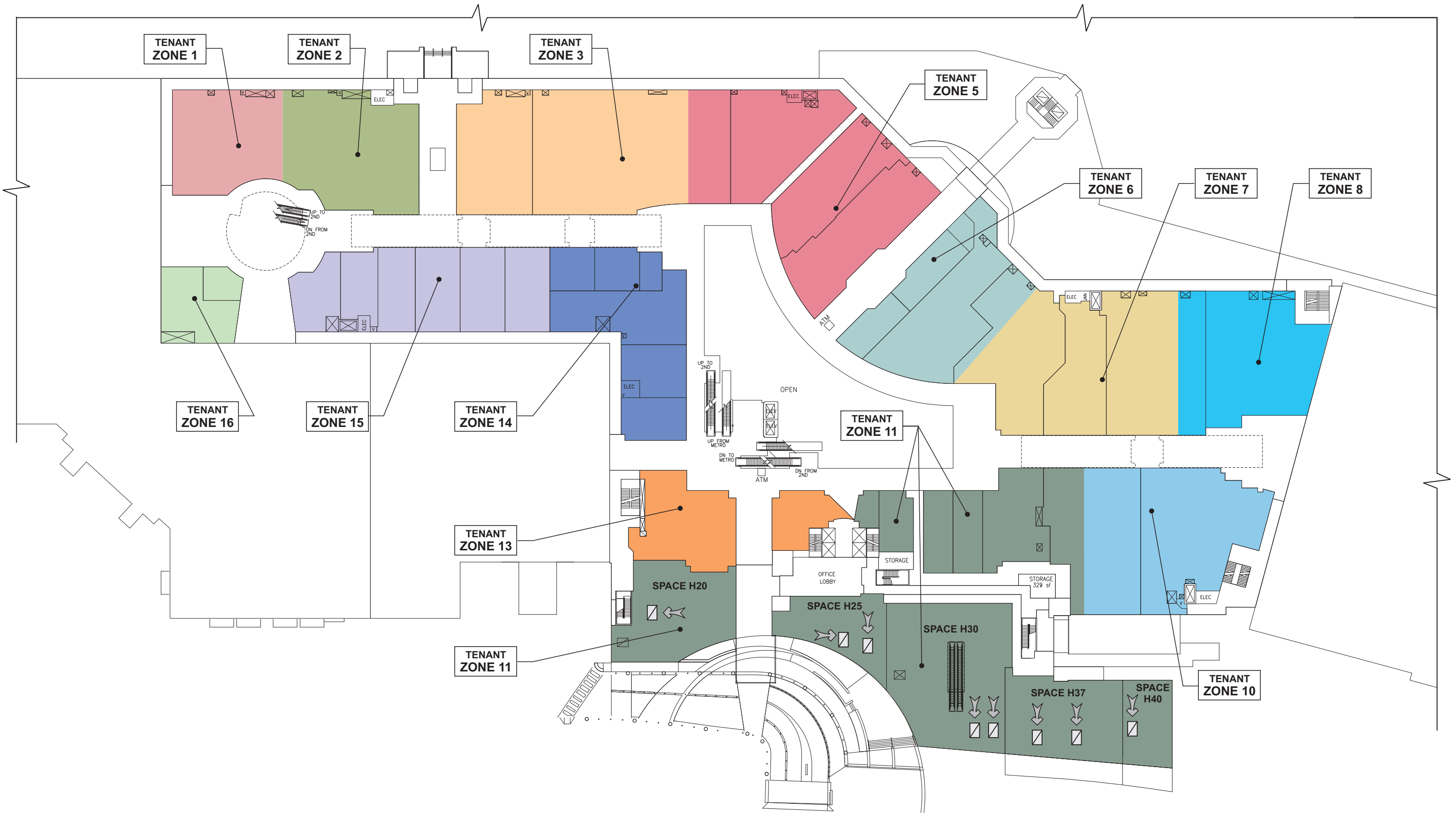


METRO LEVEL
TENANT SMOKE CONTROL ZONES
FASHION CENTRE AT PENTAGON CITY
 ARLINGTON, VIRGINIA

DATE: 6-23-16
 FIGURE NO.
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FIRST LEVEL
TENANT SMOKE CONTROL ZONES
FASHION CENTRE AT PENTAGON CITY
 ARLINGTON, VIRGINIA

DATE: 6-23-16
 FIGURE NO.
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SECOND LEVEL
TENANT SMOKE CONTROL ZONES
FASHION CENTRE AT PENTAGON CITY
 ARLINGTON, VIRGINIA

DATE: 6-23-16
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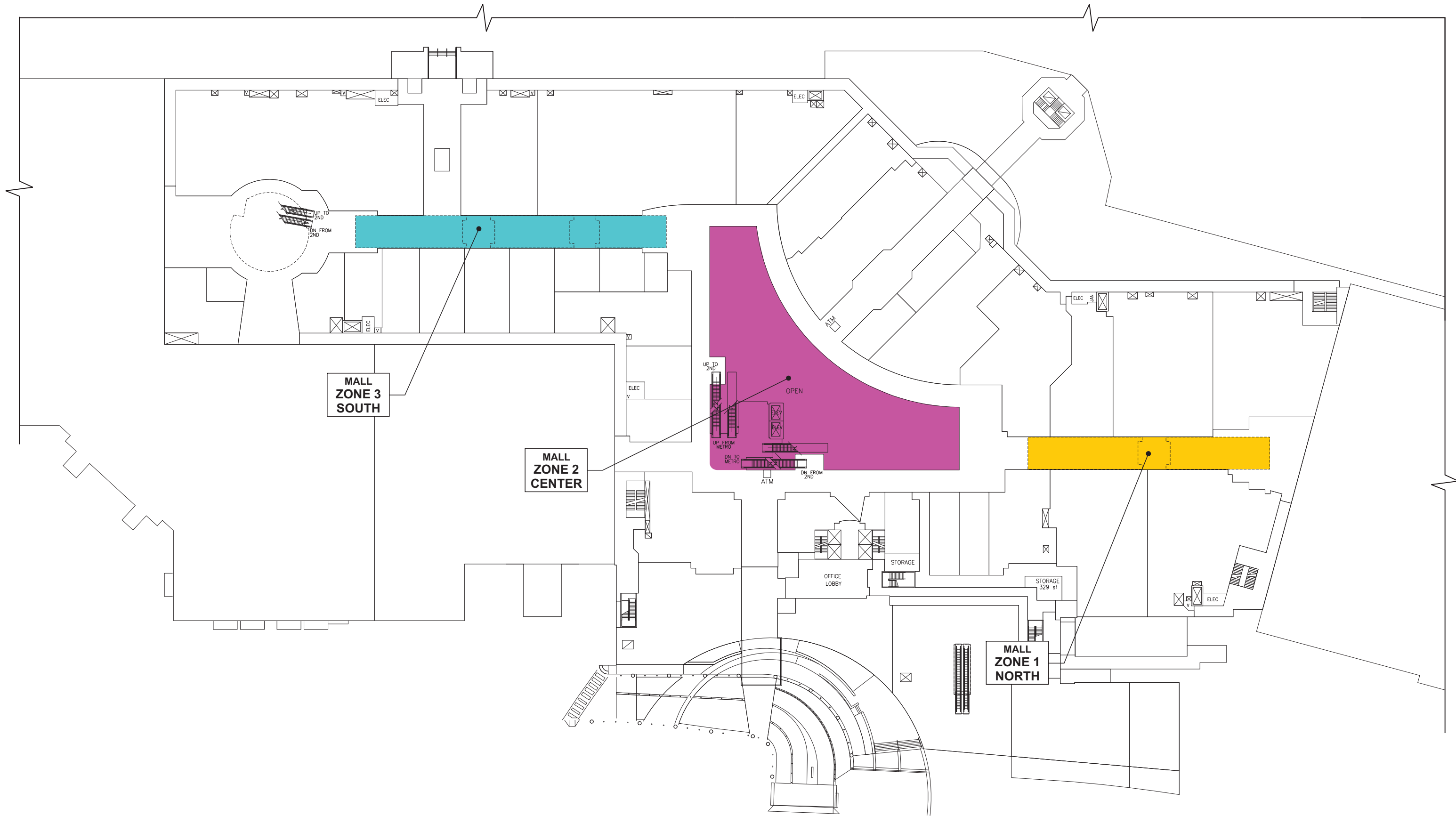


NOTE: F-1 EXHAUST FANS LOCATED ON ROOF

	THIRD LEVEL TENANT SMOKE CONTROL ZONES FASHION CENTRE AT PENTAGON CITY ARLINGTON, VIRGINIA	DATE: 6-23-16
		FIGURE NO. 5
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MALL
ZONE 3
SOUTH

MALL
ZONE 2
CENTER

MALL
ZONE 1
NORTH



FIRST LEVEL
MALL SMOKE CONTROL ZONES
FASHION CENTRE AT PENTAGON CITY
ARLINGTON, VIRGINIA

DATE: 6-23-16

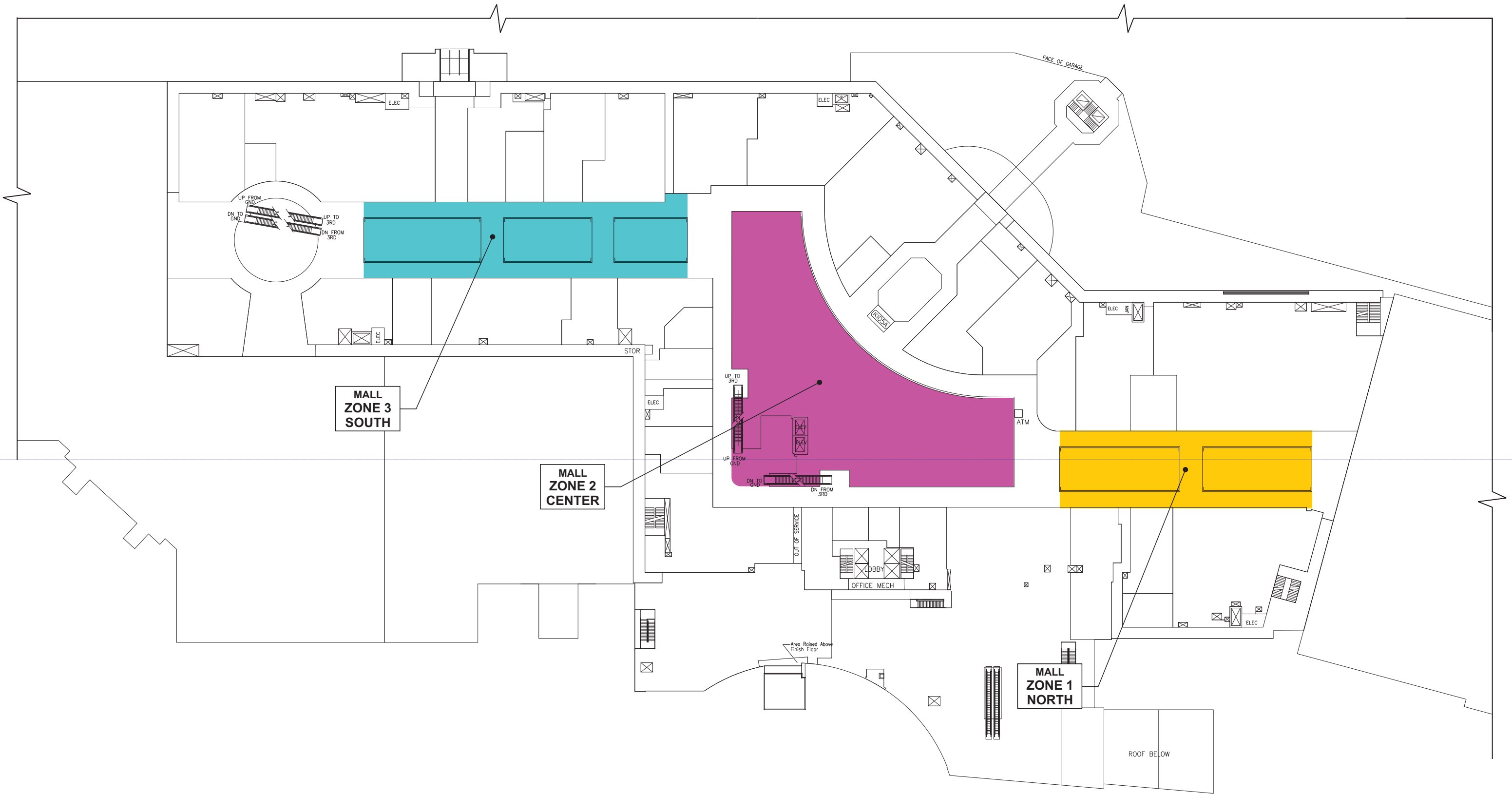
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MALL ZONE 3 SOUTH

MALL ZONE 2 CENTER

MALL ZONE 1 NORTH

SECOND LEVEL
 MALL SMOKE CONTROL ZONES
 FASHION CENTRE AT PENTAGON CITY
 ARLINGTON, VIRGINIA

DATE: 6-23-16

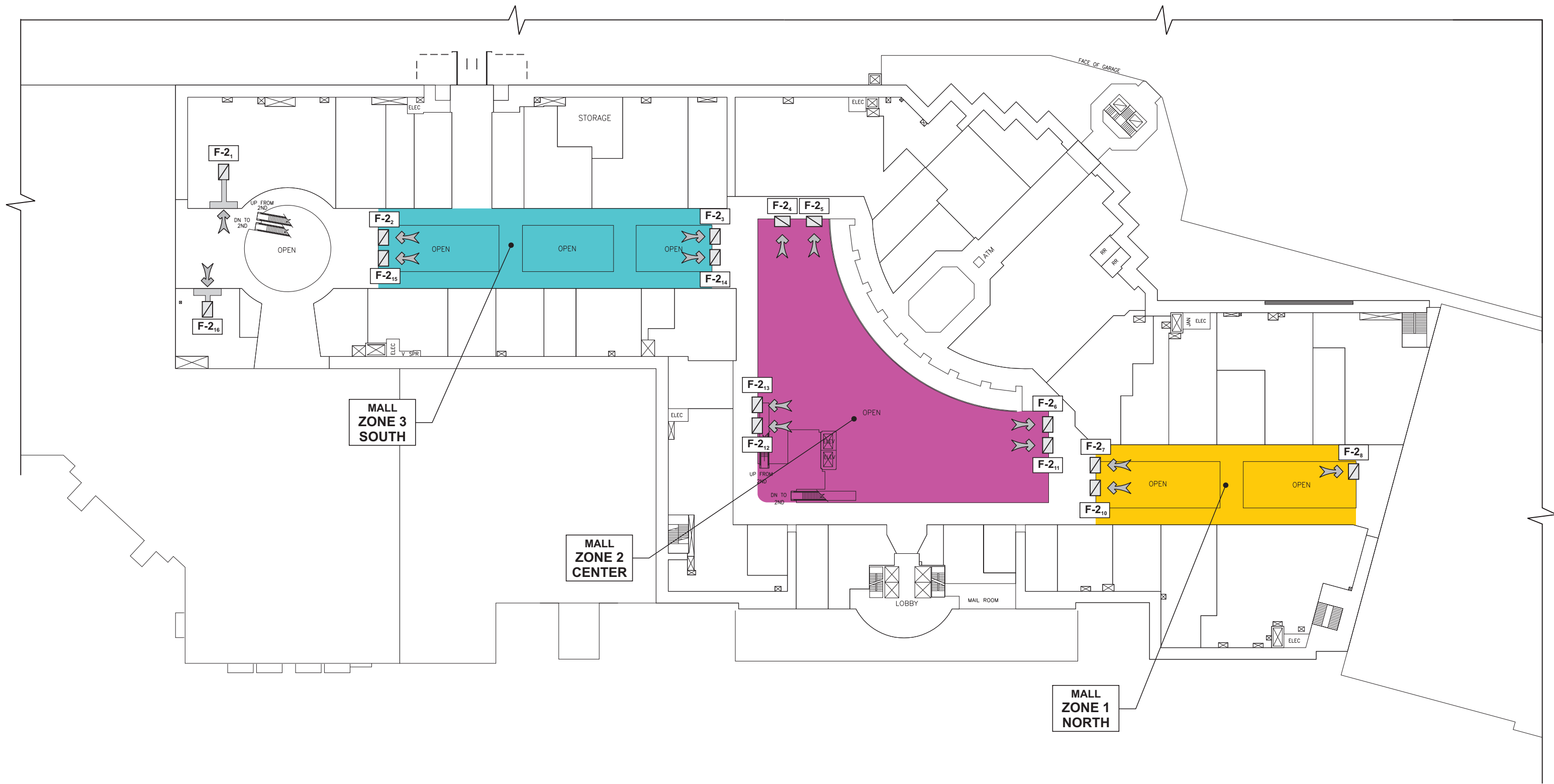
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NOTE: F-2 EXHAUST FANS LOCATED IN SKYLIGHT CLERESTORY WALL



**THIRD LEVEL
MALL SMOKE CONTROL ZONES
FASHION CENTRE AT PENTAGON CITY
ARLINGTON, VIRGINIA**

DATE: 6-23-16

FIGURE NO.

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