OVERALL MATRIX

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

	SYSTEM INPUTS	SYSTEM OUTPUTS – FACP ANNUNCIATION						NOTIFICATION						REQUIRED FIRE SAFETY CONTROL														
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y		
		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RELEASE MAGNETICALLY HELD DOORS	RECALL ELEVATOR TO RECALL FLOOR	RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	ACTUATE WARNING TO ELEVATOR CABS	DELAYED REMOVAL OF POWER FROM ELEVATOR	CLOSE ALL SMOKE DAMPERS	UNLOCK EXITS AND CONTROL DOORS	SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT	ACTUATE FLOOR PRESSURIZATION	ACTUATE STAIRWELL PRESSURIZATION	ACTUATE SMOKE EXHAUST	-	-		
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●							●																1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●															2
3	OPEN CIRCUIT					●	●						●															3
4	GROUND FAULT					●	●						●															4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●															5
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●						●								6
7	CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●	●				●	●		●	●	●				7
8	AREA SMOKE DETECTORS	●	●					●	●	●	●			●	●				●	●		●	●	●				8
9	HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●									●							9
10	AREA HEAT DETECTORS	●	●					●	●	●	●			●	●				●	●		●	●	●				10
11	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	●	●					●	●	●	●			●	●				●	●								11
12	SPRINKLER TAMPER SWITCH			●	●			●				●																12
13	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●	●				●	●								13
14	SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT	●	●					●	●	●	●			●	●		●	●	●	●								14
15	ELEV EQUIP RM AREA SMOKE DETECTOR	●	●					●	●	●	●			●	●		●		●	●								15
16	ELEV SHAFT AND ELEV EQUIP RM HEAT DETECTORS	●	●					●	●	●	●			●	●		●	●	●	●								16
17	ELEV LOBBY SMOKE DETECTORS - UPPER FLOORS	●	●					●	●	●	●			●	●				●	●		●	●	●				17
18	ELEV LOBBY SMOKE DETECTOR - RECALL FLOOR	●	●					●	●	●	●			●		●	●		●	●		●	●	●				18
19	ELEV CONTROLLER POWER SHUNT TRIP STATUS			●	●			●				●																19
20	FIRE PUMP POWER FAILURE/PHASE REVERSAL			●	●			●				●																20
21	FIRE PUMP RUNNING	●	●					●	●	●	●			●	●				●	●								21
22	FIRE PUMP SYSTEM NOT IN AUTOMATIC			●	●			●				●																22
23	LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL			●	●			●				●																23
24	LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC			●	●			●				●																24
25	AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS			●	●			●				●																25
26	-																											26
27	-																											27
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W		

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION:	REVISIONS:	DATE:	DRAWING NO.
Fire Alarm Matrix		6-30-09	FP-31a

MATRIX – ASSISTED LIVING FACILITY

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

	SYSTEM INPUTS	SYSTEM OUTPUTS – FACP ANNUNCIATION											NOTIFICATION						REQUIRED FIRE SAFETY CONTROL				
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T		
		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RELEASE MAGNETICALLY HELD DOORS	CLOSE ALL SMOKE DAMPERS	UNLOCK EXITS AND CONTROL DOORS	SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT	.	.	.	.		
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●							●											1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●										2
3	OPEN CIRCUIT					●	●						●										3
4	GROUND FAULT					●	●						●										4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●										5
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●		●							6
7	CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●	●	●							7
8	AREA SMOKE DETECTORS	●	●					●	●	●	●			●	●	●							8
9	HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●					●						9
10	AREA HEAT DETECTORS	●	●					●	●	●	●			●	●	●							10
11	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	●	●					●	●	●	●			●	●	●							11
12	SPRINKLER TAMPER SWITCH			●	●			●				●											12
13	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●	●	●							13
14	SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT	●	●					●	●	●	●			●	●	●							14
15	FIRE PUMP POWER FAILURE/PHASE REVERSAL			●	●			●				●											15
16	FIRE PUMP RUNNING	●	●					●	●	●	●			●	●	●							16
17	FIRE PUMP SYSTEM NOT IN AUTOMATIC			●	●			●				●											17
18	LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL			●	●			●				●											18
19	LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC			●	●			●				●											19
20	-																						20
21	-																						21
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T		

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION:	REVISIONS:	DATE:	DRAWING NO.
Fire Alarm Matrix		6-30-09	FP-31b

MATRIX – MULTIFAMILY DWELLING STANDARD 3 OR 4 STORY PRODUCT

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

	SYSTEM INPUTS	SYSTEM OUTPUTS – FACP ANNUNCIATION																						
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	.	.									
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●							●												1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●											2
3	OPEN CIRCUIT					●	●						●											3
4	GROUND FAULT					●	●						●											4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●											5
6	BREEZEWAY MANUAL PULL STATIONS	●	●					●	●	●	●													6
7	SMOKE DETECTOR AT FACP	●	●					●	●	●	●													7
8	SPRINKLER TAMPER SWITCH			●	●			●				●												8
9	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●													9
10	-																							10
11	-																							11
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	

SYSTEM OUTPUTS: FACP ANNUNCIATION | NOTIFICATION | REQUIRED FIRE SAFETY CONTROL

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION:	REVISIONS:	DATE:	DRAWING NO.
Fire Alarm Matrix		6-30-09	FP-31c

MATRIX – SPRINKLED OFFICE BUILDING NOT HIGH–RISE

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

SYSTEM OUTPUTS

	FACP ANNUNCIATION						NOTIFICATION					REQUIRED FIRE SAFETY CONTROL													
SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RELEASE MAGNETICALLY HELD DOORS	RECALL ELEVATOR TO RECALL FLOOR	RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	ACTUATE WARNING TO ELEVATOR CABS	DELAYED REMOVAL OF POWER FROM ELEVATOR	UNLOCK EXITS AND CONTROL DOORS	SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT						
1 FIRE ALARM SYSTEM AC POWER FAILURE			●	●							●														1
2 FIRE ALARM SYSTEM LOW BATTERY					●	●						◐													2
3 OPEN CIRCUIT					●	●						◐													3
4 GROUND FAULT					●	●						◐													4
5 NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						◐													5
6 BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●					●							6
7 CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●	●				●							7
8 AREA SMOKE DETECTORS	●	●					●	●	●	●			●	●				●							8
9 HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●								●						9
10 SPRINKLER TAMPER SWITCH			●	●			●				●														10
11 SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●	●				●							11
12 SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT	●	●					●	●	●	●			●	●		●	●	●							12
13 ELEV EQUIP RM AREA SMOKE DETECTOR	●	●					●	●	●	●			●	●		●		●							13
14 ELEV SHAFT AND ELEV EQUIP RM HEAT DETECTORS	●	●					●	●	●	●			●	●		●	●	●							14
15 ELEV LOBBY SMOKE DETECTORS - UPPER FLOORS	●	●					●	●	●	●			●	●				●							15
16 ELEV LOBBY SMOKE DETECTOR - RECALL FLOOR	●	●					●	●	●	●			●		●	●		●							16
17 ELEV CONTROLLER POWER SHUNT TRIP STATUS			●	●			●				●														17
18 FIRE PUMP POWER FAILURE/PHASE REVERSAL			●	●			●				●														18
19 FIRE PUMP RUNNING	●	●					●	●	●	●			●	●				●							19
20 FIRE PUMP SYSTEM NOT IN AUTOMATIC			●	●			●				●														20
21 AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS			●	●			●				●														21
22 -																									22
23 -																									23
24																									24
25																									25
26																									26
27																									27
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
310 WEST MARTIN ST. RALEIGH, NC 27602

DESCRIPTION:	REVISIONS:	DATE:	DRAWING NO.
Fire Alarm Matrix		6–30–09	FP–31d

MATRIX – SPRINKLED OFFICE HIGH RISE BUILDING

FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX

SYSTEM OUTPUTS

		FACP ANNUNCIATION												NOTIFICATION												REQUIRED FIRE SAFETY CONTROL													
		ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE ZONE OR DEVICE ADDRESS ALARM INDICATOR	ACTUATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RELEASE MAGNETICALLY HELD DOORS	RECALL ELEVATOR TO RECALL FLOOR	RECALL ELEVATOR TO ALTERNATE RECALL FLOOR	ACTUATE WARNING TO ELEVATOR CABS	DELAYED REMOVAL OF POWER FROM ELEVATOR	CLOSE ALL SMOKE DAMPERS	UNLOCK EXITS AND CONTROL DOORS	SHUT DOWN RESPECTIVE AIR HANDLING EQUIPMENT	ACTUATE FLOOR PRESSURIZATION	ACTUATE STAIRWELL PRESSURIZATION	ACTUATE SMOKE EXHAUST	-	-	
SYSTEM INPUTS		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
1	FIRE ALARM SYSTEM AC POWER FAILURE			●	●							●															1
2	FIRE ALARM SYSTEM LOW BATTERY					●	●						●														2
3	OPEN CIRCUIT					●	●						●														3
4	GROUND FAULT					●	●						●														4
5	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●						●														5
6	BUILDING MANUAL PULL STATIONS	●	●					●	●	●	●			●						●							6
7	CORRIDOR SMOKE DETECTORS	●	●					●	●	●	●			●	◐				●	●		●	●	●			7
8	AREA SMOKE DETECTORS	●	●					●	●	●	●			●	◐				●	●		●	●	●			8
9	HVAC AIR DUCT SMOKE DETECTORS			●	●			●				●									●						9
10	HOOD OR ROOM FIRE SUPPRESSION SYSTEM ALARM	●	●					●	●	●	●			●	◐				●	●							10
11	SPRINKLER TAMPER SWITCH			●	●			●				●															11
12	SPRINKLER WATER FLOW IN BUILDING	●	●					●	●	●	●			●	◐				●	●							12
13	SPRINKLER WATER FLOW IN ELEV EQUIP RM OR SHAFT	●	●					●	●	●	●			●	◐		●	●	●	●							13
14	ELEV EQUIP RM AREA SMOKE DETECTOR	●	●					●	●	●	●			●	◐		●		●	●							14
15	ELEV SHAFT AND ELEV EQUIP RM HEAT DETECTORS	●	●					●	●	●	●			●	◐		●	●	●	●							15
16	ELEV LOBBY SMOKE DETECTORS - UPPER FLOORS	●	●					●	●	●	●			●	◐				●	●		●	●	●			16
17	ELEV LOBBY SMOKE DETECTOR - RECALL FLOOR	●	●					●	●	●	●			●		●	●		●	●		●	●	●			17
18	ELEV CONTROLLER POWER SHUNT TRIP STATUS			●	●			●				●															18
19	FIRE PUMP POWER FAILURE/PHASE REVERSAL			●	●			●				●															19
20	FIRE PUMP RUNNING	●	●					●	●	●	●			●	◐				●	●							20
21	FIRE PUMP SYSTEM NOT IN AUTOMATIC			●	●			●				●															21
22	LEGALLY REQUIRED GENERATOR SYSTEM LOW FUEL			●	●			●				●															22
23	LEGALLY REQUIRED GENERATOR NOT IN AUTOMATIC			●	●			●				●															23
24	AREA OF REFUGE TWO-WAY COMMUNICATIONS STATUS			●	●			●				●															24
25	-																										25
26	-																										26
27																											27
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	V	W	

CITY OF RALEIGH FIRE DEPARTMENT
FIRE PROTECTION DIVISION
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DESCRIPTION:	REVISIONS:	DATE:	DRAWING NO.
Fire Alarm Matrix		6-30-09	FP-31e