



BLUE WING INN

133 EAST SPAIN STREET SONOMA STATE HISTORIC PARK SONOMA, CALIFORNIA 95476

> USE PLANNING STUDY FINAL [12004B]

> > JULY 24, 2013

imagining change in historic environments through design, research, and technology



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BLUE WING INN SONOMA, CALIFORNIA

JSE PLANNING 4: EVENTS & RETAIL

INTRODUCTION

GENERAL INFORMATION

The purpose of this Use Study is to supplement the upcoming project of restoration of the Blue Wing Inn, a circa-1830 unreinforced two-story historic adobe building in Sonoma State Park, located in Sonoma, California. The building consists of adobe exterior walls, wood second floor framing, wood frame roof, second story wood frame porches with single exit from second floor, stone rubble foundation with first floor at grade. Total building square footage is approximately 4,676 SF gross, or 4,532 SF net. The building footprint is approximately 101' x 20' with 6'-6" wide porches along the north and south adobe walls. The primary project involves reroofing and seismic strengthening of the structure, upgrades of roof framing, repairs of deteriorated wood members and improvements to the wall-to-roof connections. The Use Study is a summary of the proposed uses suggested by the Department of Parks and Recreation (DPR) and discussed in previously prepared reports¹, as well as Page & Turnbull's evaluation of the proposed uses for their compatibility with the building and impacts to the historic fabric based on applicable building codes associated with each use. The last use was residential apartments vacated in 2001. Structural impacts were taken into account based on discussions with Michael Krakower Structural Engineers. The team studied available documents and attended a site visit to further assess the current condition of the building.

Goals: Rehabilitation (adaptive reuse) based on Secretary of Interiors Standards, SHBC, Title 24 & occupancy compatible with building type and to provide a revenue stream.

Interpretive goals for the property can be met and reinforced by compatible uses and partnerships. Should a partnership be solicited, there should be an awareness of code requirements and associated scope/costs.

Blue Wing Inn, Architectural Condition Assessment & Recommendations Report. Jennifer Korge, Associate Architect. September 2003. Blue Wing Inn, Sonoma, California, Historic Structure Report, Page & Turnbull, Inc. July 24, 2002.



Photograph A: Blue Wing Inn, south elevation from courtyard, 2002.



Photograph B: Blue Wing Inn, ground level interior, 2002.

The project team includes:

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BLUE WING INN

SONOMA, CALIFORNIA

Department of Parks & Recreation - State of California

USE MATRICES

Six principal uses, and respective constraints for each, have been identified by DPR as potential compatible uses:

- **I. Lodging or Housing:** Use is most consistent with maintaining the uniquely authentic experience, and keeps within the original history and use of the building. Lodging could be a boutique hotel; housing could maintain the use as apartments. Proposed use would include both floors.
- 2. Historic House Museum: Potentially allows for least changes to historic fabric, but lacks revenue stream
- **3. Offices**: Two levels of leasable Office space
- 4. Events Venue A: ground floor Exhibition & Conference space with leasable Offices above
- 5. Events Venue B: ground floor Exhibition & Conference space with Residential apartments above
- 6. Retail and Restaurant: ground floor Mixed-Use spaces with leasable Offices above

For the purposes of this study, potential building uses were grouped into two categories: single occupancies and mixed occupancies. Each of the single occupancies was analyzed based on the applicable CBC requirements for egress; for mixed uses occupancies, one (Commercial A: Restaurant & Retail) was analyzed as a representative example. Refer to Table 1, Occupancy and Egress. Table 2, Improvements, summarizes structural and systems upgrade requirements, life safety, including fire separations, accessibility and practical considerations, such as additional structures on the site, related to each use.

STRUCTURAL REOUIREMENTS:

Allowable Live Loads for: Lodging: 40 PSF Offices: 50 PSF+ 15 PSF minimum for partitions Retail/Assembly/Museum/Exits: 100PSF

Estimated average live load capacity of second floor joists (2003 Report): Above Room 103&104: Below 40 PSF Above Room 105: Below 50 PSF Porch Edge Beams: 40 PSF Porch Joists: 114 PSF Stair Stringers: 80 PSF

					occu	PANCY						EGR	ESS			
			Lev	el 1			Lev	el 2		Lev	el 1		Lev	el 2		
		Occupacy Classification	Area (SF)	Load Factor	Occupant Load	Occupancy Classification	Area (SF)	Load Factor	Occupant Load	Doors & Openings	Min. Door Width Provided ²	Doors & Openings	Min. Door Width Provided ²	Stairways	Stairs Width Provided	Additional Notes
щщ	Lodging ³	R-1 R-2	1716	200	10	R-1 R-2	1615	200	11	2	33	2.2	32	3.3	35	1) REQUIRED 1HR. SEPARATION ACHIEVED THROUGH INSTALLATION OF FIRE-SPRINKLERS
SINGLE USE OCCUPANCIES	House Museum	A3	1716	15	91	A3	1615	15	102	18.2	33	20.4	32	30.6	35	2) OCCUPANT LOAD CAN BE REDUCED WITH DESIGNATION OF SPECIFIC AREAS FOR DISPLAY & DEFIEND PUBLIC ACCESS AREAS; WILL REDUCE EGRESS REQUIREMENTS
	Offices	В	1716	100	19	В	1615	100	18	3.8	33	3.6	32	5.4	35	
CIES	Events A: Events & Offices	A3	1716	15	91	В	1615	100	18	18.2	33	3.6	32	5.4	35	3) INSTALLATION OF FIRE-SPRINKERS ALLOWS FOR "NON-SEPARATED MIXED-USE" BUILDING CLASSIFICATION (GOVERNED BY GROUP A RESTRICTIONS) ⁴
MIXED-USE OCCUPANCIES	Events B: Events & Lodging	A3	1716	15	91	R-1 R-2	1615	200	11	18.2	33	2.2	32	3.3	35	SEE 3)
	Commercial A: Restaurant & Retail	M A2	690 1026	30 15	18 58	В	1615	100	18	3.6 11.6	33	3.6	32	5.4	35	SEE 3)
	Commercial B: Retail	М	1716	30	49	В	1615	100	18	9.8	33	3.6	32	5.4	35	SEE 3)

1

Structural Needs:

- Any re-use option necessitates strengthening interior floor joists in general.
- Porches need only the edge beams strengthened.
- Replace or supplement any deteriorated framing anywhere.
- Slope variation of second level flooring would need to be addressed based on accessibility requirements applicable to the selected use.

Structural Strategies:

- Easiest strengthening technique is attaching new joists to sides of existing joists.
- New added joists can stop at face of existing adobe walls.
- Seismic strengthening can be hidden between new and existing joists.
- Second floor decking can be built up from above or below to mitigate level changes.

TABLE NOTES:

- include second level porches.
- compliance requirements.

TABLE I - OCCUPANCY & EGRESS

1

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1) All calculations rounded up to nearest whole number. Square footage does not

2) Chart denotes narrowest clear width provided. Majority of existing doors meet or exceed minimum width requirements for egress; doors requiring modification noted on individual use plans. See "Improvements" matrix for general accessibility

3) Difference between Group R-1/R-2 not expounded in this study.

1

4) Restrictions pertain to fire separation requirements. Egress widths & related calculations governed by room use classification.

TABLE 2 - IMPROVEMENTS

		STRUCTURAL UPGRADES					RUCTURAL UPGRADES LIFE SAFETY									s	YSTEMS	5							ACCE	SSIBILI	тү		
								Occupancy Separation						Elec	trical	н	HVAC		Plumbing				Bathr	rooms					
		Re-Roofing	Seismic Top of Wall	Reinforce Floor	Seismic Mid- Height	Reinforce Porch	Exits Req'd	Rebuild Exist. Stair	Second Stair	Needed	Type	Fire Protected Construction	Fire Suppression	Removal	Re-wiring	Removal	Reinstallation	Removal	Reinstallation	Central Mech. Area	Door Access	Elevator / Lift	Level 1	Level 2	Handrail Modifications	Parking	Additional Upgrades	ADDITIONAL ITEMS	COST
ШШ	Lodging	x	x		x		2 ¹	x	x	X ²	1hr.		x	x	x	x	x	x	X 6		x		x					LINEN STORAGE, MAINTENANCE, OFFICE (LEASING, ETC.)	
SINGLE USE OCCUPANCIES	House Museum	x	x		x		2 ¹	x	x				x	x	X ⁷	x	X ⁷	x	X ⁷		x	x	x				SECOND LEVEL PORCHES ADJUSTED FOR COMPLIANT CROSS-SLOPE	ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	
	Offices	x	x		x		2 ¹	x	x					x	x	x	x	x	X ⁸		x		x		x			ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	
CIES	Events A: Events & Offices	x	x		x		2	x	x	4			x	x	x	x	x	x	X ^{8,9}		x	x	x		x		SECOND LEVEL PORCHES ADJUSTED FOR COMPLIANT CROSS-SLOPE	ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	
MIXED-USE OCCUPANC	Events B: Events & Lodging	x	x		x		2	x	x	X ^{3,4}	1 hr.		x	x	x	x	x	x	X ^{8,10}		x	x	x	x	x		SECOND LEVEL PORCHES ADJUSTED FOR COMPLIANT CROSS-SLOPE	ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	
	Commercial A: Restaurant & Retail	x	x		x		2	x	x	4			x	x	x	x	x	x	X ^{8,9}		x	x	x		x		SECOND LEVEL PORCHES ADJUSTED FOR COMPLIANT CROSS-SLOPE	KITCHEN (SIZE/EQUIPMENT DEPENDING ON SCOPE OF NEEDS); ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	
	Commercial B: Retail	x	x		x		2	x	x	4			x	x	x	x	x	x	X ^{8,9}		x	x	x		x		SECOND LEVEL PORCHES ADJUSTED FOR COMPLIANT CROSS-SLOPE	ADDITIONAL PUBLIC RESTROOMS STRUCTURE WITHIN COURTYARD	

Two principal upgrades were universally applied and allow for the maximum flexibility of the structure:

- I. Installation of an automated sprinkler system throughout the building.
- 2. Removal of all existing building systems (mechanical, electrical, plumbing, etc.), coupled with the installation of any new building systems, as applicable.

While connections to the existing utilities still need to be confirmed, the approach to upgrading both fire protection and mechanical systems would be to minimize the impacts to the existing structure to the extent possible. Fire sprinkler distribution for the second floor would be concealed in the attic space, with required number of sprinkler heads penetrating existing plaster ceiling. Ground floor rooms would likely require surface-mounted main branch lines along the interior face of the load bearing masonry walls with side-mounted sprinkler heads. Note that full engineering assessment is needed to validate these assumptions

Additional accessibility strategies are discussed in both the "Site Plan & General Strategies" and "Accessibility Upgrades at Second Level" sections.

TABLE NOTES:

- 1) Single stair egress may be granted under Historic Building Code. For 'House Museum" option, a single stair would require lowering occupancy load of second level to 49 or less.
- 2) Fire separation required A) between individual units, & B) between units and adjacent other occupancies if not considered adjacent spaces (lobby, commons, etc.). Fires separation can be lowered to 1/2hr. rating between dwelling / sleeping units with installation of fire sprinklers.
- 3) Building to be classified as "Non-Separated Mixed-Use" occupancy & governed by Group A restrictions.
- 4) An exception to Note 3: any mixed-use occupancy requires additional 1 hr. separation between Group R & adjacent occupancies.

- reused where feasible.

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5) All existing building systems to be removed & reinstalled as surface-mounted or to be concealed in new walls, as applicable. Location of existing pipe wall penetrations to be

6) Location of existing bathrooms/kitchens may be reused. Provide updated facilities as required for each occupancy; see individual use occupancy diagrams.

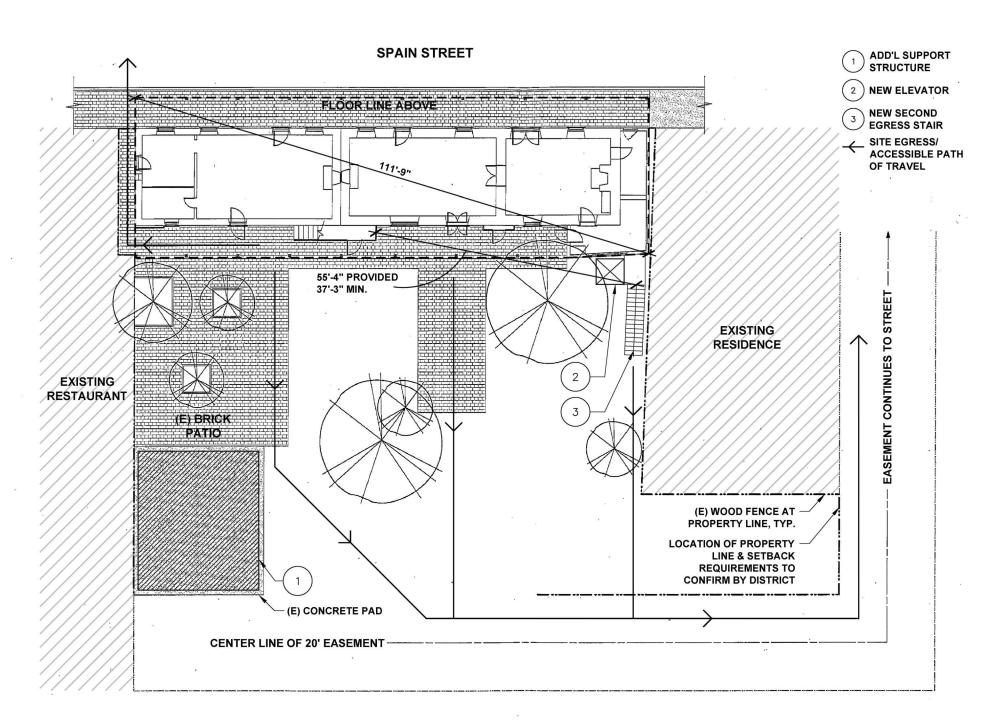
7) Re-installation of all systems will be in accordance with Period of Significance. Feasibility of passive-design techniques to be evaluated, as needed.

8) To explore potential for new public restrooms to be located within accessory structure within existing courtyard. Provisions for full ADA compliance as required.

9) Provide accessibility for at least one (1) room on second level unless equal facilities provided at ground level (on or off-site).

10) One (1) guestroom on second level to be fully accessible unless equal facilities provided at ground level (on or off-site).

USE PLANNING



The project site is located to the northeast of Sonoma's historic square, and across the street from Mission San Francisco Solano de Sonoma. The primary approach to the building is along East Spain Street, which is paved with brick. North elevation faces the street, while south elevation looks onto an open courtyard, partially paved with brick and partially covered in vegetation.

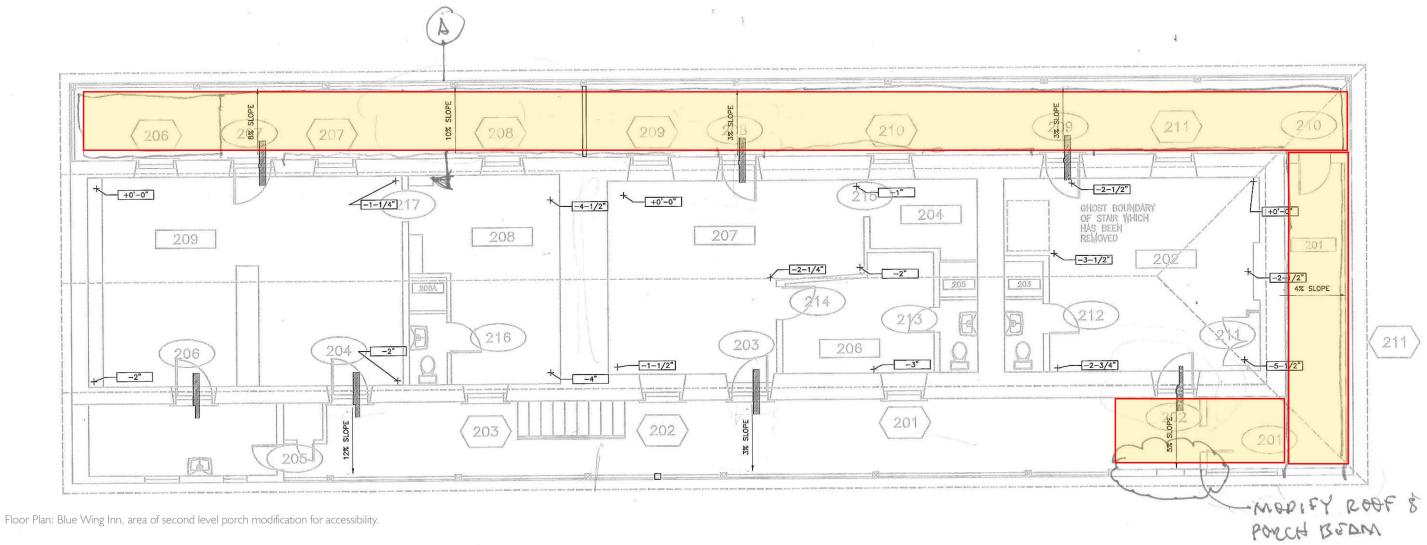
Each use considered identifies circulation and egress patterns as required by the building codes and accessibility standards. All uses considered in this study would require access to the courtyard from the street. In its present condition, the courtyard paving is extremely uneven and creates tripping hazards. To address accessibility requirements, a portion of the existing courtyard along the path of travel should be repaved to create a smooth surface minimum of four foot wide. Existing brick should be used and reset to meet the maximum slopes and cross slopes as required to achieve access compliance. Additionally, the surface of the brick walk should be set such that the existing door thresholds are not in excess of 1/4" in height. The location of the path within the courtyard should consider archeological resources discussed in earlier studies to minimize potential impacts.

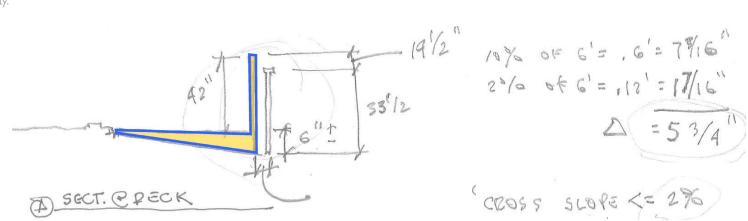
The site plan diagram identifies locations of a possible supporting structure and elements of new construction that might be triggered by building code requirements. Should a new supporting structure be required, (refer to each use for recommendations), the most appropriate location appears to be on the existing concrete pad in the southwest corner of the site (see keynote 1). Depending on the use type, the supporting structure may include: a) public restrooms; b) kitchen support facility (equipment and services); c) office or general storage facility.

Additionally, most uses will require a second means of egress from the upper level of the building. Currently, one exterior stair provides egress the second floor; however, it doesn't meet the requirement for consistency of the rise/run, and the height/configuration of the railings. The placement of the second stair needs to be determined based on the minimum separation requirements as defined in Chapter 10 of the 2010 CBC. The most appropriate location that satisfies this requirement would be the southeast corner of the building, along the eastern property line.

Lastly, we identified a possible location of an elevator, adjacent to the new exit stair. However, providing accessibility to the second floor of the building would impact the character of the existing historic resource, as substantial modifications to the floor framing, porch framing and door openings would be needed. We recommend selecting uses that would provide accessible features at the ground level only, and allowing upper level to retain its rustic appearance. This approach

SITE PLAN & GENERAL STRATEGIES



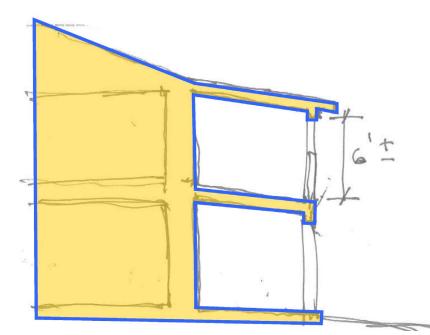


Section A: Blue Wing Inn, second level porch level adjustments.

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Photogaph C: Blue Wing Inn, interior at second level porch at southwast corner. Area of proposed new egress stair & elevator. 2013.



Section B: Blue Wing Inn, porch head clearance diagram.



Photograph D: Blue Wing Inn, exterior at southeast corner. Area of proposed new egress stair & elevator. 2013.

would need to be discussed and agreed upon with the State Parks access compliance reviewer.

confirmed.

Accessibility Upgrades at Second Level

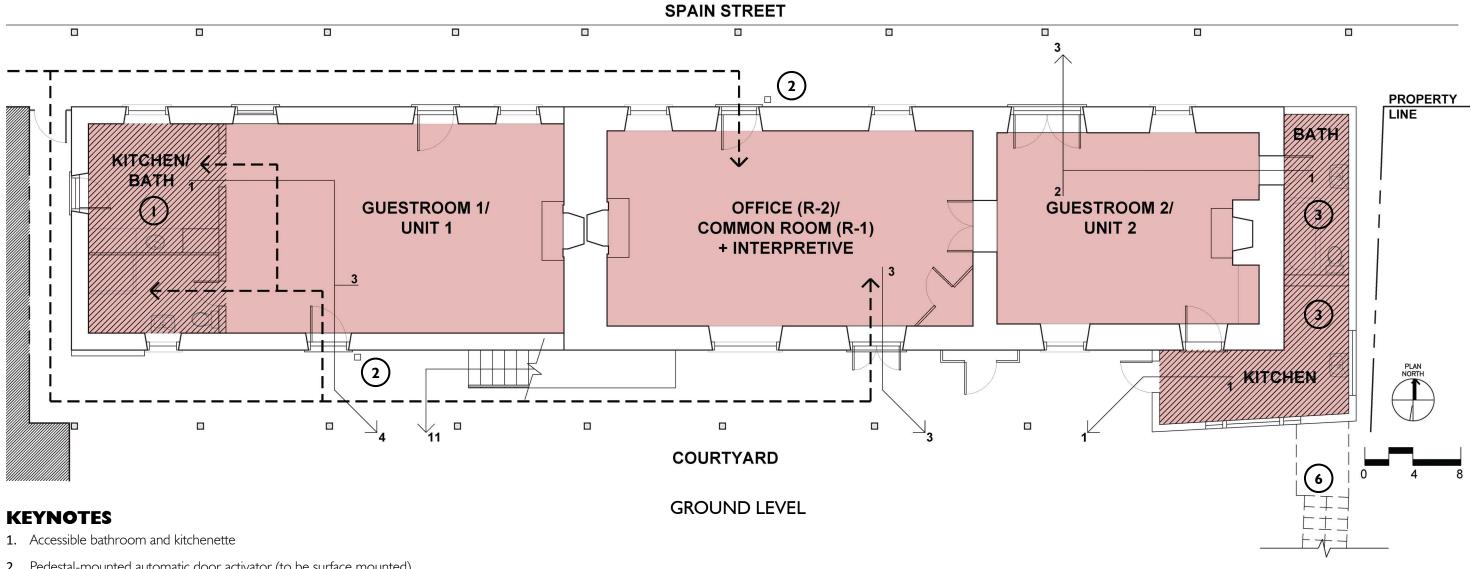
Should the selected use require public access to the second floor, a new elevator would be needed to provide access to persons with disabilities. As the surface of the second floor porches is uneven and is sloped significantly away from the building, alterations to the existing porch would be needed to mitigate the excessive slopes and cross slopes. The floor plan sketch (see opposing page) demonstrates the extent of the existing porches to be altered, indicated by the highlighted areas. It is preferred that modifications are "additive" and do not permanently damage existing decking and framing. Section A illustrates the proposed conceptual solution which includes a tapered decking and a new railing system that meets current code requirements. The solution might create an undesired visual impact, but is easily reversible.

Two uses that may not require elevator installation are Lodging, R1 and R2 occupancy group, and Office, B occupancy group, under the assumption that equivalent facilitation (e.g. accessible facilities and features) would be provided at the ground level. For residential occupancies, one unit (apartment or guest room) on the ground level would be designated as fully accessible. For the office use, a ground level office would meet full provisions for accessibility, while others would not; this solution would only be applicable for a single office tenant. Both scenarios must be reviewed and agreed upon by the State Parks access compliance reviewer.

The new egress stair, which is required in all use options, would yield additional impacts to the porch framing and decking, as well as changes to the wood exterior framing and cladding of the eastern addition. Currently, the existing porch roof is supported by joists that rest on a perimeter beam, which spans between the porch columns. The bottom of the beam is approximately 6'-0" above the current floor level (see photographs C & D). This clearance does not meet minimum clear headroom requirements of 6'-8"; therefore, the existing beam/window header will need to be modified, along with the roof joists and deck (see Section B). Alternatively, the new stair may be "pushed" in to the structure, allowing the roof structure above to remain. Although this would impact the ceiling below, this approach might be preferred as it avoids interfering with the roof framing, which is the focus of the first phase of the Blue Wing Inn restoration project.

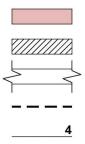
Note that the precise location of the property lines has not been determined and is pending completion of the boundary survey. Required setbacks have not been

USE PLANNING : OPTION I - LODGING



- 2. Pedestal-mounted automatic door activator (to be surface mounted)
- 3. Remove existing fixtures & finishes; replace with new, as needed
- 4. Enlarge door opening & replace door as required by egress
- 5. Provide new opening as requried by egress
- 6. New exit stair

LEGEND



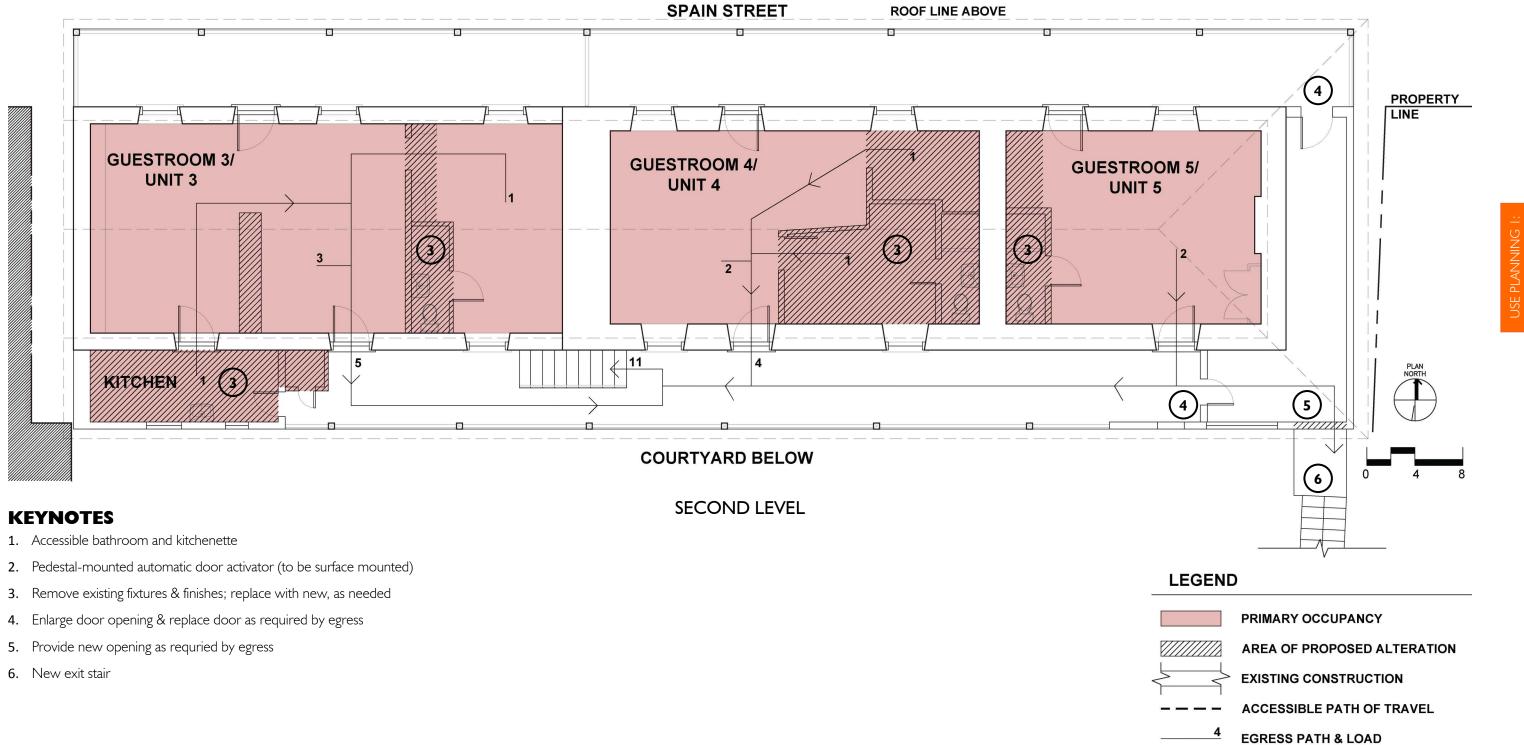
PRIMARY OCCUPANCY

AREA OF PROPOSED ALTERATION

EXISTING CONSTRUCTION

ACCESSIBLE PATH OF TRAVEL

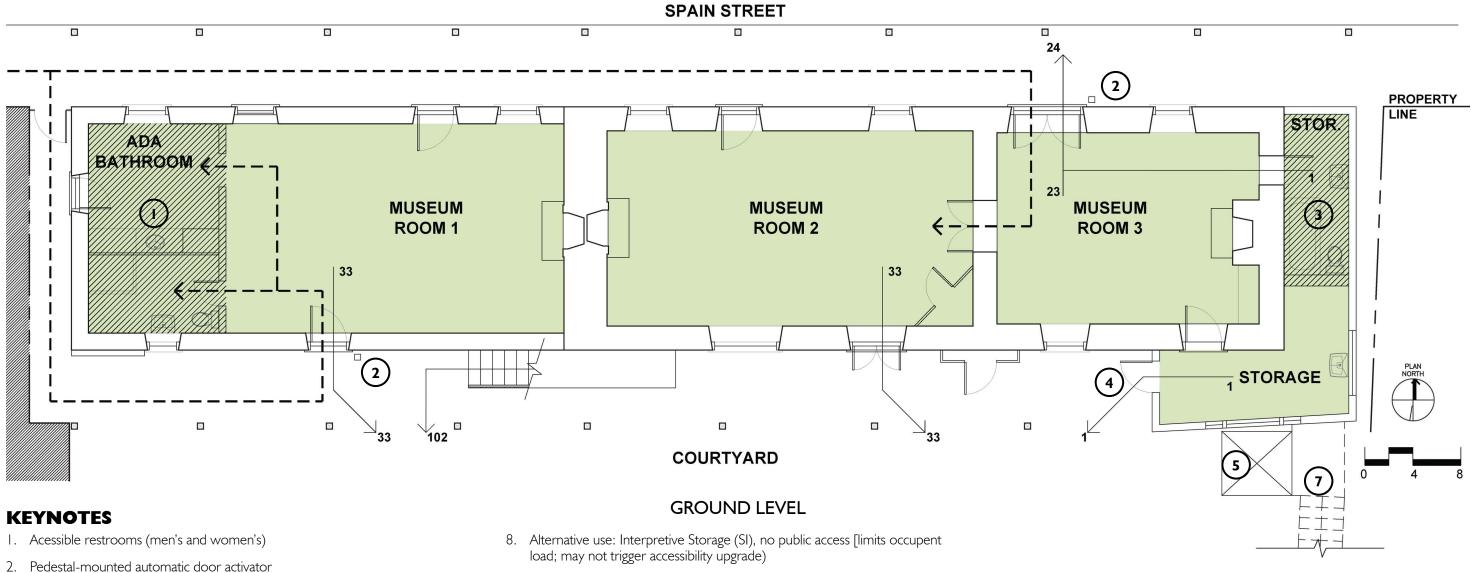
EGRESS PATH & LOAD



- 1. Accessible bathroom and kitchenette
- 2. Pedestal-mounted automatic door activator (to be surface mounted)

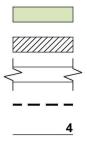
- 6. New exit stair

USE PLANNING : OPTION 2 - HOUSE MUSEUM



- 3. Remove existing fixtures & finishes; replace with new, as needed
- 4. Enlarge door opening & replace door as requried by egress
- 5. New elevator, requirement based on occupancy designation (see note 8)
- 6. Provide new opening as requried by egress
- 7. New exit stair

LEGEND



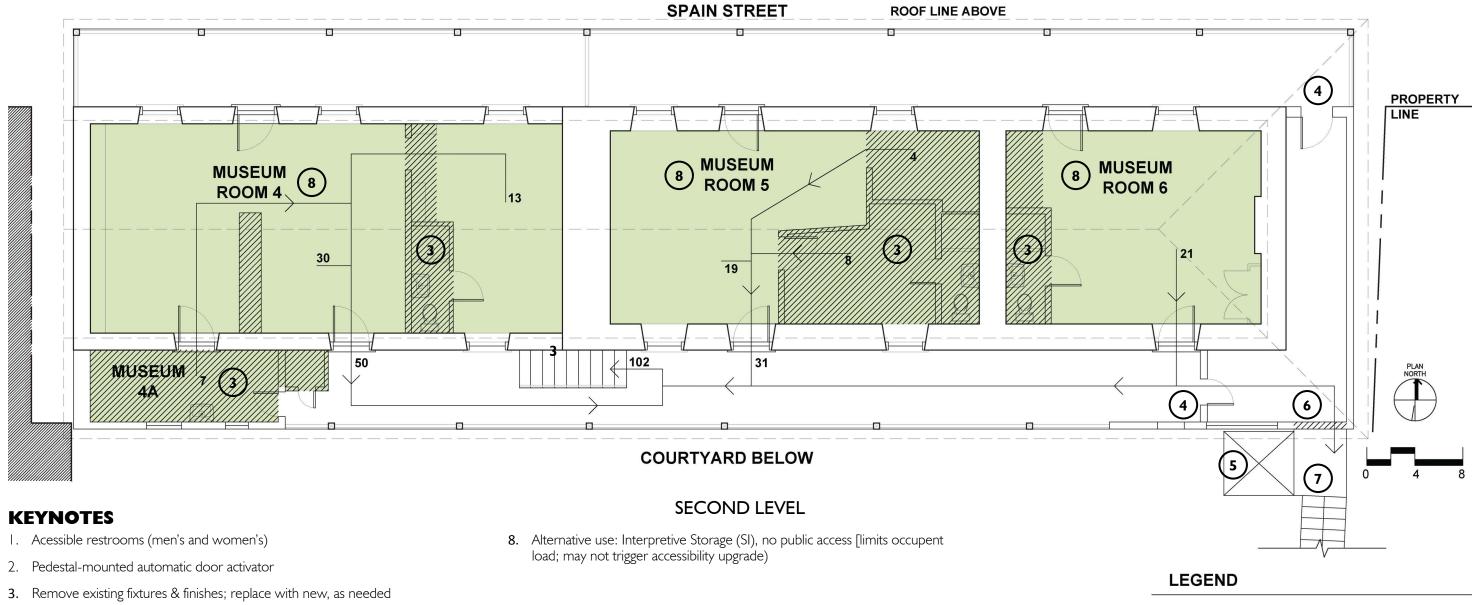
PRIMARY OCCUPANCY

AREA OF PROPOSED ALTERATION

EXISTING CONSTRUCTION

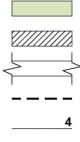
ACCESSIBLE PATH OF TRAVEL

EGRESS PATH & LOAD



- 2.
- 4. Enlarge door opening & replace door as requried by egress
- 5. New elevator, requirement based on occupancy designation (see note 8)
- 6. Provide new opening as requried by egress
- 7. New exit stair





PRIMARY OCCUPANCY

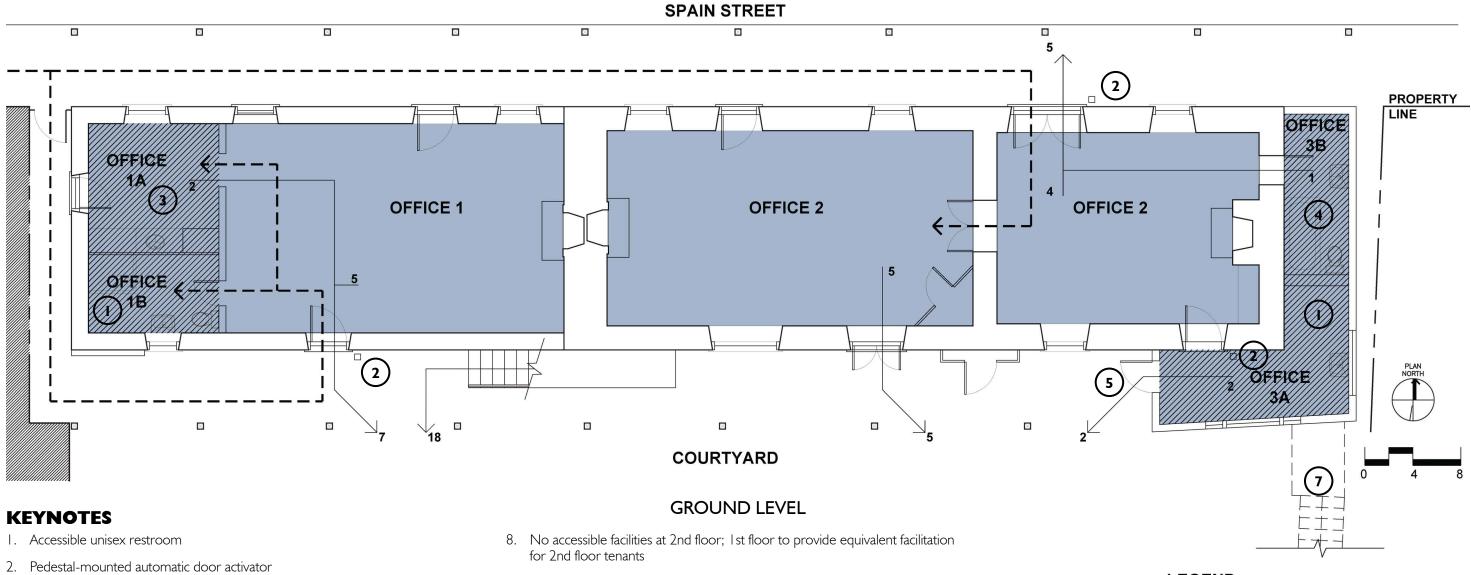
AREA OF PROPOSED ALTERATION

EXISTING CONSTRUCTION

ACCESSIBLE PATH OF TRAVEL

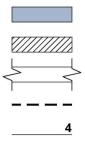
EGRESS PATH & LOAD

USE PLANNING : OPTION 3- OFFICES



- 3. New kitchenette
- 4. Remove existing fixtures & finishes; replace with new, as needed
- 5. Enlarge door opening & replace door as requried by egress
- 6. Provide new opening as required by egress
- 7. New exit stair

LEGEND



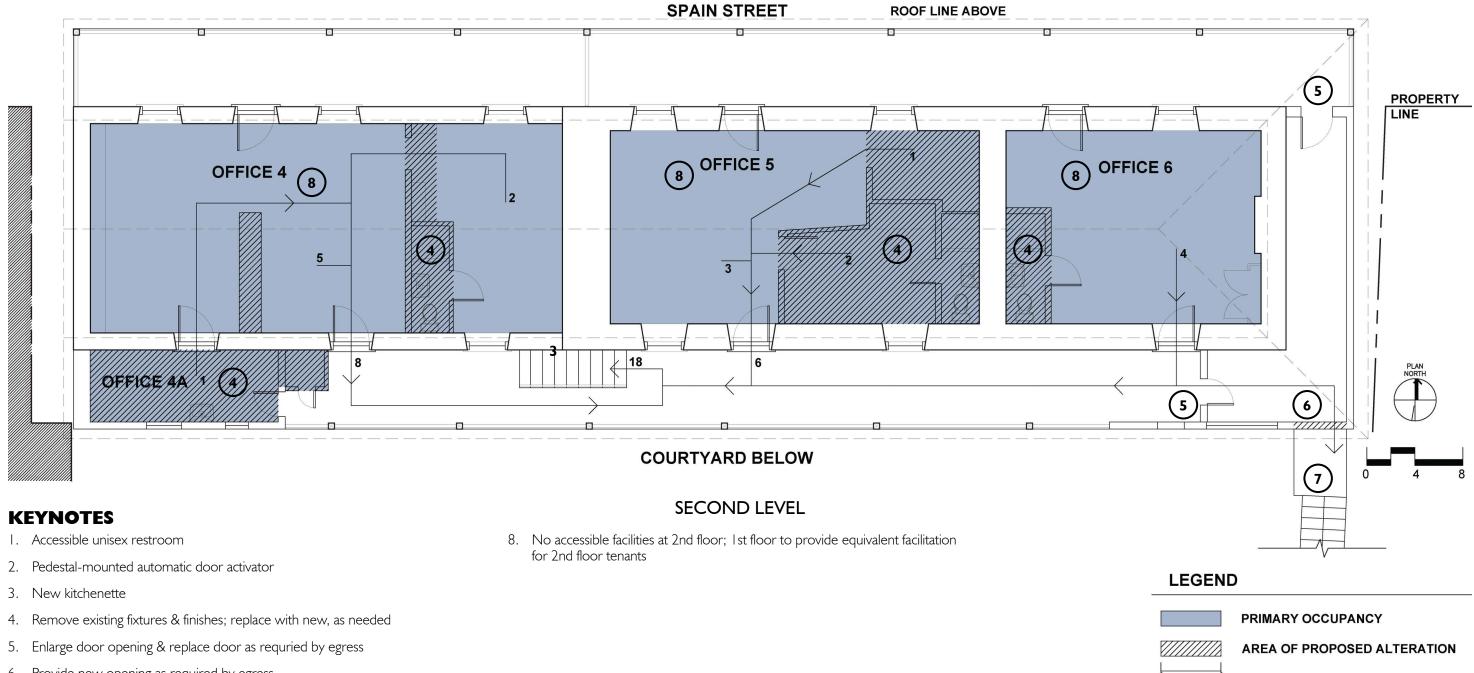
PRIMARY OCCUPANCY

AREA OF PROPOSED ALTERATION

EXISTING CONSTRUCTION

ACCESSIBLE PATH OF TRAVEL

EGRESS PATH & LOAD



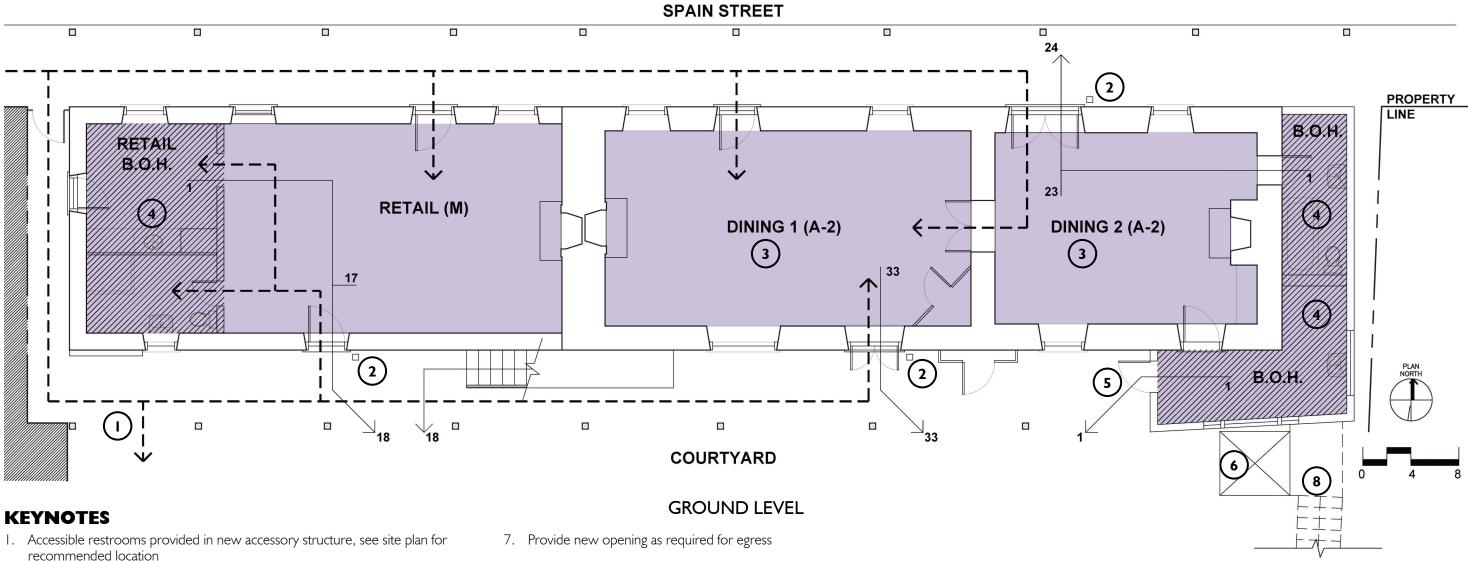
- I. Accessible unisex restroom
- 2. Pedestal-mounted automatic door activator
- 3. New kitchenette

- 6. Provide new opening as required by egress
- 7. New exit stair

ACCESSIBLE PATH OF TRAVEL

EGRESS PATH & LOAD

4

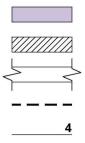


USE PLANNING : OPTION 4 - EVENTS, RESTAURANT & RETAIL (MIXED-USE)

- recommended location
- 2. Pedestal-mounted automatic door activator
- 3. Separate Dining Facilities at 1st floor; alternative: single A-2 occupancy tenant. Location of food service equipment dependent on size and type
- 4. Remove existing fixtures & finishes; replace with new, as needed
- 5. Enlarge door opening & replace door as required by egress
- 6. New elevator

- 8. New exit stair
- 9. Accessible restrooms in one location only; assumes single B-occupancy tenant at 2nd floor (alteration to porch floor is required for accessible path of travel compliance)

LEGEND



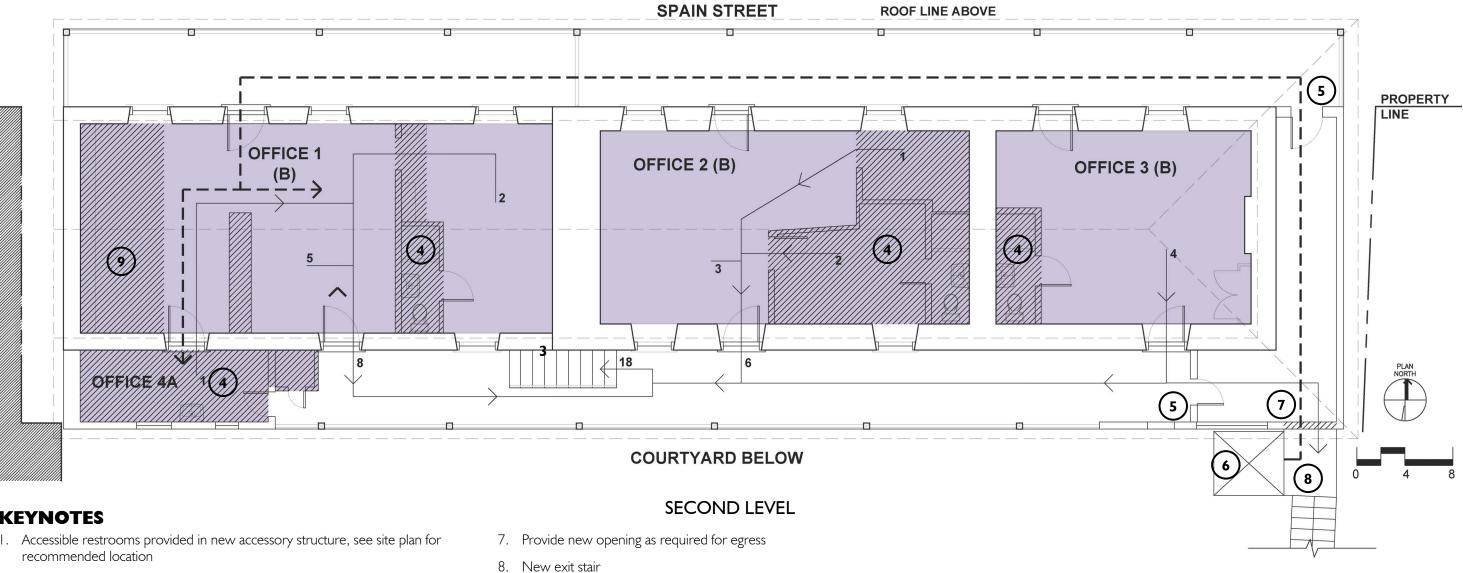
PRIMARY OCCUPANCY

AREA OF PROPOSED ALTERATION

EXISTING CONSTRUCTION

ACCESSIBLE PATH OF TRAVEL

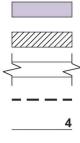
EGRESS PATH & LOAD



- I. Accessible restrooms provided in new accessory structure, see site plan for
- 2. Pedestal-mounted automatic door activator
- 3. Separate Dining Facilities at 1st floor; alternative: single A-2 occupancy tenant. Location of food service equipment dependent on size and type
- 4. Remove existing fixtures & finishes; replace with new, as needed
- 5. Enlarge door opening & replace door as required by egress
- 6. New elevator

- 9. Accessible restrooms in one location only; assumes single B-occupancy tenant at 2nd floor (alteration to porch floor is required for accessible path of travel compliance)

LEGEND



- PRIMARY OCCUPANCY
- AREA OF PROPOSED ALTERATION
- **EXISTING CONSTRUCTION**
- ACCESSIBLE PATH OF TRAVEL
- EGRESS PATH & LOAD

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