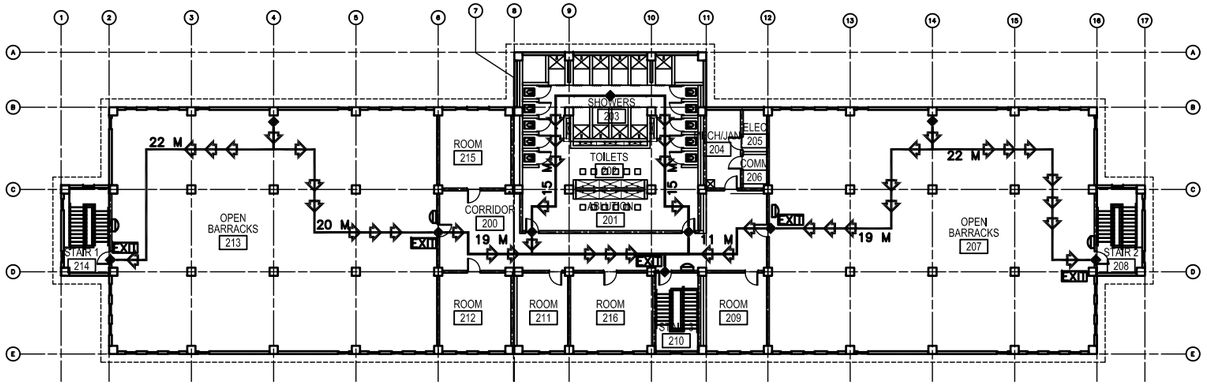
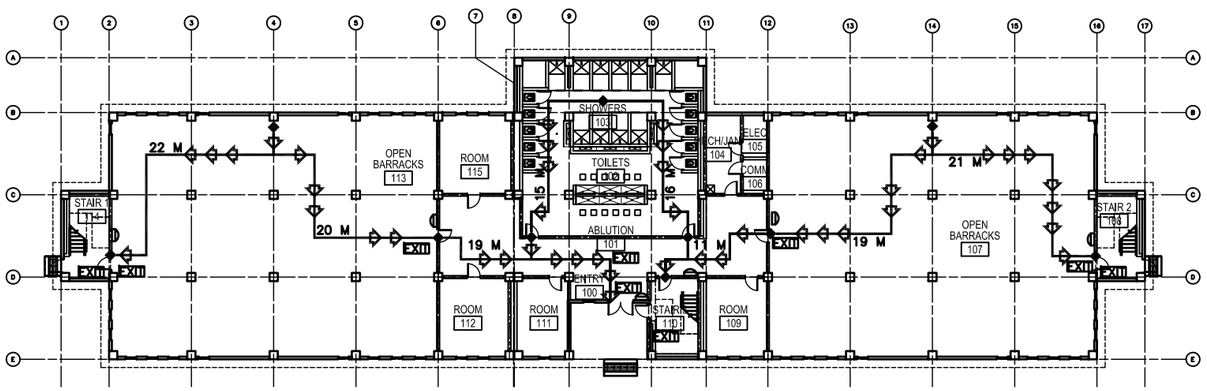


2 A-001 SECOND FLOOR LIFE SAFETY PLAN

SCALE: 1:200



1 A-001 FIRST FLOOR LIFE SAFETY PLAN

SCALE: 1:200

CODE ANALYSIS:

1. REFERENCES:
   2006 INTERNATIONAL BUILDING CODE (2006 IBC)
   2006 LIFE SAFETY CODE (2006 NFPA 101)

2. IBC OCCUPANCY CLASSIFICATION:
   GROUP R–2 (NEW HOTELS AND DORMITORIES NFPA 101 6.1.8 AND CHAPTER 28)

3. TYPE OF CONSTRUCTION (IBC): TYPE I–B (UNPROTECTED/NONSPRINKLERED)

4. IBC TABLE 503: ALLOWABLE HEIGHT AND BUILDING AREAS:
   GROUP R–2
   ALLOWABLE AREA: UL SM
   ALLOWABLE HEIGHT: 11 STORIES (48 M)

   GROUP R–2
   PROPOSED AREA: 3574 SM
   PROPOSED HEIGHT: 2 STORY (<48 M)

   STORAGE ROOMS: 1 HOUR SEPARATION REQUIRED

5. IBC TABLE 601 & 602: FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS FOR TYPE I–B

BUILDING ELEMENT	RATING (HOUR)	REFERENCE
STRUCTURAL FRAME (COLUMNS, GIRDERS & TRUSSES)	2	TABLE 601
BEARING WALLS		
EXTERIOR	2	TABLE 601
INTERIOR	2	TABLE 601
NONBEARING WALLS & PARTITIONS		
INTERIOR	0	TABLE 601
FLOOR CONSTRUCTION	2	TABLE 601
ROOF CONSTRUCTION	1	TABLE 601
EXTERIOR WALL	0	TABLE 602

6. IBC TABLE 803.5 – INTERIOR WALL AND CEILING FINISH REQUIREMENTS FOR R–2 OCCUPANCY/NONSPRINKLERED

GROUP	EXIT ENCLOSURES AND EXIT PASSAGEWAY	CORRIDORS	ROOMS AND ENCLOSED SPACES
R–2	B	B	C

7. NFPA 101 TABLE 7.3.1.2 – OCCUPANT LOAD
   HOTELS AND DORMITORIES = 18.6 SM/PERSON CALCULATED = 193 OCCUPANTS
   ACTUAL = 212 OCCUPANTS

8. NFPA 101 TABLE 7.3.3.1 – EGRESS CAPACITY
   HOTELS AND DORMITORIES = 5 MM PER OCCUPANT

   MINIMUM REQUIRED: 1060 MM (212 OCCUPANTS x 5 MM PER OCCUPANT)
   PROPOSED EGRESS CAPACITY: 4500 MM: (3) 900 MM DOORS, (1) 900 MM DOUBLE DOOR

9. NFPA 101 TABLE 7.3.3.1 – STAIR CAPACITY
   HOTELS AND DORMITORIES = 7.6 MM PER OCCUPANT
   MINIMUM REQUIRED: 821 MM (108 OCCUPANTS X 7.6 MM PER OCCUPANT)

   NFPA 101 TABLE 7.2.2.2.1.2 – MINIMUM STAIR WIDTH
   1120 MM, LESS 114 MM PROJECTION FOR HANDRAILS & GUARDRAILS EACH SIDE, 892 MM

   PROVIDED: 892 MM CLEAR WIDTH EACH STAIR

10. NFPA 101 PARAGRAPH 28.2.6 – EXIT ACCESS TRAVEL DISTANCE
    MAXIMUM ALLOWED WITHIN ROOM OR SUITE TO CORRIDOR: 23 METERS
    MAXIMUM ALLOWED CORRIDOR DOOR OF ANY ROOM OR SUITE TO NEAREST EXIT: 30 METERS

    PROPOSED WITHIN ROOM OR SUITE TO CORRIDOR: 22 METERS
    PROPOSED CORRIDOR DOOR OF ANY ROOM OR SUITE TO NEAREST EXIT: 20 METERS

11. NFPA 101 PARAGRAPH 28.3.6.1.2 – CORRIDOR FIRE–RESISTANCE RATING (HOUR)
    REQUIRED: WALLS NOT LESS THAN ONE HOUR FIRE RESISTANCE RATING
    PROPOSED: 1 HOUR WALLS

12. NFPA 101 PARAGRAPH 28.3.6.2 & TABLE 8.3.4.2 – DOORS INTO EXIT ACCESS CORRIDORS
    REQUIRED MINIMUM: 20 MINUTE FIRE PROTECTION RATING
    PROPOSED: 20 MINUTE DOORS

13. NFPA 101 PARAGRAPH 28.2.3.3 – CORRIDOR WIDTH
    REQUIRED: SUFFICIENT FOR OCCUPANT LOAD, BUT NOT LESS THAN 1120 MM
    CALCULATED WIDTH REQUIRED PER OCCUPANT LOAD: 1060 (212 OCCUPANTS X 5 MM)
    PROVIDED: 1700 MM

14. NFPA 101 PARAGRAPH 28.2.5.3 – COMMON PATH OF TRAVEL
    MAXIMUM ALLOWED: 10.7 METERS
    PROVIDED: 0 METERS

15. NFPA 101 PARAGRAPH 28.2.5.5 – DEAD END CORRIDORS
    PERMITTED: 10.7 METERS
    PROPOSED: NO DEAD END CORRIDORS

16. NFPA 101 PARAGRAPH 28.2.4.1 AND 7.4.1.1 – MINIMUM NUMBER OF EXITS
    REQUIRED: 2 MINIMUM
    PROPOSED: 4 EXITS

17. NFPA 101 PARAGRAPH 28.2.1.2 & 24.2 – SECONDARY MEANS OF ESCAPE
    ONE OF THE FOLLOWING REQUIRED:
    1)DOOR, SIMILAR TO PRIMARY, BUT REMOTE FROM PRIMARY
    2) OPERABLE WINDOW, 0.53 SM, NOT LESS THAN 510 MM WIDE, 610 MM HIGH, NOT MORE THAN 1120 MM AFF, WITHIN 6100 MM OF GRADE
    PROVIDED: OPERABLE WINDOWS, 0.93 SM EACH, MULTIPLE PER SLEEPING ROOM

18. NFPA 101 PARAGRAPH 24.2.2.4 – TWO PRIMARY MEANS OF ESCAPE
    AREA WITH DWELLING UNIT EXCEEDS 185 SM PER STORY
    ALLOWED AREA PER STORY WITHIN DWELLING UNIT: 185 SM
    PROVIDED AREA WITHIN DWELLING UNIT: 497 SM
    REQUIRED PRIMARY EXITS: 2
    PROVIDED PRIMARY EXITS: 2

19. NFPA 101 PARAGRAPH 28.3.7.1 – SUBDIVISION OF BUILDING SPACES – NONSPRINKLERED
    REQUIRED: EACH GUEST ROOM OR DORMITORY ROOM SHALL BE SEPARATED FROM OTHER GUEST OR DORMITORY ROOMS BY FIRE BARRIERS HAVING FIRE RESISTANCE RATING OF NOT LESS THAN 1 HOUR
    PROVIDED: 1 HOUR SEPARATION

20. HAZARDOUS AREA PROTECTION TABLE 28.3.2.2.2
    STORAGE ROOMS: 1 HOUR SEPARATION REQUIRED

21. NFPA 101 A.3.3.53 DORMITORY: ROOMS WITHIN DORMITORIES INTENDED FOR THE USE OF INDIVIDUALS FOR COMBINED LIVING AND SLEEPING PURPOSES ARE GUEST ROOMS OR GUEST SUITES. EXAMPLES OF DORMITORIES ARE COLLEGE DORMITORIES, FRATERNITY AND SORORITY HOUSES AND MILITARY BARRACKS.

22. NFPA 101 28.3.5.2 EXTINGUISHMENT REQUIREMENTS: AUTOMATIC SPRINKLER PROTECTION REQUIRED UNLESS SLEEPING ROOMS HAVE DOORS DIRECTLY TO OUTSIDE.
    DUE TO AUSTERE DESIGN CRITERIA, THE GOVERNMENT HAS A FIRE PROTECTION WAIVER FOR THIS REQUIREMENT.

LEGEND:

- DENOTES PATHS OF EXIT TRAVEL
- EXIT — DENOTES DOOR AS AN EMERGENCY EXIT
- DENOTES STARTING POINT FOR TRAVEL DISTANCE
- DENOTES FIRE EXTINGUISHER LOCATIONS
- (1) HOUR RATED WALL
- (2) HOUR RATED WALL
- (3) HOUR RATED WALL

LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM), UNLESS OTHERWISE NOTED

0 4000 8000
SCALE: 1:200

APPROVED:

A/E DESIGNER OF RECORD

B5

US ARMY CORPS OF ENGINEERS
AFGHANISTAN ENGINEER DISTRICT

Mark	Description	Date	Appr.	Mark	Description	Date	Appr.

Designed by: KRC
Cad by: EBR
Cad by: NLJ
Date: 2/23/10
Rev: 0
Reviewed by: LHM
Submitted by: BAKER
Drawing code:
File name: AN/BENB/A-001
Plot date: 6/5/2010
Plot scale: 1:1X

U.S. ARMY CORPS OF ENGINEERS
AFGHANISTAN ENGINEER DISTRICT
APO AE 96338

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STANDARD DESIGN
VARIOUS PROJECTS
VARIOUS LOCATIONS, AFGHANISTAN

ENLISTED BARRACKS

LIFE SAFETY PLAN

Sheet reference number:
A–001