

APPLICABLE BUILDING CODES

Jurisdiction: Bentonville, Arkansas

City of Bentonville Amendments to the 2021 Arkansas Fire Prevention Code Vol I (Fire)
2021 Arkansas Fire Prevention Code Vol I (Fire)
2021 Arkansas Fire Prevention Code Vol II (Building)
2020 National Electrical Code
2018 Arkansas Plumbing Code
2018 Arkansas Fuel Gas Code
2014 Arkansas Energy Code

GENERAL BUILDING INFORMATION

The project is a new building addition to an existing building for Calvary Church. Calvary Church will use this space for weekly religious services. The new building will serve three main purposes: Assembly A-3, religious education space, and business offices.

Existing Building Space is 14,362 sf (10,297 sf first floor + 4,072 sf second floor).
New Building Space is 44,270 sf (32,778 first floor + 11,492 second floor).

Seismic Design Category 'A'

BUILDING TYPE INFORMATION

Per existing drawings provided by the owner, the existing building classifies as Assembly Group A-3. The new building will be classified as Assembly Group A-3, Business Group B, & Accessory Religious Educational Rooms.

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

Allowable area for the NEW, IIB, Single Occupancy, Multi (Two) - Story Building:

$A_u = [A_u + (N_S \times I)] \times S_u$
 $I_u = [I_u + (P - 0.25)W/30]$
 $I_u = [830.9 / 16881.583 - 0.25]30/30 = 0.69$
 $A_u = [28,500 + (5,500 \times 0.69)] \times 2 = 70,110$ Building SF (maximum allowed for single story is 35,055 sf)
Total Area of the New Building is 44,270 SF (32,778 sf first floor / 11,492 sf second floor)

Allowable area for the EXISTING, VB, Single Occupancy, Multi (Two) - Story Building:

$A_u = [A_u + (N_S \times I)] \times S_u$
 $I_u = [I_u + (P - 0.25)W/30]$
 $I_u = [442/490.583 - 0.25]30/30 = 0.63$
 $A_u = [18,000 + (5,000 \times 0.63)] \times 2 = 44,280$ Building SF (maximum allowed for single story is 22,140 sf)
Total Area of the Existing Building is 14,362 SF (10,297 sf first floor / 4,072 sf second floor)

CHAPTER 6 - TYPES OF CONSTRUCTION

Table 601 - Fire Resistance Ratings Provided for Building Elements

Construction Type	I-B
Structural Frame	0 hours
Bearing Walls (Exterior)	0 hours
Bearing Walls (Interior)	0 hours
Non-Bearing Exterior Walls (Per Table 602 and Fire Separation Distance greater than 30')	0 hours
Non-Bearing Interior Walls	0 hours
Floor Construction	0 hours
Roof Construction	0 hours

Existing Construction Type	V-B
Structural Frame	0 hour
Bearing Walls (Exterior)	0 hour
Bearing Walls (Interior)	0 hour
Non-Bearing Exterior Walls (Per Table 602 and Fire Separation Distance greater than 30')	0 hour
Non-Bearing Interior Walls	0 hours
Floor Construction	0 hour
Roof Construction	0 hour

CHAPTER 7 - FIRE RESISTANCE RATED CONSTRUCTION

SECTION 720 THERMAL- AND SOUND-INSULATING MATERIALS

Per 720.2 Concealed Installation. Insulating materials, where concealed as installed in buildings of any type of construction, shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450, including facings (exempted from buildings of Type III, IV or V construction only).

Per 720.3 Exposed Installation. Insulating materials, where exposed as installed in buildings of any type of construction, shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

CHAPTER 8 - INTERIOR FINISHES

WALL AND CEILING FINISHES

	Flame Spread	Smoke-Developed
Class A	0-25	0-450
Class B	26-75	0-450
Class C	76-200	0-450

Interior Wall and Ceiling Finish Requirements by Occupancy for Sprinklered Buildings

Finish Class Required by Occupancy

Business Group B

Class A or B

Class A or B or C

Class A or B or C

FIRE PROTECTION SYSTEMS

A portion of the existing building is sprinklered with the remainder of the existing building to be sprinklered in this project. The new building will be sprinklered by a domestic water system with sprinkler heads.

PORTABLE FIRE EXTINGUISHERS

Portable fire extinguishers shall be provided per IFCC Ch. 906

FIRE ALARM AND DETECTION SYSTEMS

The existing building does currently have a fire alarm system that will be modified to accommodate new sprinkler system. The new building will have a fire alarm system.

MEANS OF EGRESS

OCCUPANT LOADS PER INTERNATIONAL BUILDING CODE

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	FLOOR AREA	FLOOR AREA IN SF PER OCCUPANT	OCCUPANCY LOAD
Assembly - Fixed Seats (total 1st & 2nd worship seating)	9,488	-	847
Assembly - Concentrated	-	7 net	-
Assembly - Unconcentrated	3,813	15 net	254
Business	4,595	150 gross	32
Education - Classroom	2,756	20 net	141
Storage/Equipment	1,301	300 gross	8
Locker Rooms	446	50 gross	9
Platform	1,883	15 net	125
CALCULATED OCCUPANCY LOAD - 1ST FLOOR			1,416

Assembly - Concentrated	1,511	7 net	216
Assembly - Unconcentrated	689	15 net	47
Business	3,854	150 gross	27
Education - Classroom	2,580	20 net	132
Storage/Equipment	1,695	300 gross	6
CALCULATED OCCUPANCY LOAD - 2ND FLOOR			424

CALCULATED OCCUPANCY LOAD - 1ST & 2ND FLOOR

1,844

TOILETS REQUIRED

Occupancy Group	Men	Women
Assembly	682 / 150 = 4.54	682 / 75 = 9.09
Business	29.5 / 25 = 1.18	29.5 / 25 = 1.18
Education	136.5 / 50 = 2.73	136.5 / 50 = 2.73
Storage	7 / 100 = .07	7 / 100 = .07
Locker Rooms	4.5 / 25 = .18	4.5 / 25 = .18
Platform	62.5 / 150 = .42	62.5 / 75 = .83

TOILETS PROVIDED

Men	13
Women	14.08
TOILETS PROVIDED	15
UNISEX TOILETS PROVIDED	4
TOTAL TOILETS PROVIDED*	19
	17

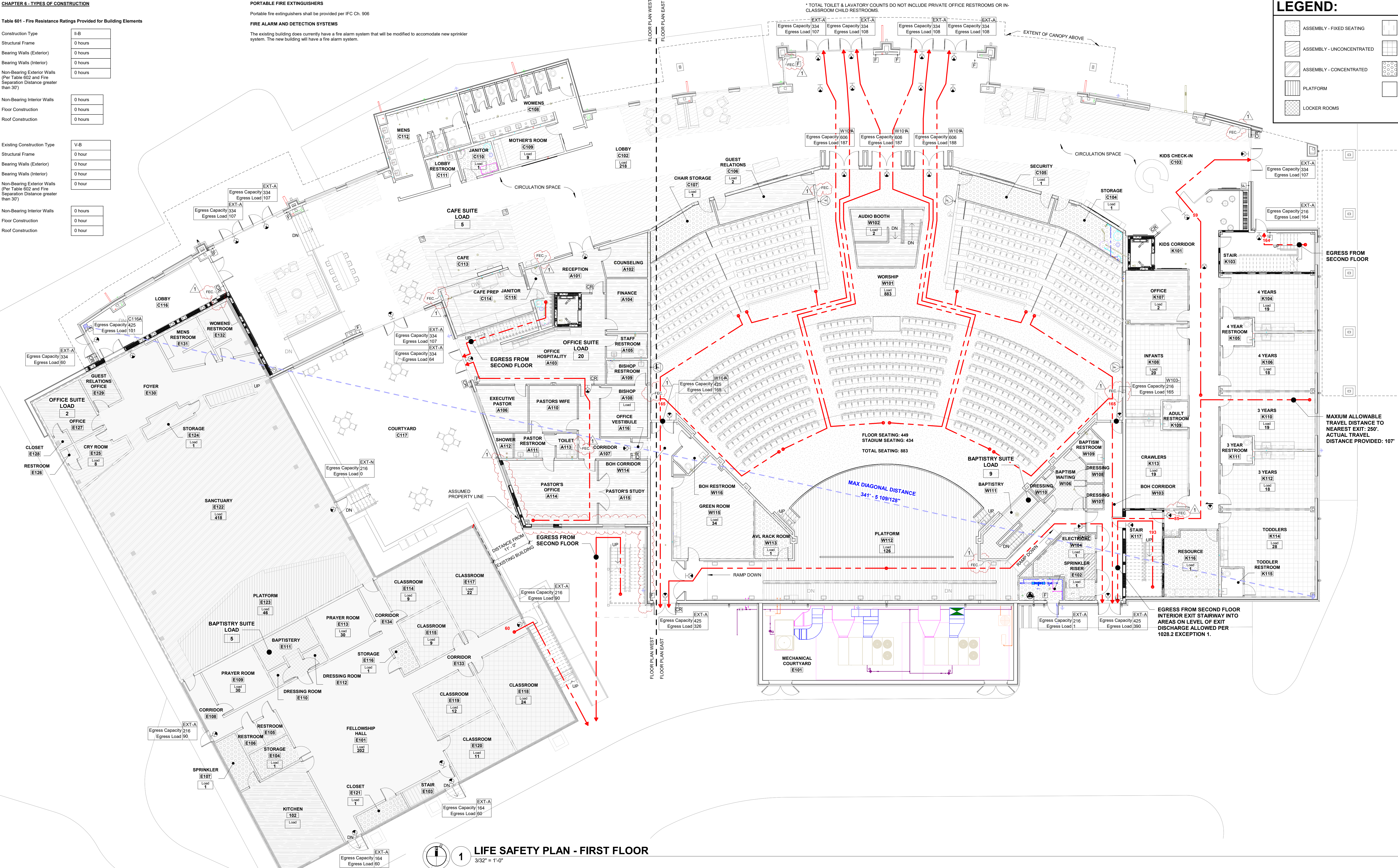
LAVATORIES REQUIRED

Occupancy Group	Men	Women
Assembly	682 / 200 = 3.41	682 / 200 = 3.41
Business	29.5 / 40 = 0.73	29.5 / 40 = 0.73
Education	136.5 / 50 = 2.73	136.5 / 50 = 2.73
Storage	7 / 100 = .07	7 / 100 = .07
Locker Rooms	4.5 / 25 = .18	4.5 / 25 = .18
Platform	62.5 / 150 = .42	62.5 / 75 = .83

LAVATORIES PROVIDED

Men	7.54
Women	7.95
LAVATORIES PROVIDED	8
UNISEX LAVATORIES PROVIDED*	4
	4

* TOTAL TOILET & LAVATORY COUNTS DO NOT INCLUDE PRIVATE OFFICE RESTROOMS OR IN-CLASSROOM CHILD RESTROOMS.



LIFE SAFETY PLAN NOTES:

- SEE ELECTRICAL DRAWINGS FOR LOCATION OF EMERGENCY EGRESS LIGHTING.
- ALL EXISTING EXIT SIGNS MAY NOT BE SHOWN.
- ALL EXISTING CARD READERS AND ACCESS CONTROL LOCATIONS MAY NOT BE SHOWN.
- ALL EXISTING FIRE EXTINGUISHERS MAY NOT BE SHOWN.

LIFE SAFETY PLAN LEGEND:

- 200 EXIT LOAD
- WALL MOUNTED INTERNALLY LIT EXIT SIGN
- CEILING MOUNTED INTERNALLY LIT EXIT SIGN, WITH SINGLE DIRECTIONAL ARROW
- CEILING MOUNTED INTERNALLY LIT EXIT SIGN, WITH DUAL DIRECTIONAL ARROWS
- ACCESS CONTROL SYSTEM - CARD READER & ASSOCIATED ACCESS CONTROLLED DOOR
- FIRE ALARM PULL STATION
- FIRE ALARM NOTIFICATION DEVICE
- DIAGONAL DISTANCE MEASUREMENT
- DIRECTION OF EXIT LOAD

OCCUPANCY LOAD

LEGEND:

- ASSEMBLY - FIXED SEATING
- ASSEMBLY - UNCONCENTRATED
- ASSEMBLY - CONCENTRATED
- PLATFORM
- LOCKER ROOMS
- BUSINESS
- EDUCATIONAL
- STORAGE, EQUIPMENT
- CIRCULATION

LIVE

design group

architecture

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3117 2nd Avenue South Birmingham, AL 35203
p 205.870.3090
www.LIVEDesigngroup.com

REGISTERED ARCHITECT

CRAIG A. KRAWCZYK

NO. 10045

STATE OF ARKANSAS

CALVARY CHURCH

CALVARY CHURCH FACILITY ADDITION

BENTONVILLE, AR

Revisions

No.	Description	Date
1	Addendum 01	09/12/25

Project Number

21010

Date

08/12/2025

CODE SUMMARY & LIFE SAFETY FIRST FLOOR PLAN

G1.01

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