

Drawing: P:\2025\25500_2001_Park_Ave\50-Dwgs\G-010-DIGITE PLAN REVIEW\SHG010.dwg
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BUILDING AREA:

GROSS BUILDING AREA PER 2019 DBC DEFINITION:

THE AREA INCLUDED WITHIN SURROUNDING EXTERIOR WALLS (OR EXTERIOR WALLS AND FIRE WALLS) EXCLUSIVE OF VENT SHAFTS AND COURTS. AREAS OF THE BUILDING NOT PROVIDED WITH SURROUNDING WALLS SHALL BE INCLUDED IN THE BUILDING AREA IF SUCH AREAS ARE INCLUDED WITHIN THE HORIZONTAL PROJECTION OF THE ROOF OR FLOOR ABOVE. (CHAPTER 2, SECTION 202)

BASEMENT:	9,100 SF
FIRST FLOOR:	7,600 SF
SECOND FLOOR:	7,400 SF
THIRD - TWELFTH FLOOR:	7,100 SF
OCCUPIED ROOF:	7,100 SF (NOT INCLUDED IN BUILDING AREA PER 503.1.4)

TOTAL GROSS AREA: 95,100 SF

OCCUPANTS:

CALCULATIONS PER 2021 MBC, CHAPTER 10, TABLE 1004.5

INCREASED OCCUPANT LOAD:
THE OCCUPANT LOAD PERMITTED IN ANY BUILDING, OR PORTION THEREOF, IS PERMITTED TO BE INCREASED FROM THAT NUMBER ESTABLISHED FOR THE OCCUPANCIES IN TABLE 1004.5, PROVIDED THAT ALL OTHER REQUIREMENT OF THE CODE ARE MET BASED ON SUCH MODIFIED NUMBER AND THE OCCUPANT LOAD DOES NOT EXCEED (1) ONE OCCUPANT PER 7 SQUARE FEET OF OCCUPIABLE FLOOR SPACE, WHERE REQUIRED BY THE BUILDING OFFICIAL, AN APPROVED AISLE, SEATING OR FIXED EQUIPMENT DIAGRAM SUBSTANTIATING ANY INCREASE IN OCCUPANT LOAD SHALL BE SUBMITTED. WHERE REQUIRED BY THE BUILDING OFFICIAL, SUCH DIAGRAM SHALL BE POSTED. (CHAPTER 10, SECTION 1004.5.1)

OCCUPANT LOAD FACTOR:

BASEMENT:	AREA:	LOAD FACTOR:	OCCUPANCY LOAD:
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL BASEMENT:	# SF		#

FIRST FLOOR:			
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL FIRST FLOOR:	# SF		#

SECOND FLOOR:			
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL SECOND FLOOR:	# SF		#

THIRD - ELEVENTH FLOOR:			
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL TYP. FLOOR:	# SF		#

TWELFTH FLOOR:			
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL TWELFTH FLOOR:	# SF		#

OCCUPIED ROOF:			
ASSEMBLY:	# SF	NET	#
BUSINESS:	# SF	GROSS	#
TOTAL ROOF:	# SF		#

TOTAL OCCUPANCY:			
ASSEMBLY:	# SF		#
BUSINESS:	# SF		#
TOTAL:	# SF		#

EXITING:

CALCULATIONS PER 2021 MBC, CHAPTER 10

DESIGN OCCUPANT LOAD (SECTION 1004): REFER TO A-012, A-013, A-014, AND A-015

QUANTITY OF EXITS REQUIRED (SECTION 1006): 2

QUANTITY OF ACCESSIBLE EXITS REQUIRED (SECTION 1009): 2

ARRANGEMENT OF EXITS (SECTION 1007.1): NOT LESS THAN 1/2 OVERALL DIAGONAL DISTANCE.

MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE WITH SPRINKLER SYSTEM IS LIMITED TO:
ASSEMBLY (FIXED SEATING): 30 FEET (SECTION 1030.8)
BUSINESS: 100 FEET (TABLE 1006.2.1)
R-1 RESIDENTIAL: 75 FEET (TABLE 1006.2.1)

MAXIMUM EXIT ACCESS TRAVEL DISTANCE WITH SPRINKLER SYSTEM IS LIMITED TO:
ASSEMBLY: 250 FEET (TABLE 1017.2)
BUSINESS: 300 FEET (TABLE 1017.2)
R-1 RESIDENTIAL: 250 FEET (TABLE 1017.2)

MINIMUM STAIR, CORRIDOR, AND DOOR WIDTH CALCULATIONS (1005.3):
MINIMUM STAIR WIDTH REQUIREMENTS: 44" PER SECTION 1011.2, 36" IF < 50 OCC
MINIMUM CORRIDOR WIDTH REQUIREMENTS: 44" PER TABLE 1020.3, 36" IF < 50 OCC
MINIMUM DOOR CLEAR WIDTH (1010.1): 32"

BASEMENT:	OCCUPANT LOAD / # OF EXITS:	CAPACITY FACTOR:	CAPACITY:	WIDTH:	REQUIRED WIDTH:
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL BASEMENT:	#	0.2	#	#	#
FIRST FLOOR:					
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL FIRST FLOOR:	#	0.2	#	#	#
SECOND FLOOR:					
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL SECOND FLOOR:	#	0.2	#	#	#
THIRD - ELEVENTH FLOOR:					
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL TYP. FLOOR:	#	0.2	#	#	#
TWELFTH FLOOR:					
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL TWELFTH FLOOR:	#	0.2	#	#	#
OCCUPIED ROOF:					
ASSEMBLY:	#	0.3	#	#	#
BUSINESS:	#	0.2	#	#	#
TOTAL ROOF:	#	0.2	#	#	#

PER ASHRAE 90.1 A VESTIBULE IS NOT REQUIRED WHEN OPENING INTO SPACES LESS THAN 3,000 SF.

PLUMBING FIXTURE CALCULATIONS:

CALCULATIONS PER 2021 MPC, CHAPTER 4, TABLE 403.1

MINIMUM REQUIRED PLUMBING FIXTURES PER GENDER

A-2 ASSEMBLY: # OCC / 2 = # OCC MALES (M) & # OCC FEMALES (W)
B BUSINESS: # OCC / 2 = # OCC MALES (M) & # OCC FEMALES (W)
R-1 RESIDENTIAL: # OCC / 2 = # OCC MALES (M) & # OCC FEMALES (W)

TABLE REQUIREMENTS:	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAINS
A-2 ASSEMBLY			
MEN (M)	1 PER 75 OCC REQ'D	1 PER 200 OCC REQ'D	1 PER 500 OCC REQ'D
	# OCC M * (1/75) = #	# OCC M * (1/200) = #	# OCC M * (1/500) = #
WOMEN (W)	1 PER 75 OCC REQ'D	1 PER 200 OCC REQ'D	1 PER 500 OCC REQ'D
	# OCC M * (1/75) = #	# OCC M * (1/200) = #	# OCC M * (1/500) = #
B BUSINESS			
MEN (M)	1 PER 25 OCC REQ'D (FIRST 50 OCC) 1 PER 50 REQ'D (AFTER 50 OCC)	1 PER 40 OCC REQ'D (FIRST 80 OCC) 1 PER 80 REQ'D (AFTER 80 OCC)	1 PER 100 REQ'D
	(# OCC M - 50) * (1/25) + (X - 50) * (1/50) = # (# OCC M - 80) * (1/40) + (X - 80) * (1/80) = #		# OCC M * (1/100) = #
WOMEN (W)	1 PER 25 OCC REQ'D (FIRST 50 OCC) 1 PER 50 REQ'D (AFTER 50 OCC)	1 PER 40 OCC REQ'D (FIRST 80 OCC) 1 PER 80 REQ'D (AFTER 80 OCC)	1 PER 100 REQ'D
	(# OCC M - 50) * (1/25) + (X - 50) * (1/50) = # (# OCC M - 80) * (1/40) + (X - 80) * (1/80) = #		# OCC M * (1/100) = #
R-1 RESIDENTIAL			
MEN (M)	1 PER SLEEPING UNIT REQ'D	1 PER SLEEPING UNIT REQ'D	-/-
	1 * # UNITS =	1 * # UNITS = #	-/-
WOMEN (W)			
TOTAL PROVIDED			
MEN (M)	#	#	#
WOMEN (W)	#	#	#
TOTAL	#	#	#

APPLICABLE CODES:

BUILDING

DCC 2019 (DETROIT CITY CODE 2019 PART 11 & V1)
DBC 2019 (DETROIT CITY BUILDING CODE 2019)
DRC 2019 (DETROIT CITY REHABILITATION CODE 2019)
MRC 2021 (MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS 2021)
MBC 2021 (MICHIGAN BUILDING CODE 2021)

MECHANICAL

DCC 2019 (DETROIT CITY CODE PART IV, CHAPTER 8, ARTICLE IV)
DMC 2019 (DETROIT CITY MECHANICAL CODE 2019)
MMC 2021 (MICHIGAN MECHANICAL CODE 2021)

ELECTRICAL

DCC 2019 (DETROIT CITY CODE PART IV, CHAPTER 8, ARTICLE III)
MEC 2023 (MICHIGAN ELECTRIC CODE 2023, PART 8)
NEC 2023 (NATIONAL ELECTRIC CODE 2023)

PLUMBING

DCC 2019 (DETROIT CITY CODE PART IV, CHAPTER 8, ARTICLE V)
DPC 2019 (2019 DETROIT CITY PLUMBING CODE)
MPC 2021 (MICHIGAN PLUMBING CODE 2021)

FIRE

DFC 2015 (DETROIT FIRE CODE 2015, BASED ON NFPA 1)
IFC 2015 (INTERNATIONAL FIRE CODE 2015)

FIRE - CONTINUED

NFPA 13 - 2013 EDITION - SPRINKLERS
NFPA 17A - 2013 EDITION - WET CHEMICAL EXTINGUISHERS
NFPA 72 - 2013 EDITION - FIRE ALARM
NFPA 98 - 2013 EDITION - COMMERCIAL COOKING VENTILATION
NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72-16)
AUTOMATIC SPRINKLER SYSTEMS (NFPA 13-16)

ENERGY

DCC 2019 (DETROIT CITY CODE PART IV, CHAPTER 8, ARTICLE VIII)
MBC 2021 (MICHIGAN BUILDING CODE 2021 - CHAPTER 13)
MEC 2021 (MICHIGAN COMMERCIAL ENERGY CODE 2021)
MUEC 2021 (MICHIGAN UNIFORM ENERGY CODE 2021)
IECC 2021 (INTERNATIONAL ENERGY CONSERVATION CODE 2021)
ASHRAE 90.1 2013

ACCESSIBILITY

2009 ICC/ANSI 117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
SAC 2015 (DETROIT ACCESSIBILITY CODE 2015)

ELEVATOR

DCC 2019 (DETROIT CITY CODE PART IV, CHAPTER 8, ARTICLE IX)
STATE OF MICHIGAN ELEVATOR CODE (PLUS ASME A17.1)

GENERAL

OSHA - TITLE 29 PART 1910 OF THE CODE OF FEDERAL REGULATIONS
STATE OF MICHIGAN OCCUPATIONAL SAFETY AND HEALTH STANDARDS

BUILDING CODE DATA:

ZONING (DCC 2019, PART IV, CHAPTER 50, ARTICLE VII)

ZONING GROUP: B5-H, MAJOR BUSINESS DISTRICT - HISTORIC

USE AND OCCUPANCY CLASSIFICATION (MBC 2021, CHAPTER 3 & MRC 2021, CHAPTER 12 & 13)

EXISTING USE AND OCCUPANCY GROUP(S): B, BUSINESS

PROPOSED USE AND OCCUPANCY GROUP(S): A-2, ASSEMBLY; B, BUSINESS; R-1, RESIDENTIAL

CONSTRUCTION TYPE (MBC 2021, CHAPTER 6, TABLE 601)

1-B NON-COMBUSTIBLE, SPRINKLERED, FIRE ALARM

GENERAL BUILDING HEIGHTS AND AREAS (MBC 2021, CHAPTER 4, SECTION 402.4.1 & CHAPTER 5)

GENERAL BUILDING HEIGHT AND AREA LIMITATIONS (SECTION 503 THROUGH 507; TABLE(S) 504.3, 504.4, 506.2)

SPRINKLERED OCCUPANCY

ALLOWABLE HEIGHT: 12 STORIES, 180 FEET
EXISTING HEIGHT: 12 STORIES, -170 FEET

ALLOWABLE BUILDING AREA PER STORY:	UL SF	
EXISTING BUILDING AREA PER STORY:	BASEMENT	9,100 SF
	FIRST FLOOR	7,600 SF
	SECOND FLOOR	7,400 SF
	THIRD - TWELFTH FLOOR	7,100 SF
	OCCUPIED ROOF	7,100 SF (NOT INCLUDED IN BUILDING AREA PER 503.1.4)

TOTAL BUILDING AREA: 95,100 SF

FIRE-RESISTANCE-RATED CONSTRUCTION (MBC 2021, CHAPTER(S) 6, 7, & 8)

ALL COMBUSTIBLE MATERIALS SHALL COMPLY WITH REQUIREMENTS ESTABLISHED IN SECTION 603.

ALL PROJECTIONS SHALL COMPLY WITH REQUIREMENTS ESTABLISHED IN SECTION 705, TABLE 705.2.

OCCUPANCY A, B, AND R FIRE AREAS (BARRIERS, WALLS, AND HORIZONTAL ASSEMBLIES) SHALL HAVE A 2 HOUR FIRE-RESISTANCE RATING PER SECTION 707, TABLE 707.3.10.

REQUIRED FIRE RATINGS (CHAPTER 6, TABLE 601)

STRUCTURE (CONCRETE & STEEL)	2 HOUR
BEARING WALLS	2 HOUR
EXTERIOR WALLS	2 HOUR
INTERIOR WALLS	2 HOUR
NON-BEARING WALLS	1 HOUR (0 HOUR WHEN EXTERIOR WALL SEPARATION IS X ≥ 30 FEET)
EXTERIOR WALLS	1 HOUR
INTERIOR WALLS	0 HOUR
FLOORS (FLOOR SLABS)	2 HOUR
ROOF	1 HOUR

FIRE PARTITIONS (CHAPTER 7)

OCCUPANCY R SEPARATION WALLS (SECTION 708.3)	X≥1/2 HOUR
CORRIDOR WALLS, SPRINKLERED (CHAPTER 10, SECTION 1020.2)	0 HOUR
OCCUPANCY A AND B	1/2 HOUR
OCCUPANCY R	1/2 HOUR
SHAFT WALLS (SECTION 713.4)	1 HOUR
X≥3 CONNECTED STORIES	1 HOUR
X≥4 CONNECTED STORIES	2 HOUR
ENCLOSED ELEVATOR LOBBY SEPARATION (SECTION 713.14.1)	N/A
EXIT DISCHARGE (CHAPTER 10, SECTION 1028.2)	SAME AS EXIT STAIR ENCLOSURE

FIRE PERFORMANCE CLASSIFICATIONS:

INTERIOR FINISHES (CHAPTER 8; TABLE 803.13)	
INTERIOR EXIT STAIRWAYS AND RAMPS AND EXIT PASSAGEWAYS	CLASS B
CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS	CLASS B
ROOMS AND ENCLOSED SPACES	CLASS C
ROOF (CHAPTER 15; TABLE 1505.1)	CLASS C

FIRE PROTECTION SYSTEMS (MBC 2021, CHAPTER 9)

FIRE PUMP AND RISER ROOM SIZE (SECTION 902)

AUTOMATIC SPRINKLER SYSTEMS (SECTION 903)

ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS (904)

FIRE DEPARTMENT HOSE OUTLETS (SECTION 905)

PORTABLE FIRE EXTINGUISHERS (SECTION 906)

PORTABLE FIRE EXTINGUISHERS WILL BE LOCATED THROUGHOUT THE BUILDING IN ACCORDANCE WITH NFPA 10 AND THE LOCAL AHJ. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. EXTINGUISHERS TO BE 4A:10B:C EXTINGUISHERS.

FIRE ALARM SYSTEM/ SMOKE DETECTION SYSTEM (SECTION 907)

DUCT SMOKE DETECTORS WILL BE PROVIDED WHERE REQUIRED IN THE MECHANICAL CODE. PER SECTION 907.3, SMOKE DETECTORS ASSOCIATED WITH THE MECHANICAL HVAC SYSTEMS WILL ANNUNCIATE A SUPERVISORY SIGNAL AT THE FIRE ALARM CONTROL PANEL. SINCE THESE DEVICES ARE INSTALLED FOR THE PURPOSE OF EQUIPMENT SHUTDOWN, A SUPERVISORY SIGNAL IS APPROPRIATE. A SINGLE MANUAL PULL STATION WILL BE PROVIDED AT THE FIRE ALARM CONTROL PANEL AS WELL AS A SPOT DETECTOR AND AUXILIARY POWER SUPPLY ONLY. THE DETECTORS MUST ACTIVATE A VISUAL AND AUDIBLE SUPERVISORY SIGNAL AT AN APPROVED LOCATION, WHICH MUST INDICATE THE SOURCE OF THE SIGNAL.

SMOKE EXHAUST SYSTEM (SECTION 909)

CARBON MONOXIDE DETECTION (SECTION 915)

GAS DETECTION SYSTEMS (SECTION 916)

MEANS OF EGRESS (MBC 2021, CHAPTER 10)

REFER TO OCCUPANT CHART FOR THE CALCULATED OCCUPANT LOAD AND EXIT CAPACITY.

THE EXIT CAPACITY OF HORIZONTAL EGRESS COMPONENTS IS BASED ON 0.2 INCHES/OCCUPANT (SECTION 1005.3).

DOORS WHEN FULLY OPENED MUST NOT REDUCE THE REQUIRED WIDTH BY MORE THAN 7". DOORS IN ANY POSITION MUST NOT REDUCE THE REQUIRED WIDTH BY MORE THAN ONE-HALF. OTHER NONSTRUCTURAL PROJECTIONS SUCH AS TRIM AND SIMILAR DECORATIVE FEATURES MAY NOT PROJECT INTO REQUIRED WIDTH 1-1/2" ON EACH SIDE (SECTION 1005.7.1).

COMMON PATH OF TRAVEL IS LIMITED TO:

ASSEMBLY (FIXED SEATING): 30 FEET (SECTION 1030.8)
BUSINESS: 100 FEET (TABLE 1006.2.1)
R-1 RESIDENTIAL: 75 FEET (TABLE 1006.2.1)

ONE EXIT ALLOWED LESS THAN 49 OCCUPANTS, FOR R-1 USE = 10 (TABLE 1006.2.1)

WHERE TWO EXITS OR EXIT ACCESS DOORWAYS ARE REQUIRED FROM ANY PORTION OF THE EXIT ACCESS, THE EXIT DOORS OR EXIT ACCESS DOORWAYS MUST BE PLACED A DISTANCE APART TO NOT LESS THAN ONE-HALF OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE BUILDING OR AREA TO BE SERVED MEASURED IN A STRAIGHT LINE BETWEEN EXIT DOORS OR EXIT ACCESS DOORWAYS IN ACCORDANCE WITH SECTION 1007.1. WHERE ACCESS TO THREE OR MORE EXITS IS REQUIRED, AT LEAST TWO EXIT DOORS OR EXIT ACCESS DOORWAYS MUST BE ARRANGED AS OUTLINED ABOVE.

EACH AREA OF REFUGE SHALL BE SIZED TO ACCOMMODATE ONE WHEELCHAIR SPACE OF 30 INCHES BY 52 INCHES FOR EACH 200 OCCUPANTS OR PORTION THEREOF, BASED ON THE OCCUPANT LOAD OF THE AREA OF REFUGE AND AREAS SERVED BY THE AREA OF REFUGE. SUCH WHEELCHAIR SPACES SHALL NOT REDUCE THE MEANS OF EGRESS MINIMUM WIDTH OR REQUIRED CAPACITY. ACCESS TO ANY OF THE REQUIRED WHEELCHAIR SPACES IN AN AREA OF REFUGE SHALL NOT BE OBSTRUCTED BY MORE THAN ONE ADJOINING WHEELCHAIR SPACE (SECTION 1008.6.3).

EMERGENCY POWER/EGRESS LIGHTING (SECTION 1008)

OWNER WILL PROVIDE A CODE COMPLYING EMERGENCY POWER SYSTEM FOR ALL EMERGENCY LIGHTING, EXIT SIGNAGE, AND FIRE ALARM SYSTEM AND SERVICES.

TRAVEL DISTANCE WITHIN THE BUILDING IS LIMITED TO:
250 FEET IN A SPRINKLERED ASSEMBLY & RESIDENTIAL OCCUPANCY (TABLE 1017.2)
300 FEET IN A SPRINKLERED BUSINESS OCCUPANCY (TABLE 1017.2).

DEAD END CORRIDORS SHALL NOT EXCEED:
20 FEET IN SPRINKLERED ASSEMBLY OCCUPANCIES (SECTION 1020.5)
50 FEET IN SPRINKLERED BUSINESS AND R-1 RESIDENTIAL OCCUPANCIES (SECTION 1020.5)