

CODE ANALYSIS- TYPE V-A

BUILDING BASICS - TYPE V-A	
OCCUPANCY	R-2, A-3
CONSTRUCTION TYPE	V-A
SPRINKLER SYSTEM	NFPA 13 WITH STANDPIPE
NUMBER OF UNITS	33 UNITS
BUILDING ELEMENTS FIRE RESISTANCE RATING (TABLE 601 & TABLE 602)	<ul style="list-style-type: none"> 1 HOUR - PRIMARY STRUCTURAL FRAME 1 HOUR - BEARING WALL - EXTERIOR 1 HOUR - BEARING WALL - INTERIOR 1 HOUR - NONBEARING WALL - EXTERIOR 0 HOUR - NONBEARING WALL - INTERIOR 1 HOUR - FLOOR CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS 1 HOUR - ROOF CONSTRUCTION AND ASSOCIATED SECONDARY MEMBERS
ALLOWABLE HEIGHT - TYPE V-A, R-2	
IBC REFERENCE	TABLE 504.3 & 504.4
FOR R-2 OCCUPANCY CLASSIFICATION BUILDINGS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 (5)	
MAX ALLOWABLE HT.	70 FT.
ACTUAL BUILDING HT.	51 FT.
MAX STORIES	4 STORIES
ACTUAL STORIES	4 STORIES
ALLOWABLE AREA - TYPE V-A, R-2	
IBC REFERENCE	506.2.4 - MIXED OCCUPANCY, MULTISTORY BUILDING
FOR R-2 OCCUPANCY CLASSIFICATION BUILDINGS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 (5M) NFPA 13	
ALLOWABLE AREA PER FLOOR	A _a = 36,000 SF
TOTAL ALLOWABLE AREA FOR R-2	(36,000 SF/FLOOR x 3 FLOORS) = 108,000 SF
FRONTAGE INCREASE (506.3) NOT TAKEN	
AMOUNT OF INCREASE (506.3.3), I = [F/P - 0.25] W/30 (EQUATION 5-5)	
WHERE:	F = FRONTAGE INCREASE PER FORMULA, I = [F/P - 0.25] W/30 P = BUILDING PERIMETER WHICH FRONTS A PUBLIC WAY OR OPEN SPACE (MIN. 20'-0") W = ENTIRE BUILDING PERIMETER W' = WIDTH ON PUBLIC WAY OR OPEN SPACE (20 FT MIN REQ'D, 30 FT MAX ALLOWED)
I = [0.0 - 0.0] 30/30 = 0.0	
ALLOWABLE AREA FORMULA; A_a = [A_s + (NS x I)] (EQUATION 5-3)	
WHERE:	A _a = ALLOWABLE AREA (SF) A _s = TABULAR ALLOWABLE AREA FACTOR (NS, S1R, OR SM VALUE) PER TABLE 506.2 NS = TABULAR ALLOWABLE AREA FACTOR IN ACCORDANCE WITH TABLE 506.2 FOR A NON-SPRINKLERED BUILDING (REGARDLESS OF WHETHER THE BUILDING IS SPRINKLERED) I = AREA FACTOR INCREASE DUE TO FRONTAGE (PERCENT) AS CALCULATED PER 506.3
A _a = 36,000 SF	
NS = 12,000 SF	
I = 0	
TOTAL ALLOWABLE WITH INCREASE PER SECTION 506.2.4	
MAX ALLOWABLE AREA W/ INCREASE	A _a = 36,000 + [(2,000 x 0.75)] = 45,000 SF PER FLOOR
MAX TOTAL ALLOWABLE AREA W/ INCREASE	(45,000 SF/FLOOR x 3 FLOORS) = 135,000 SF
ACTUAL AREAS	
FOR BUILDINGS WITH MORE THREE STORIES ABOVE GRADE PLANE, THE TOTAL BUILDING AREA SHALL BE SUCH THAT THE AGGREGATE SUM OF THE RATIOS OF THE ACTUAL AREA OF EACH STORY DIVIDED BY THE ALLOWABLE AREA OF SUCH STORIES, DETERMINED IN ACCORDANCE WITH EQUATION 5-3 BASED ON THE APPLICABLE PROVISIONS OF SECTION 506.1, SHALL NOT EXCEED THREE	
ALLOWABLE AREA - FIRE AREA 1 (IBC 506.2.4)	
LEVEL 1 - (R-2) 8,308 SF / 36,000 SF = 0.23 (A-3) 3,948 SF / 34,500 SF = 0.11 (B) 1,583 SF / 54,000 SF = 0.03	
LEVEL 2 - (R-2) 8,697 SF / 36,000 SF = 0.24 (B) 4,652 SF / 54,000 SF = 0.09	
LEVEL 3 - (R-2) 9,420 SF / 36,000 SF = 0.26	
LEVEL 4 - (R-2) 9,304 SF / 36,000 SF = 0.26	
= 1.22 < 3 OK	

EXITS REQUIRED - 4 OR MORE STORIES	
IBC REFERENCE	SECTION 1006.3.1 (IBC 2015), SECTION 1006.3.2 (IBC 2018)
ALLOWS FOR TWO EXITS OR ACCESS TO EXITS FOR OCCUPANCY R-2 WITH A MAXIMUM OCCUPANT LOAD OF 500	
PROVIDED	2 EXITS REQUIRED PER FLOOR, MINIMUM 2 EXITS PROVIDED PER FLOOR.

AREA SCHEDULE - BUILDING 3

Name	Area
CIRCULATION	301 SF
CLUBROOM	3,097 SF
LEASING	1,575 SF
MAIL ROOM	578 SF
RESIDENTIAL	7,697 SF
RESTROOMS	621 SF
LVL 1 T.O.C. (B3)	13,869 SF
CIRCULATION	179 SF
FITNESS	2,827 SF
GOLF SIMULATOR	798 SF
RESIDENTIAL	8,726 SF
SPIN ROOM	229 SF
YOGA ROOM	654 SF
LVL 2 T.O.G.C. (B3)	13,412 SF
RESIDENTIAL	9,463 SF
LVL 3 T.O.G.C. (B3)	9,463 SF
RESIDENTIAL	9,429 SF
LVL 4 T.O.G.C. (B3)	9,429 SF
TOTAL BUILDING AREA	46,173 SF

EGRESS - AREA SCHEDULE - BUILDING 3

Level	Building	Name	Area	Occupancy Type	Occ. Load Factor	Occ. Load
LVL 1 T.O.C. (B3)	BLDG 3	CIRCULATION	301 SF	A-3 ACC	15	207
LVL 1 T.O.C. (B3)	BLDG 3	CLUBROOM	3,097 SF	A-3	15	207
LVL 1 T.O.C. (B3)	BLDG 3	LEASING	1,575 SF	B	150	11
LVL 1 T.O.C. (B3)	BLDG 3	MAIL ROOM	578 SF	R-2 ACC	200	3
LVL 1 T.O.C. (B3)	BLDG 3	RESIDENTIAL	7,697 SF	R-2 ACC	200	39
LVL 1 T.O.C. (B3)	BLDG 3	RESTROOMS	621 SF	A-3 ACC	200	3
LVL 1 T.O.C. (B3)	BLDG 3	CIRCULATION	179 SF	B ACC	50	57
LVL 2 T.O.G.C. (B3)	BLDG 3	FITNESS	2,827 SF	B	50	16
LVL 2 T.O.G.C. (B3)	BLDG 3	GOLF SIMULATOR	798 SF	B	50	16
LVL 2 T.O.G.C. (B3)	BLDG 3	RESIDENTIAL	8,726 SF	R-2	200	44
LVL 2 T.O.G.C. (B3)	BLDG 3	SPIN ROOM	229 SF	B	50	5
LVL 2 T.O.G.C. (B3)	BLDG 3	YOGA ROOM	654 SF	B	50	14
LVL 2 T.O.G.C. (B3)	BLDG 3	CIRCULATION	13,412 SF	B	50	14
LVL 3 T.O.G.C. (B3)	BLDG 3	RESIDENTIAL	9,463 SF	R-2	200	48
LVL 3 T.O.G.C. (B3)	BLDG 3	CIRCULATION	9,463 SF	R-2	200	48
LVL 4 T.O.G.C. (B3)	BLDG 3	RESIDENTIAL	9,429 SF	R-2	200	48
LVL 4 T.O.G.C. (B3)	BLDG 3	CIRCULATION	9,429 SF	R-2	200	48
TOTAL BUILDING AREA			46,173 SF			

THIS SET OF PLANS IS TO STAY ON THE JOB SITE AT ALL TIMES REVIEWED FOR CODE COMPLIANCE 2018 IRC 2023 NEC

Validity of Permit. The issuance or granting of a permit or approval of plans, specifications and computations shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid.

The issuance of a permit based upon plans, specifications and other data shall not prevent the building official from thereafter requiring the correction of errors in said plans, specifications and other data, or from preventing building operations being carried on thereunder when in violation of this code or of any other ordinance of this jurisdiction.

*All codes as adopted by Chapter 18 of the City of Arvada code.

APPROVED REVISED PLAN
05/14/2024 2:57:17 PM

APPROVED SUBJECT TO FIELD INSPECTION

FIRE PROTECTION NOTES

2. ALL EXTERIOR & LOAD BEARING WALLS FOR TYPE V-A CONSTRUCTION TO BE 1 HOUR RATED. REFER TO OVERALL BUILDING PLANS, ELEVATIONS, AND UNIT PLANS FOR WALL TYPE DESIGNATIONS.

3. WALLS SEPARATING DWELLING UNITS FROM EACH OTHER SHALL BE CONSTRUCTED AS 1 HOUR RATED FIRE PARTITIONS. WALLS SEPARATING DWELLING UNITS FROM OTHER OCCUPANCIES OR ACCESSORY OCCUPANCIES SHALL BE 1 HOUR RATED EXCEPT WHERE IBC TABLE 508.4 OR TABLE 509 REQUIRES A HIGHER RATING.

5. CORRIDOR WALLS SHALL BE CONSTRUCTED AS 1 HOUR RATED FIRE PARTITIONS. FOR DWELLING UNIT ACCESS PROVIDED VIA STAIR ENCLOSURE, REFER TO STAIR ENCLOSURE REQUIREMENTS. REFER TO BUILDING PLANS FOR WALL TYPE DESIGNATIONS. PROVIDE OPENING PROTECTIVES FOR FIRE AND SMOKE PER IBC SECTION 716.

6. FLOOR ASSEMBLIES SEPARATING DWELLING UNITS FROM EACH OTHER SHALL BE 1 HOUR RATED. FLOOR ASSEMBLIES SEPARATING DWELLING UNITS FROM OTHER OCCUPANCIES OR ACCESSORY OCCUPANCIES SHALL BE 1 HOUR RATED EXCEPT WHERE IBC TABLE 508.4 OR TABLE 509 REQUIRES A HIGHER RATING.

7. IN PODIUM BUILDINGS, FLOOR ASSEMBLY SEPARATING CONSTRUCTION TYPES SHALL BE 3 HOUR RATED PER IBC 510.2.

8. STAIR WALLS SHALL BE CONSTRUCTED AS 1 HOUR RATED FIRE BARRIER WALLS WHEN CONNECTING 3 STORIES OR LESS, WHERE CONNECTING 4 OR MORE STORIES, RATING SHALL BE 2 HOURS. PER IBC 1023.2, PROVIDE OPENING PROTECTIVES FOR FIRE AND SMOKE PER IBC SECTION 716. PENETRATIONS PROHIBITED OTHER THAN THOSE SERVING THE STAIR PER IBC 1023.

9. ALL SHAFTS SHALL BE CONSTRUCTED AS 1 HOUR RATED FIRE BARRIER WALLS WHEN CONNECTING 3 STORIES OR LESS, WHERE CONNECTING 4 STORIES OR MORE INCLUDING BASEMENTS, RATING SHALL BE 2 HOURS. PENETRATIONS PROHIBITED OTHER THAN THOSE SERVING THE SHAFT PER IBC 713.8.1.

10. REFER TO A-40 SHEET SERIES FOR ASSEMBLY DETAILS.

11. PROVIDE STANDPIPES AS REQUIRED BY IBC SECTION 905 IN EVERY EXIST STAIR SHAFT AND ON EACH SIDE OF THE HORIZONTAL EXITS. STANDPIPES LOCATED OUTSIDE STAIR SHAFTS TO BE ENCLOSED WITHIN SHAFTS.

12. TERMINATION ROOMS FOR TRASH CHUTES CONNECTING 3 STORIES SHALL BE PROTECTED WITH 1 HOUR RATED FIRE BARRIERS AND 1 HOUR RATED HORIZONTAL ASSEMBLIES. WHERE CHUTES CONNECT 4 OR MORE STORIES, ROOMS SHALL BE PROTECTED WITH 2 HOUR FIRE BARRIERS PER IBC SECTION 713.4 & 713.11, EXCEPTION 3.

13. SEPARATE TRASH CHUTE ACCESS ROOMS FROM ADJACENT SPACES BY NOT LESS THAN 1 HOUR RATED FIRE BARRIERS CONSTRUCTED IN ACCORDANCE WITH SECTION 707 OR HORIZONTAL ASSEMBLIES CONSTRUCTED IN ACCORDANCE WITH SECTION 711, OR BOTH, OPENINGS INTO THE ACCESS ROOMS SHALL BE PROTECTED WITH NOT LESS THAN 3/4 HOUR OPENING PROTECTIVES. DOORS SHALL BE SELF-AUTOMATIC-CLOSING UPON THE DETECTION OF SMOKE IN ACCORDANCE WITH IBC 2015 SECTION 716.5.3, IBC 2018 SECTION 716.2.6.

14. INTERNAL UTILITY ROOMS INCLUDING LOW VOLTAGE, ELECTRICAL, AND MECHANICAL TO BE CONSTRUCTED AS 1 HOUR RATED FIRE PARTITIONS. PROVIDE OPENING PROTECTIVES FOR FIRE & SMOKE PER IBC SECTION 716.

15. PRIVATE PARKING GARAGES SHALL NOT BE GREATER THAN 1,000 SF IN AREA PER IBC 406.3.1. MULTIPLE PRIVATE GARAGES ARE PERMITTED IN A BUILDING WHERE EACH PRIVATE GARAGE IS SEPARATED FROM THE OTHER PRIVATE GARAGES BY 1-HR FIRE BARRIERS PER SECTION 707, OR 1-HR HORIZONTAL ASSEMBLIES PER SECTION 711, OR BOTH.

EGRESS STANDARDS

OCCUPANT LOAD	
RESIDENTIAL	200 GROSS
PARKING GARAGES	200 GROSS
ASSEMBLY (UNCONCENTRATED)	15 NET
BUSINESS AREAS	150 GROSS
EXERCISE ROOMS	50 GROSS
SWIMMING POOL	50 GROSS
SWIMMING POOL DECK	15 NET

TRAVEL DISTANCE	
MAXIMUM EXIT ACCESS TRAVEL DISTANCE FOR SPRINKLERED BUILDING:	TABLE 1017.2

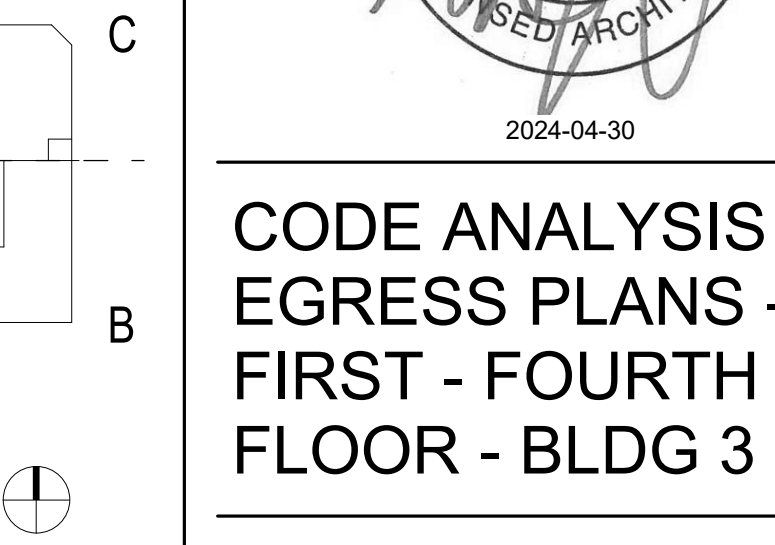
EGRESS SYMBOLS	
--- COMMON PATH OF TRAVEL	
1 HOUR FIRE BARRIER AT ALL EXIT ENCLOSURES & BTWN DWELLING UNITS PER IBC SECTION 707	
1 HOUR FIRE PARTITION AT ALL DWELLING UNITS & BTWN SLEEPING PER IBC SECTION 708	
2 HOUR SHAFT ENCLOSURE PER IBC SECTION 713	
3 HOUR FIRE WALL PER IBC SECTION 706	
X = # OF OCCUPANTS EXITING	
ACCESSIBLE ENTRANCE	
PROVIDE TACTILE EXIT SIGN COMPLYING WITH ICC A117.1 AT EACH STAIRWAY AND ON EACH SIDE OF A HORIZONTAL EXIT	

EGRESS STANDARDS

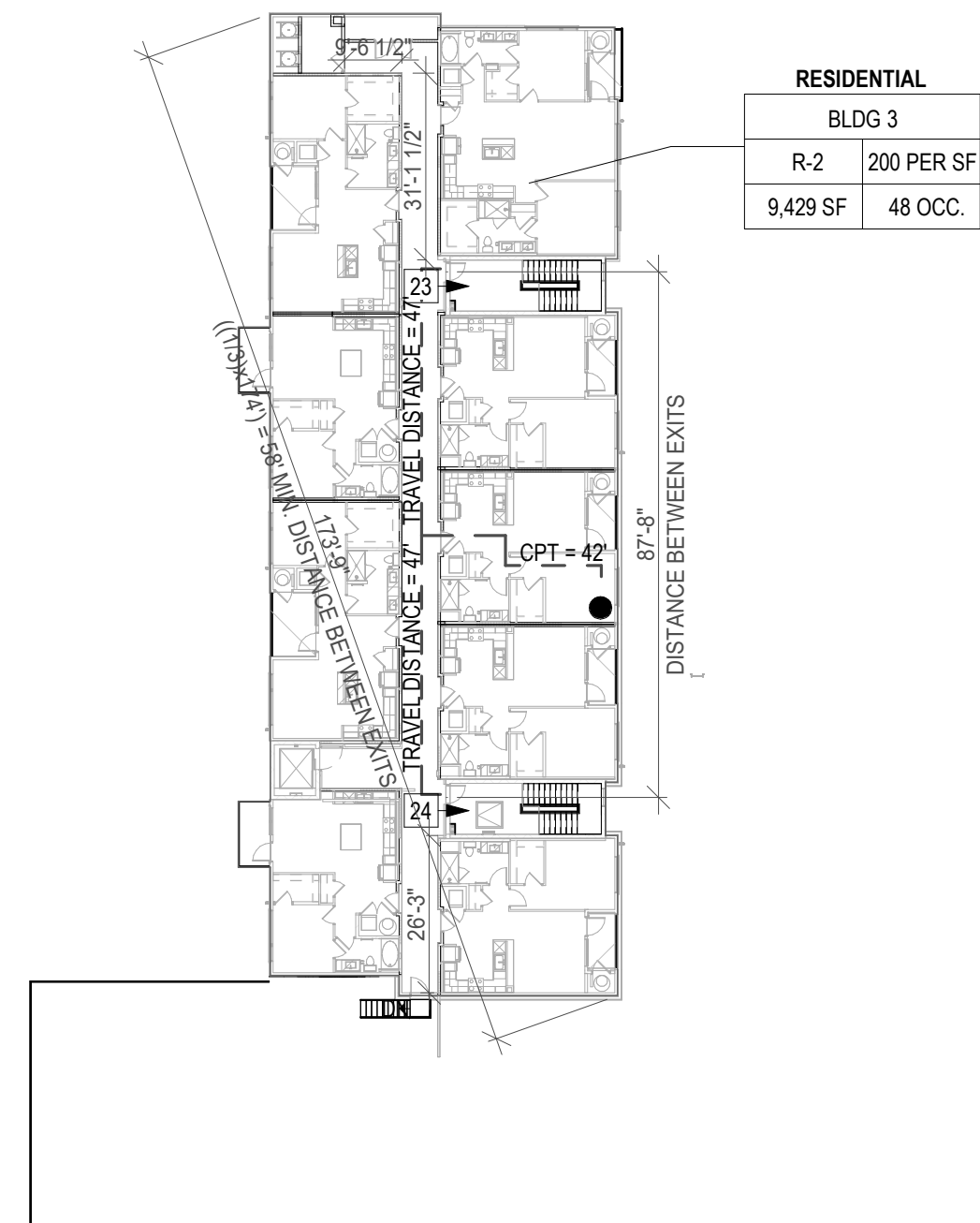
MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE FOR SPRINKLERED BUILDING:	
R OCCUPANCY	250'
A OCCUPANCY	250'
B OCCUPANCY	300'
S-2 OCCUPANCY (PARKING GARAGE)	400'
U OCCUPANCY	400'
M OCCUPANCY	250'

MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE FOR SPRINKLERED BUILDING:	
R OCCUPANCY	125'
A OCCUPANCY	75'
B OCCUPANCY	100'
S-2 OCCUPANCY (PARKING GARAGE)	100'
U OCCUPANCY	75'
M OCCUPANCY	75'

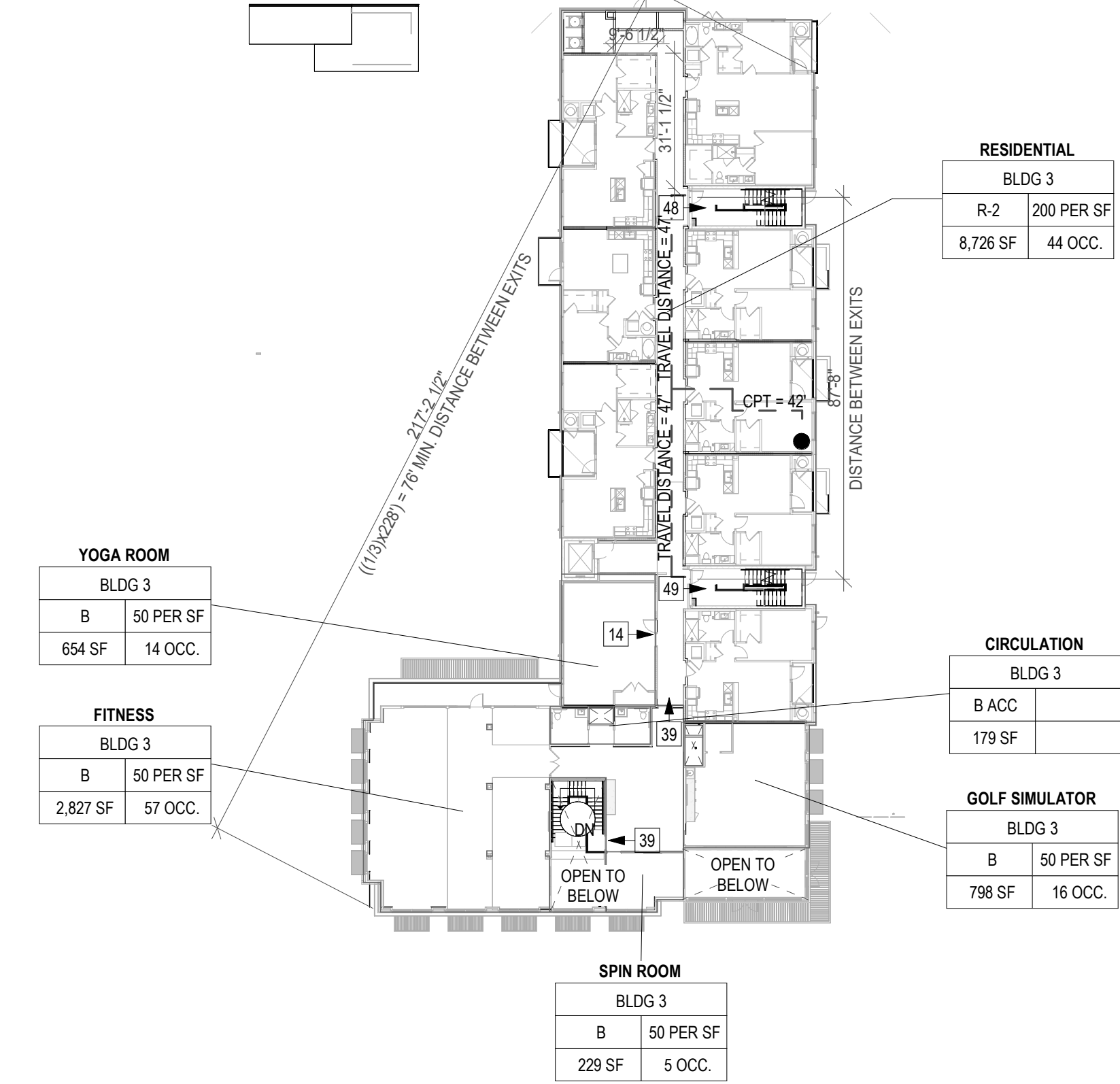
BUILDING KEY PLAN



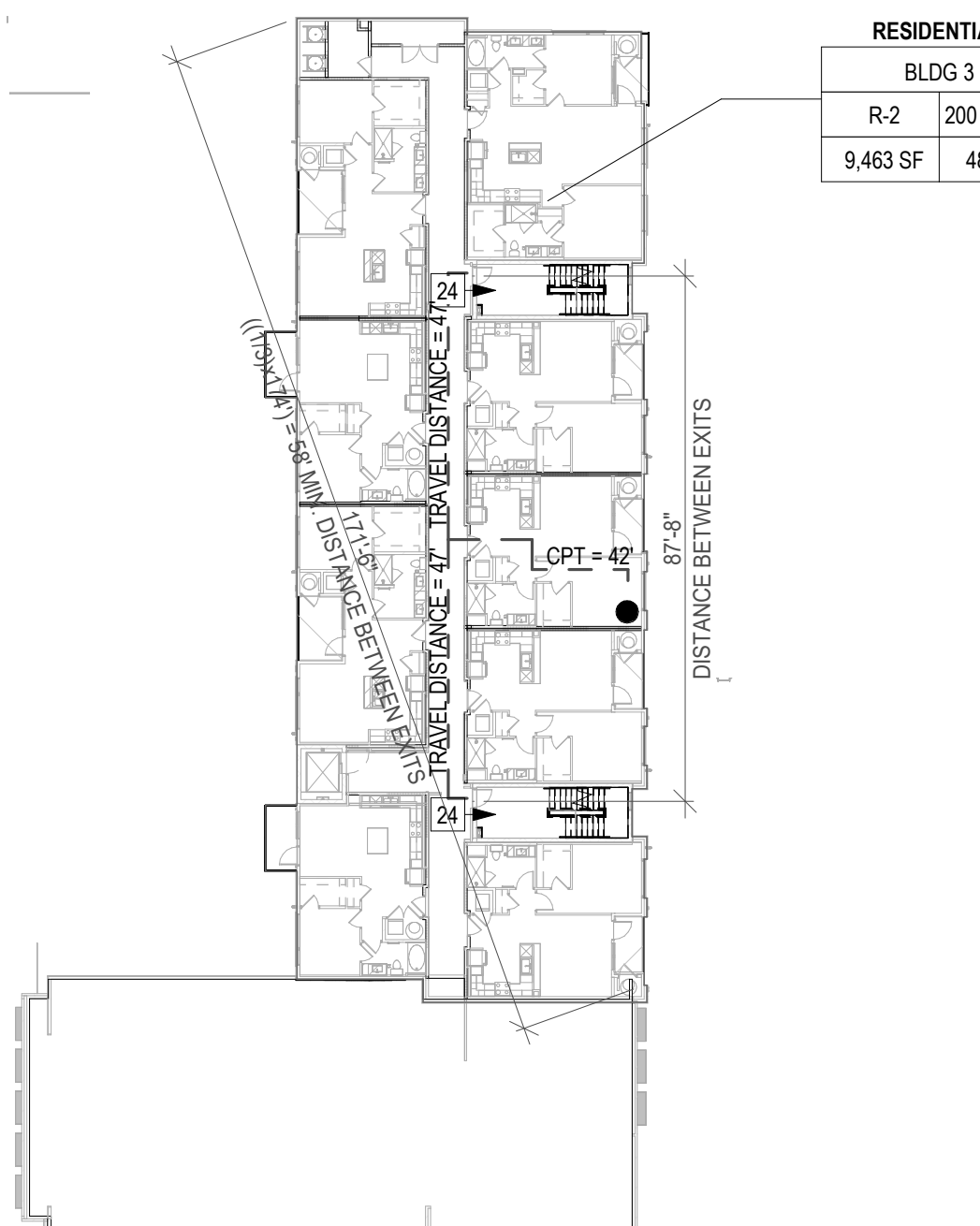
EGRESS PLANS



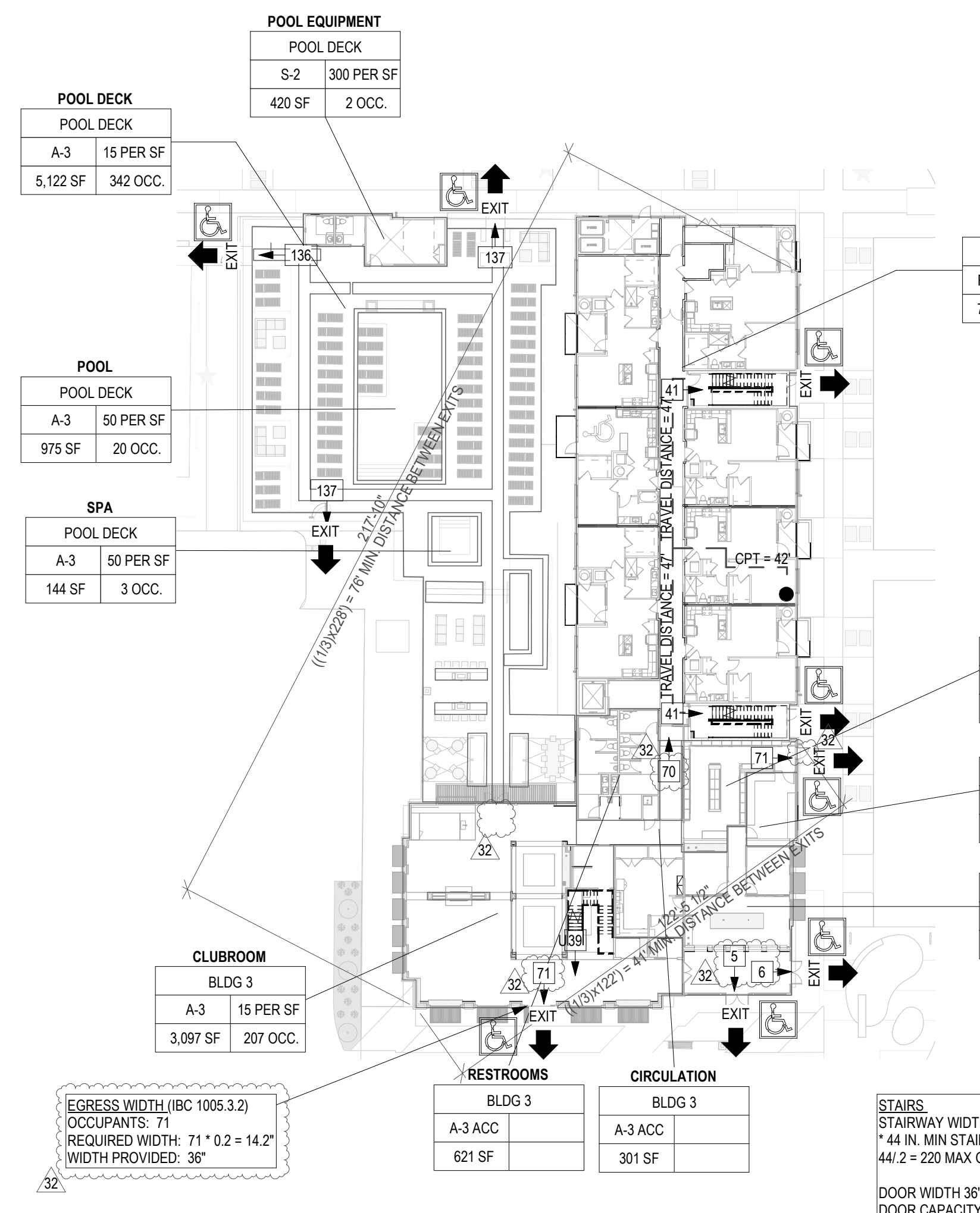
BUILDING 3 - FOURTH FLOOR EGRESS PLAN SCALE: 1" = 30'-0" 4



BUILDING 3 - SECOND FLOOR EGRESS PLAN SCALE: 1" = 30'-0" 2



BUILDING 3 - THIRD FLOOR EGRESS PLAN SCALE: 1" = 30'-0" 3



BUILDING 3 - FIRST FLOOR EGRESS PLAN SCALE: 1" = 30'-0" 1



Architecture + Planning
820 16th Street, Suite 500
Denver, CO 80202
ktgy.com
303.825.6400

KTGY Project No: 2019-0784

PROJECT CONTACT: Brandon Yates
EMAIL: byates@ktgy.com
PRINCIPAL: Nathan Scliarra
PROJECT DESIGNER: Ena Sivcevic
DIRECTOR: Leah Pitts

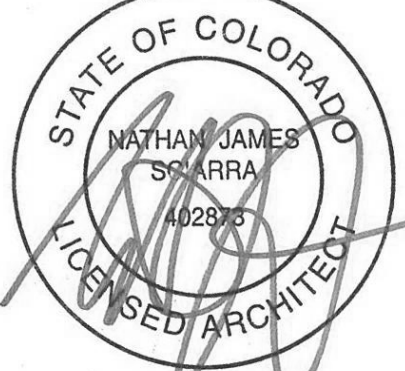
Developer

MORGAN
3001 BRIGHTON BLVD,
SUITE 445
DENVER, CO 80216

RALSTON CREEK
ARVADA, CO

No	Date	Description
	07/29/22	IFC SET
32	05/14/24	ASI-006

It is the client's responsibility prior to or during construction to verify the architect in writing of any generated errors or omissions in the plans and specifications of which a contractor through knowledge with the building codes and methods of construction should reasonably be aware. Written instructions withdrawing such generated errors or omissions shall be received from the architect prior to the client or client's subcontractors proceeding with the work. The client shall be responsible for any defects in construction if these procedures are not followed.



CODE ANALYSIS & EGRESS PLANS - FIRST - FOURTH FLOOR - BLDG 3

A0-25C