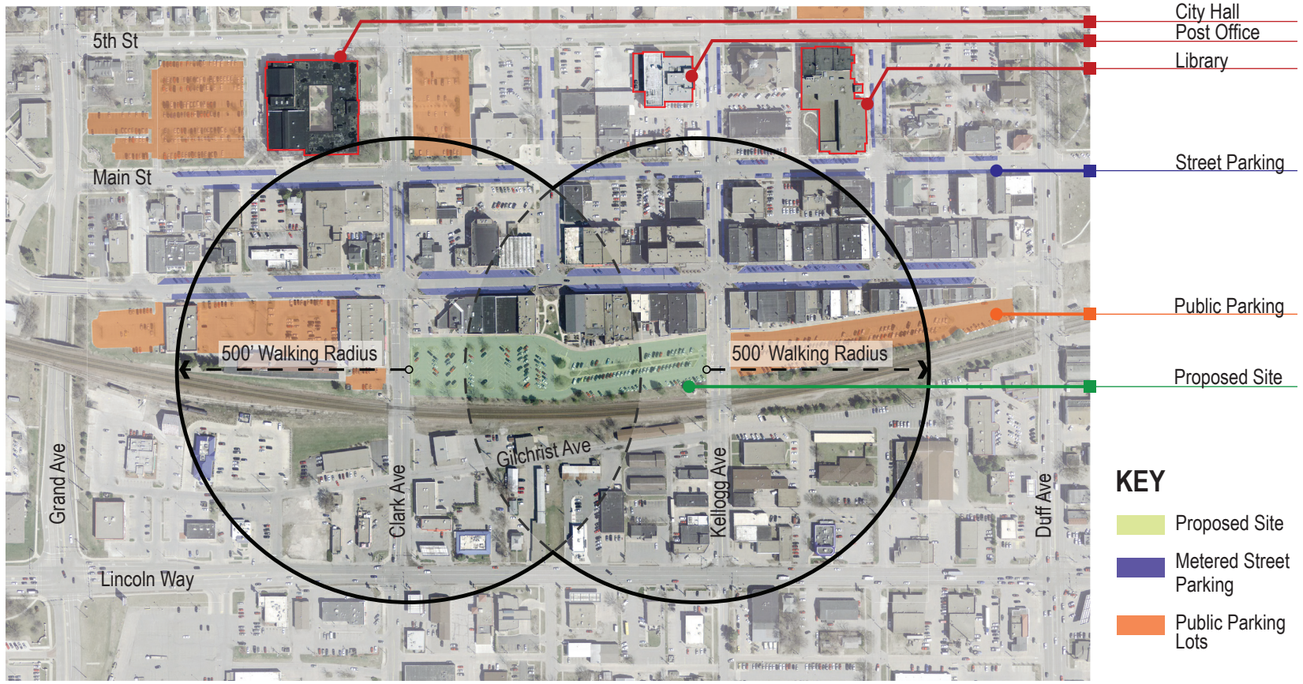
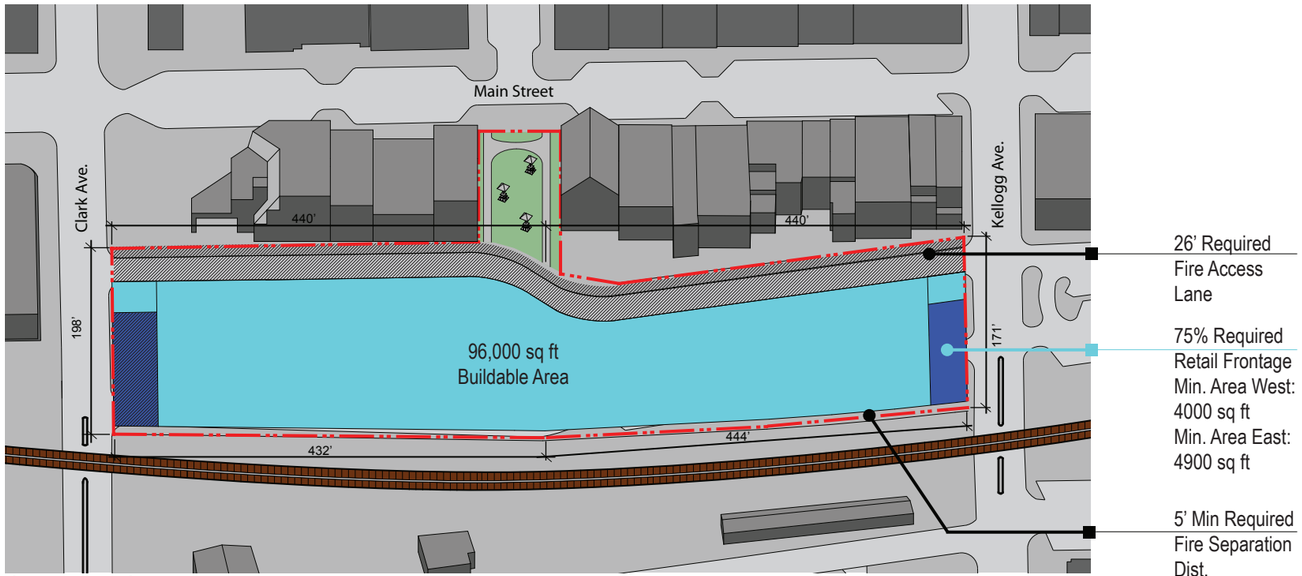
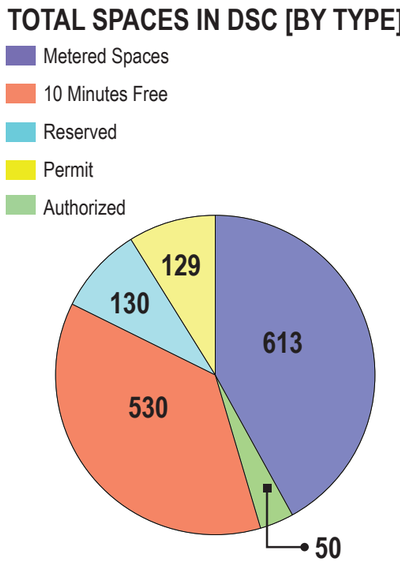
SITE PARAMETERS



Proximity Diagram



Buildable Area Diagram



Proximity

The proposed site's proximity to downtown Ames businesses and key destinations like the Public Library or City Hall are an advantage. Most of the Main Street Cultural District [MSCD] is within a 5-10 minute walk from either end of the proposed site main point of entry/exit. As a rule of thumb a reasonable walking distance is a willingness to walk 5-15 minutes to get to or from a transit stop or shopping district which corresponds to ¼ to ½ miles.[1] This will obviously vary based on topography, sense of safety and security, and the presence of interesting activity.

City of Ames Municipal Code

Chapter 29, Article 4 – Development Standards

Sec. 29.406 Off-Street Parking

(12) Parking Decks. No parking may be provided in stacked parking decks unless the structure containing such parking conforms to the following requirements.

(c) In "DSC" Zone, 75% of street level frontage must be maintained for walk-in retail and service uses. ***(Ord. No. 3822, 3-8-05)***

(e) In the DSC Zone no parking is permitted in any structure on the ground level of the structure or within space, which extends from street level upwards a distance of 10 feet within the 35 feet of a street lot line. ***(Ord. No. 3595, 10-24-00; Ord. No. 3872, 03-07-06)***

1 "Regional Plan Association – Planning Transit Friendly Land Use A handbook for New Jersey Communities [section 1.3]

Assumptions

- We suggest pursuing a variance to wave the required retail frontage in the interest maximizing parking.
- Spaces Lost with Retail Added

Lot X	13 spaces
Lot Y	12 spaces
Total	**25 spaces**

Chapter 29, Article 8 – Commercial Zones

Sec. 29.808. "DSC" Downtown Service Center (Lots X & Y are considered in DSC and must comply standards)

Table 29.808(3) Downtown Service Center (DSC) Zone Development Standards

DEVELOPMENT STANDARDS	DSC ZONE
Minimum Lot Area	No minimum[2]
Minimum Lot Frontage	No minimum[3]
Minimum Building Setbacks:	
Front Lot Line	0
Side Lot Line	0
Rear Lot Line	0

Appendix D: Fire Apparatus Access Road

Section D 105 ***All Design Concepts meet or exceed the required 26'-0" min. clear width from face of building to curb for a Fire Apparatus Access Road***.

2006 International Building Code

Table 602 Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance

Fire Separation Distance (Feet)	<5c
Type of Construction	All
Group S-2	1

a. Load bearing exterior walls shall comply with the fire-resistance rating requirements of Table 601.
All Design Concepts are Construction Type I-A, 0 hour fire rating required by Table 601.

d. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating. All Design Concepts comply with Section 406 requirements for Open Parking Garages.

2 No minimum, except for mixed uses, which shall provide 250 sf of lot area for each dwelling unit

3 No minimum, except for mixed uses, which shall provide 25 ft.

*Many factors will influence the design and construction of the proposed parking structure. The following is an abbreviated listing of code requirements. Key elements in the code that will affect the site placement, landscape design, facility amenities, and other general requirements are indicated in **bold, italic** text below. Please refer to the appendix for the unabridged code analysis.*

Applicable codes
2006 International Building Code
2005 National Electrical Code
2006 International Mechanical Code
2006 Uniform Plumbing Code
2006 International Fire Code & Appendix D: Fire Apparatus Access Roads
2003 ANSI 117.1

Concept Descriptions
These are items unique to each Concept that will have an impact on code interpretations.

Concept A:	156,000 gsf,	1 Tier,
	2 ramps accessing open parking garage including stairs.	
	400 total parking stalls serving main street businesses.	
Concept B Phase - I:	76,050 gsf,	1 Tier,
	Ramp accessing open parking garage including stairs.	
	216 total parking stalls serving main street businesses.	
Concept B Phase - II:	79,950 gsf,	1 Tier,
	Ramp accessing open parking garage including stairs.	
	184 total parking stalls serving main street businesses.	
Concepts C:	118,400 gsf	2 Tier,
	Ramp accessing open parking garage including stairs and an elevator.	
	350 total parking stalls serving main street businesses.	
Construction Type:	I - A precast concrete (0 hour fire rating required)	

Architectural Review based upon: 2006 INTERNATIONAL BUILDING CODE

Chapter 3: Use and Occupancy Classification

311.3 Design Classification
All design Concepts are Low-Hazard Storage, Group S-2, parking garages open or enclosed

Chapter 4: Special Detailed Requirements based on Use and Occupancy

406. Motor Vehicle Related Occupancies

406.2.2 Clear height. Min 7'-0",
All Design Concepts are 8'-4" clear min. for level one parking including van accessible spaces

406.2.7 Mixed separation
All Design Concepts assume no mixed occupancies

406.3.3 Construction
All Design Concepts are TYPE I - A construction.

406.3.3.1 Openings.
The area of such openings on exterior walls on a tier must be at least 20 percent of the total perimeter wall area of each tier. The aggregate length of the openings considered to be providing natural ventilation shall constitute a maximum 40 percent of the perimeter of the tier.

Concept A: ***Level 1 is 63 % open on the North elevation, 75% open on the East elevation, 88% on the South elevation, and 80% open on the West elevation***
Concept B-I: ***Level 1 is 61 % open on the North elevation, 65% open on the East elevation, 88% on the South elevation, and 87% open on the West elevation***
Concept B-II: ***Level 1 is 65 % open on the North elevation, 88% open on the East elevation, 86% on the South elevation, and 72% open on the West elevation***
Concept C: ***Level 1 is 46 % open on the North elevation, 88% open on the East elevation, 65% on the South elevation, and 40% open on the West elevation***
Level 2 is 46 % open on the North elevation, 88% open on the East elevation, 65% on the South elevation, and 40% open on the West elevation

406.3.4 Uses.
All Design Concepts are assumed used exclusively for the parking and storage of public motor vehicles.

406.3.5 Area and Height.

Type of construction	***I - A***
Area per tier	***Unlimited***
Ramp access	***Unlimited***

Chapter 6: Types of Construction

Table 601 Fire-resistance Rating Requirements for Building Elements (hours)

Building Element		**Type I-A**
Structural Frame		3
Bearing walls:	Exterior	3
	Interior	3
Nonbearing walls:	Exterior	See Table 602
	Interior	0
Floor Construction		2
Roof construction		1½

Table 602 Fire-Resistance rating requirements for exterior walls based on fire separation distance

Fire Separation Distance (Feet)	Type of Construction	Group S-2
<5c	All	1
>5	**I-A**	**1**
>10	I-A, I-B	1

a. Load-bearing exterior walls shall also comply with fire-resistance rating requirements of Table 601.
All Design Concepts are Construction Type I-A, 3 hour fire rating required by Table 601.
d. Open parking garages complying with Section 406 shall not be required to have a fire resistance rating.
All Design Concepts comply with Section 406 requirements for Open Parking Garages.

Chapter 9: Fire Protection Systems
All Design Concepts are not required to incorporate automatic fire sprinkler system

903.2.10.1.2. Openings on one side only
All Design Concepts provide openings on two sides for firefighting or rescue exceeding required size and location.

905 Standpipe Systems
All Design Concepts incorporate Class I manual dry standpipes located in accordance with Class II requirements.

Chapter 10:	Means of Egress				
1004	Occupant Load				
1004.1.1	Design Occupant Load				
Concept A	Floor	Use	Area (gsf)	Load Factor	Occupants
	Tier 1	Parking	78,000	200	390
	Tier 2	Parking	78,000	200	390
Total		**156,000**	**780**		
Concept B-I	Floor	Use	Area (gsf)	Load Factor	Occupants
	Tier 1	Parking	38,025	200	191
	Tier 2	Parking	38,025	200	191
Total			**76,050**		**382**
Concept B-II	Floor	Use	Area (gsf)	Load Factor	Occupants
	Tier 1	Parking	78,000	200	390
	Tier 2	Parking	78,000	200	390
Total			**156,000**		**780**
Concept C	Floor	Use	Area (gsf)	Load Factor	Occupants
	Tier 1	Parking	39,467	200	198
	Tier 2	Parking	39,467	200	198
	Tier 3	Parking	39,467	200	198
Total			**118,400**		**594**

1005.1	Egress width – Stairways				
Concept A	Level	Occupants	Factor	Exit Stair Width Req'd	Stair Width Provided
	2	390	.3	117"	3 @ 72" = 216"
	1	390	.3	N/A	N/A
Concept B-I	Level	Occupants	Factor	Exit Stair Width Req'd	Stair Width Provided
	2	191	.3	58"	2 @ 72" = 144"
	1	191	.3	N/A	N/A
Concept B-II	Level	Occupants	Factor	Exit Stair Width Req'd	Stair Width Provided
	2	390	.3	117"	3 @ 72" = 216"
	1	390	.3	N/A	N/A
Concept C	Level	Occupants	Factor	Exit Stair Width Req'd	Stair Width Provided
	3	198	.3	60"	2 @ 72" = 144"
	2	198	.3	60"	2 @ 72" = 144"
	1	198	.3	N/A	N/A

Section 1007	Accessible means of egress
1007.3	Stairway width. ***All Design Concepts egress stairs are 72" wide.***
1007.2.1	Elevator Required In buildings where a required accessible floor is 4 or more stories above or below a level of discharge, at least one required accessible means of egress shall be an elevator. ***Design Concept C does have an elevator. An elevator is not technically required because it is no taller than 3 stories and all of the accessible parking stalls are on the ground level.***

Section 1009	Stairways
1009.5.2	Outdoor Conditions ***All Design Concepts provide unenclosed egress stairs with positive drainage and cover to address accumulation.***
1015.1	Exit or exit doorways required ***All Design Concepts provide 2 exits.***
1016.1	Travel distance limitations ***Exit Travel Distance; OCCUPANCY S-2 WITHOUT SPRINKLER IS 300'***
Chapter 11:	Accessibility
1106	Parking and passenger loading facilities
Table 1106.1	Required minimum accessible parking spaces
	201-300 total spaces require 7 accessible spaces — ***7 - Provided in Concept B – Phase I***
	301-400 total spaces require 8 accessible spaces — ***8 – Provided in Concept C***
	401-500 total spaces require 9 accessible spaces — ***9 – Provided in Concept A***
	9 – Provided in Concept B Complete
1006.5	Van Spaces ***All Design Concepts provide the minimum of 2 van-accessible spaces at grade only.***

2003 ANSI 117.1

Section 402	Accessible Route ***Design Concepts A, B-1, B-11 & C accommodate all accessible route requirements.***
Section 407	Elevators ***Design Concept C meets or exceeds all requirements of this section and ASME 17.1, Section 105.2.5.***
Section 502	Parking Spaces ***All accessible spaces provided are 108" or 9'-0" wide***
502.4	Access Aisle
502.4.2	Width: ***All access aisles provided are 60" or 5'-0" wide***
502.6	Minimum vertical clearance require for vans is 98" or 8'-2" on the ***All Concepts design is 8'-4" clear exceeding the min. clear height required on the first level.***

Architectural Review based upon: City of Ames Municipal Code

Chapter 29, Article 4 – Development Standards

Sec. 29.403. Landscaping and Screening

(1) Landscaping and Screening Standards

(a) L2, Low Screen

(i) Generally. The L2 standard requires a combination of distance and low-level screening to separate uses or development. The standard is generally applied where a low-level of screening is adequate to soften the impact of the use or development and where visibility between areas is more important than total visual screen. It is usually applied along front

(ii) Required landscaping elements. Low shrubs spaced at a max. Distance of 4 feet on center must forma continuous screen 3 feet high. In addition, one landscaping tree is required per 50 lineal feet of landscaped area or as appropriate to provide tree canopy over the landscape area.

All Design Concepts have an allowance providing for the minimum requirements.

Landscape Requirements for surface parking lots

Minimum Parking area Setbacks and Perimeter Landscaping	
Lot line abutting street	***5 ft. @ L2*** or 10 ft. @ L1
Lot line abutting a commercially or Industrial Zoned lot	***5 ft. @ L2*** or 10 ft. @ L1

Sec. 29.406 Off-Street Parking
(9) Parking Space and Vehicle Aisle Dimensions

Full sized Vehicles Table 29.406(9)-1		***Designed***
Parking angle:	90 degrees	***90 degrees***
Curb length per space:	9'-0"	***9'-0"***
Space Depth:	19'-0"	***19'-0"***
Access Aisle Width:	24'-0"	***24'-0"***
Space Width:	9'-0"	***9'-0"***

(12) Parking Decks

No parking may be provided in stacked parking decks unless the structure containing such parking conforms to the following requirements.
(a) Deck structure visible from the street must be horizontal rather than sloping.
(b) Screening or other improvements must be made so that parked vehicles are shielded from view at each level of the parking structure.
(c) In "DSC" Zone, 75% of street level frontage must be maintained for walk-in retail and service uses. **(Ord. No. 3822, 3-8-05)**
All Design Concepts assumes a variance to maximize the capacity of the proposed parking structure.
(d) The parking structure must conform to all setbacks, height, bulk and landscaping requirements f or buildings within the zone in which the structure is located.
(e) In the DSC Zone no parking is permitted in any structure on the ground level of the structure or within space, which extends from street level upwards a distance of 10 feet within the 35 feet of a street lot line. **(Ord. No. 3595, 10-24-00; Ord. No. 3872, 03-07-06)**
All Design Concepts assumes a variance to maximize the capacity of the proposed parking structure.

(14) Parking Spaces Accessible for Persons with Disabilities.

Required Accessible Parking Spaces Table 29.406(14)			
Total Parking Spaces in Lot		Req'd Min.	Number of Accessible Spaces
201 to 300	7	**7 - Provided in Concept B – Phase I - (216 total spaces)**	
301 to 400	8	**8 – Provided in Concept C – (350 total spaces)**	
401 to 500	9	**9 – Provided in Concept A – (405 total spaces)**	
		9 – Provided in Concept B Complete – (405 total spaces)	

(15) Standard for Accessible Spaces.

(b) Width of Accessible Parking Spaces and Passenger Access Aisles
(i) Spaces. Design Concepts all have 9'-0" wide stalls.
(ii) Passenger access aisles. Design Concepts all have 5'-0" access aisles.
(iii) Van-accessible spaces. All Design Concepts have two van-accessible spaces.

Chapter 29, Article 8 – Commercial Zones

Sec. 29.808. "DSC" Downtown Service Center (Lots X & Y are considered in DSC and must comply standards)

Table 29.808(3)	Downtown Service Center (DSC) Zone Development Standards
DEVELOPMENT STANDARDS	**DSC ZONE**
Minimum Building Setbacks:	
Front Lot Line	0
Side Lot Line	0
Rear Lot Line	0
Maximum Height	7 stories; **Design maximum height is 3 stories**
Minimum Height	2 Stories; **Design minimum height is 2 stories**

Appendix D: Fire Apparatus Access Roads

Section D 105 ***All Design Concepts meet or exceed the required 26'-0" min. clear width from face of building to curb and will continue to provide for a Fire Apparatus Access Road.***