

# Capitol Mall Parking Garage Study

DPW Project No. 13006

May 23, 2012

For  
State of Idaho  
Department of Administration  
Division of Public Works

Study Prepared by  
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# Study Overview

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In response to State of Idaho House Concurrent Resolution No. 47, the Department of Administration, Division of Public Works retained LKV Architects to study potential sites, parking capacities, and projected costs associated with the development of a new parking garage in the Capitol Mall area. The four primary areas of analysis covered by this study are as follows:

- Evaluation of potential sites presently owned by the State of Idaho having the potential of accommodating a 600 to 800 space parking structure convenient to legislators and related personnel during legislative sessions, State employees that work in Capitol Mall buildings, and the general public conducting business in the Capitol Mall area.
- Development of a garage configuration and circulation concept for the most viable site or sites in order to evaluate in greater detail the parking capacity potential of the selected property or properties.
- Calculation of the likely maximum number of vehicles that a garage could accommodate on these sites given design considerations such as type of circulation system, structure height, basement parking, stall size, aisle width etc.
- Estimation of probable construction and project costs associated with the recommended site or sites and the specific development scenarios analyzed.

The Capitol Mall Master Plan, completed in November of 2000 to guide future development decisions on Capitol Mall, identified four primary locations for future parking structure development. These sites were W. Washington Street between 6<sup>th</sup> and 7<sup>th</sup> Streets, N. 8<sup>th</sup> Street between Jefferson and State Streets, the southwest corner of N. 3<sup>rd</sup> Street and W. Washington Street, and the east side of N. 4<sup>th</sup> Street between Jefferson and State Streets. Although initial indications at the outset of this study were that the W. Washington and N. 8<sup>th</sup> Street sites would be most viable and advantageous, all four sites were evaluated in Part 1 on the study.

As expected following detailed analysis, the W. Washington and N. 8<sup>th</sup> properties were found to have both the greatest parking capacity potential and the best proximity to both the Capitol and the highest concentration of Capitol Mall employees. These sites, however, currently contain the largest Capitol Mall surface parking lots thereby significantly reducing the potential net increase in Capitol Mall parking spaces otherwise afforded by the addition of parking structures.

While the W. Washington site has the greatest potential parking capacity, development costs will include modifications costs to the State-owned geo-thermal well located near the center of the site. For the smaller N. 8<sup>th</sup> Street site to accommodate a nearly equivalent number of cars, a City sewer main will likely have to be rerouted and the structure would require approximately three more parking levels than the W. Washington site.

Everything considered, study results indicate that the W. Washington Street site could potentially result in the highest net increase in Capitol Mall parking, but a structure of maximum size at this location would exceed the State's desired 6 to 8 million dollar project cost. Lesser development of the W. Washington Street site or maximum above grade development of the N. 8<sup>th</sup> Street site would net about 150 fewer spaces, but could be constructed somewhat closer to the State's intended budget.

# Part 1 - Site Evaluation



Capitol Mall Properties and Buildings



# Part 1 – Site Evaluation

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## W. Washington Street Site

(Bounded by W. Washington St., N. 7<sup>th</sup> St., W. Franklin St., Private Property, and N. 6<sup>th</sup> St.)

### Description

#### Size and Dimensions (including bisecting alley)

- Site area is approximately 69,640 square feet.
- East / west dimension along W. Franklin is 200 feet and along W. Washington is 300 feet.
- North / south dimension along N. 7<sup>th</sup> is 260 feet and along N. 6<sup>th</sup> is 180 feet.
- 8' x 42' portion of the adjacent 605 W. Franklin property extends into the site's northeast quadrant.

#### Existing Improvements

- Existing 154 space asphalt-paved parking lot with interior landscaping.
- State geo-thermal well and enclosing building.
- East / west alley with both east and west flowing City sewer mains.
- 2 inch water service line from main in W. Franklin and 2 inch water service line from main in W. Washington.

#### Vehicle Access

- N. 6<sup>th</sup> street is a one way south bound, three lane roadway. W. Franklin, W. Washington, and N. 7<sup>th</sup> are two way, two lane roadways.
- The functional classification of N. 6<sup>th</sup> street is collector transitioning to minor arterial. The functional classification of W. Franklin, W. Washington, and N. 7<sup>th</sup> is local.

#### Proximity to Capitol

- Site is north of the Capitol Building
- Walking distance from the Capitol Building's north entrance to the closest corner of the site is approximately 465 feet, and approximately 925 feet to the site's most remote corner.

#### City Zoning Requirements

- Limited Office (L-OD) Zoning with Design Review
- Parking structures are an allowed use with Conditional Use approval.
- Minimum building setbacks are 20 feet front and side adjacent to a street, and 15 feet interior sides and rear.
- Maximum building height is 45 feet.

# Part 1 - Site Evaluation

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## (W. Washington Street Site Continued)

### Buildable Volume and Approximate Parking Capacity (For Comparison Purposes Only)

- Within City required setbacks and height limitations, and assuming a ten foot floor to floor distance, the site could accommodate a maximum of (5) horizontal, at grade and above floor levels of 48,480 square feet each for a maximum structure square footage of 242,400 square feet.
- At the fairly efficient ratio of 340 square feet per parking space, a parking structure that filled the entire buildable area of the site could potentially accommodate about 713 cars. Subtracting the existing 154 surface lot spaces, the net increase to Capitol Mall parking would be approximately 559 cars. With a basement level, the structure capacity could increase to roughly 856 cars and the net increase in Capitol Mall parking could increase to about 702 cars.

### Analysis

The W. Washington Street site is the largest of the four sites evaluated and the second closest to the Capitol Building. It is also the most centrally located along the east / west axis of Capitol Mall and thus likely closer to a higher percentage of Capitol Mall employee offices than the other three sites. The buildable volume of the site is the largest of the four sites and appears to come closest to being able to accommodate a 600-800 vehicle structure without a basement.

The City of Boise indicates that the sewer main on the western half of the site could be abandoned. A sewer connection along the 7<sup>th</sup> Street property line would only need to be retained for the structure itself. The sewer main on the eastern half of the site could potentially be rerouted along the perimeter of the site to provide continuing service to 603 and 605 W. Franklin.

The primary disadvantages of the site appear to be the 154 surface lot spaces that could potentially be forfeited, and the presence of the existing geo-thermal well and enclosing building. Careful layout of a parking structure, however, so structural columns remain clear of the well, and provision of manhole type accesses in floor levels immediately above the well shaft, is entirely feasible.

### Recommendation

The W. Washington Street site appears to be the optimum location for a 600 to 800 space parking structure. Even if cost considerations dictate a smaller structure, the proximity to other Capitol Mall facilities and the N. 5<sup>th</sup> and N. 6<sup>th</sup> one way couplet is advantageous.

# W. Washington Street Site

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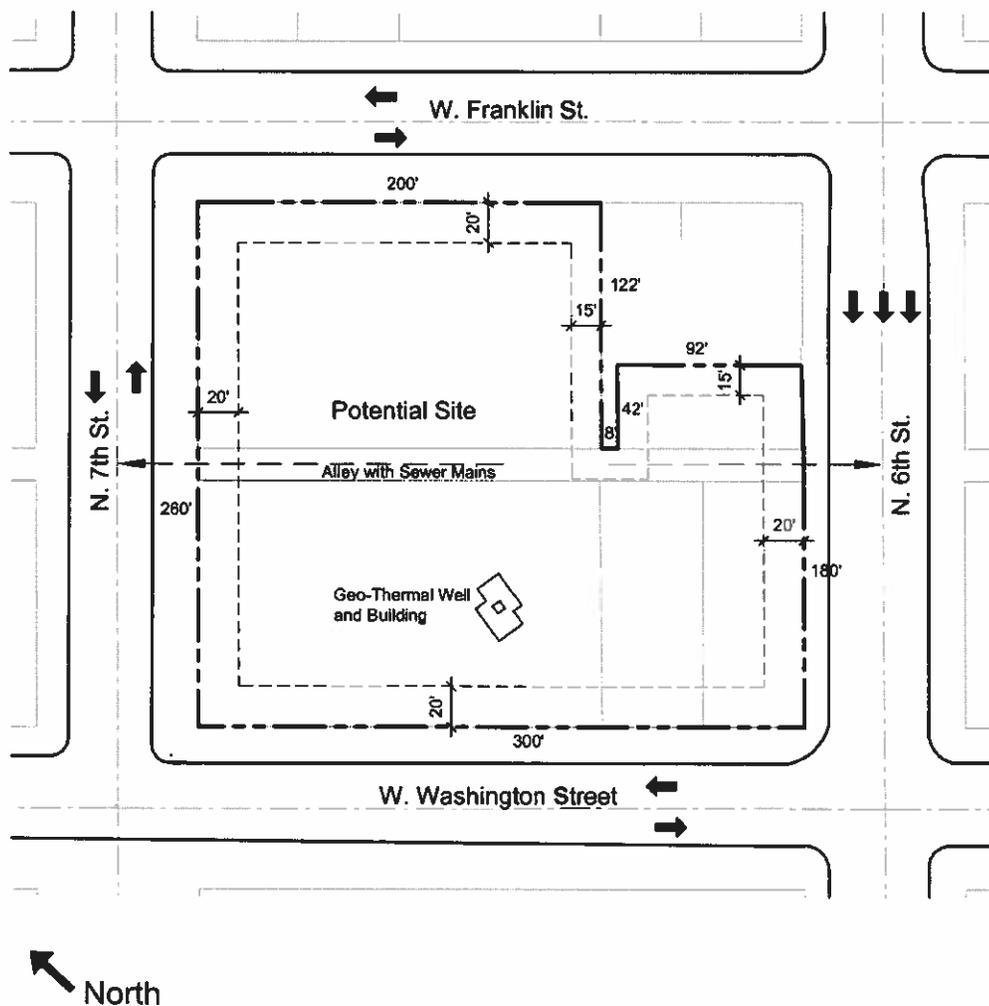
- North of Capitol Building
- 154 Existing Parking Spaces
- Mature Landscaping
- Residential Historic District Neighborhood to North
- Site Constraints Include Geo-Thermal Well and 8'X42' Protrusion of Private Property



# W. Washington Street Site

- Buildable Area: 48,480 s.f.
- Above Grade Parking Levels: 5
- Approximate Parking Capacity\* Without Basement: 713 Cars
- Approximate Parking Capacity\* With Basement: 856 Cars

\* For Comparison Purposes Only



# Part 1 - Site Evaluation

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## N. 8<sup>th</sup> Street Site

(Bounded by N. 8<sup>th</sup> St., W. Jefferson St., Private Property, and W. State St.)

### Description

#### Size and Dimensions (including bisecting alley)

- Site area is approximately 45,890 square feet.
- East / west dimension along W. State is 200 feet and along W. Jefferson is 150 feet.
- North / south dimensions along western boundary are 138 feet, and 122 feet, and dimension along N. 8<sup>th</sup> is 260 feet.

#### Existing Improvements

- Existing 101 space asphalt-paved parking lot with interior landscaping.
- East / west alley with west flowing City sewer main, gas, and electricity.
- ½" water service from main in alley, 1" water service from main in N. 8<sup>th</sup>, and ¾" water service from main in W. Jefferson.

#### Vehicle Access

- W. State Street is a two way, four lane roadway. N. 8<sup>th</sup> is a one way northbound, three lane roadway. W. Jefferson is a one way westbound, three lane roadway. N. 9<sup>th</sup> to the west of the site is a one way southbound, three lane roadway.
- The functional classification of all adjacent streets is minor arterial

#### Proximity to Capitol

- Site is west of the Capitol Building
- Walking distance from the Capitol Building's west entrance to the closest corner of the site is approximately 370 feet, and approximately 570 feet to the site's most remote corner.

#### City Zoning Requirements

- Central Business District (C-5DD) Zoning with Design Review.
- Parking structures are an allowed use.
- Minimum building setbacks are 0 feet front and sides adjacent to a street, and 0 feet interior sides and rear.
- Maximum building height is unlimited.
- Maximum floor area ratio (gross floor area ÷ lot area) is 4.

# Part 1 - Site Evaluation

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## (N. 8<sup>th</sup> Street Site Continued)

- Per the City's Westside Downtown Framework Master Plan, a capitol dome view corridor setback is called for along the south side of W. State Street measuring about 45 feet from W. State on the west side of the site to about 60 feet from W. State on the east side of the site. In addition, an urban parkway setback of 20 feet is called for along the south side of W. State and the west side of N. 8<sup>th</sup>.

### Buildable Volume and Approximate Parking Capacity (For Comparison Purposes Only)

- Within City required and Master Plan recommended setbacks and height limitations, and assuming a ten foot floor to floor distance, the site could accommodate a maximum of (6) horizontal, at grade level and above floor levels of 29,670 square feet each for a maximum structure square footage of 178,020 square feet.
- At the fairly efficient ratio of 340 square feet per parking space, a parking structure that filled the entire buildable area of the site and did not exceed a floor area ratio of 4 could potentially accommodate about 524 cars. Subtracting the existing 101 surface lot spaces, the net increase to Capitol Mall parking would be approximately 423 cars. Due to the maximum floor area ratio requirement, a parking structure that filled the entire site and did not adhere to the recommended view corridor and urban parkway setbacks would only accommodate about 15 additional cars. With a basement level, the structure capacity could increase to roughly 611 cars and the net increase in Capitol Mall parking could increase to about 510 cars.

## Analysis

The N. 8<sup>th</sup> Street site is the closest and most convenient to the Capitol Building but farther removed from most other Capitol Mall facilities than the W. Washington Street site. Although the site is the second largest of those evaluated, its buildable area is reduced by a City designated capitol dome view corridor along W. State Street, an urban parkway setback along N. 8<sup>th</sup> Street, and an "L" shaped configuration with dimensions that make the additional width along W. State of marginal value for above grade parking decks.

The alley that runs east / west through the property contains underground electric, gas, and one of two sewer mains that serve the Capitol Building. Unless the main that serves the east side of the Capitol could serve the west side also, the sewer main through this property would need to remain, or possibly be rerouted farther west in W. State Street before turning southward to the alley along the site's western property line. The sewer could remain where it is presently located assuming a parking structure was configured with a ground level drive aisle above and parallel with the sewer, and provided that the parking structure did not have a basement level. The City will likely not support lowering the sewer main and introducing pumping and lift stations, but rerouting may be feasible.

# Part 1 - Site Evaluation

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## (N. 8<sup>th</sup> Street Site Continued)

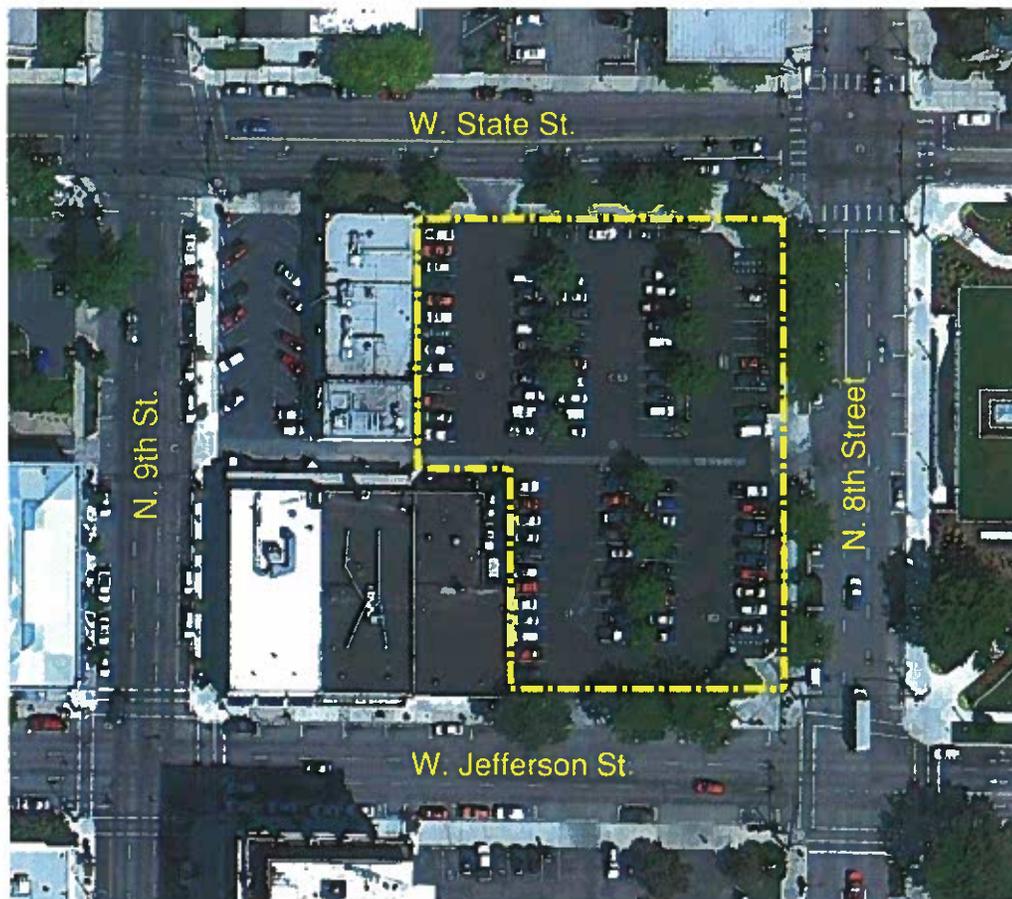
For the reasons cited, to accommodate over 600 cars a parking structure located on this site would likely require at least (6) or more above grade floor levels and a basement level. While this number of levels and corresponding structure height is allowed by zoning ordinance, it would be an imposing and inappropriate height in such close proximity to the Capitol Building.

## Recommendation

A parking structure of much over 600 spaces is not possible on this site without a floor area ratio variance from the City. Due to the visual impact that a seven to eight story structure would have on the Capitol Building, a variance would be unlikely. If budget constraints dictate a parking structure less than 600 spaces, the site may warrant further consideration.

## N. 8th Street Site

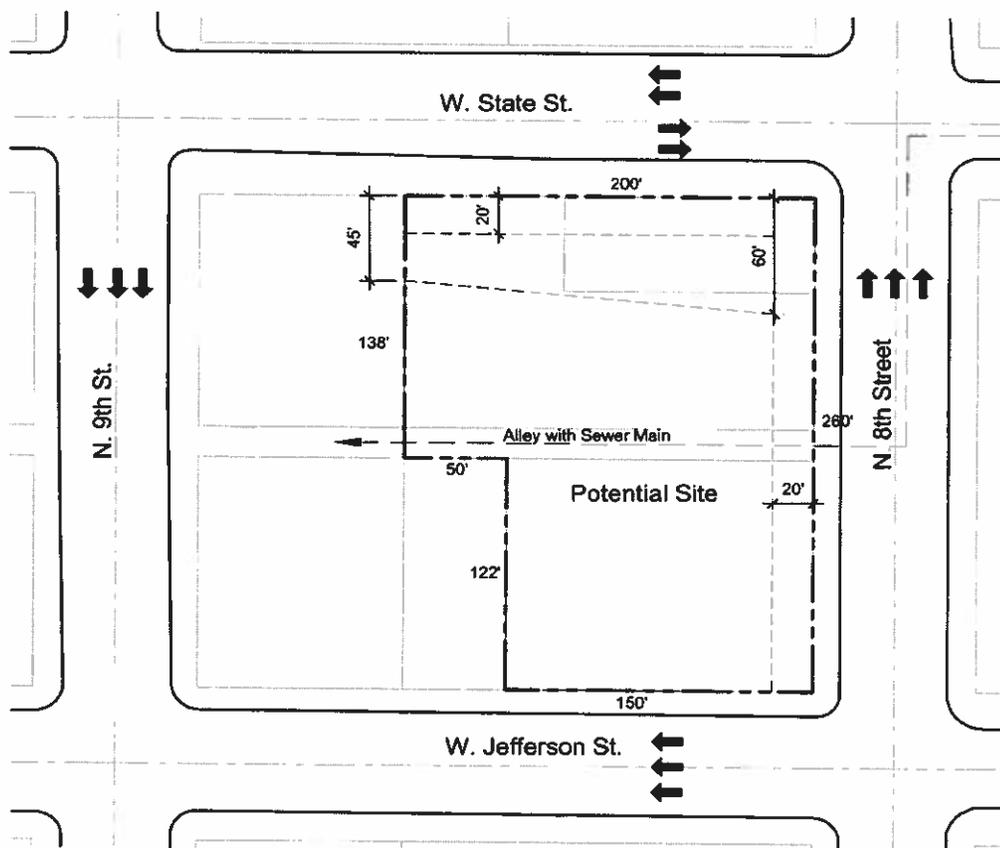
- West of Capitol Building
- 101 Existing Parking Spaces
- Mature Landscaping and Extensive Hardscape
- Visually Sensitive Site Due to Proximity to Capitol
- Site Constraints Include View Corridor and Urban Parkway Setbacks and Sewer Main in Alley



# N. 8th Street Site

- Buildable Area: 29,670 s.f.
- Above Grade Parking Levels: 6
- Approximate Parking Capacity\* Without Basement: 524 Cars
- Approximate Parking Capacity\* With Basement: 611 Cars

\* For Comparison Purposes Only



# Part 1 - Site Evaluation

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## N. 3<sup>rd</sup> Street Site

(Bounded by N. 3<sup>rd</sup> St., the Alexander House, Division of Public Works Building, Idaho Commission for the Blind and Visually Impaired Building, and W. Washington St.)

### Description

#### Size and Dimensions (including bisecting alley)

- Site area is approximately 31,160 square feet.
- East / west dimension along W. Washington and abutting the Alexander House is 200 feet.
- North / south dimension along N. 3<sup>rd</sup> and abutting the Idaho Commission for the Blind and Visually Impaired Building is 155 feet.

#### Existing Improvements

- Existing 83 space paved and gravel parking lot with some perimeter chain link fencing.
- State geo-thermal injection well building.
- East / west alley with west flowing City sewer main.
- Multiple water service lines primarily from main in W. Washington.

#### Vehicle Access

- All adjacent streets are two lane roadways. N. 3<sup>rd</sup> is one way northbound and N. 4<sup>th</sup> to the west is one way southbound. The other streets are two way.
- The functional classification of W. 3<sup>rd</sup> Street is collector and W. Washington Street is local. W. State Street to the south is classified as a minor arterial and N. 4<sup>th</sup> to the west is classified as a collector.

#### Proximity to Capitol

- Site is east of the Capitol Building
- Walking distance from the Capitol Building's east entrance to the closest corner of the site is approximately 955 feet, and approximately 1,310 feet to the site's most remote corner.

#### City Zoning Requirements

- Limited Office (L-OD) Zoning District with Design Review.
- Parking structures are an allowed use with Conditional Use approval.

# Part 1 - Site Evaluation

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## (N. 3<sup>rd</sup> Street Site Continued)

- Minimum building setbacks are 20 feet front and side adjacent to a street, and 15 feet interior sides and rear.
- Maximum building height is 45 feet.

### Buildable Volume and Approximate parking Capacity (For Comparison Purposes Only)

- Within City required setbacks and height limitations, and assuming a ten foot floor to floor distance, the site could accommodate a maximum of (5) at grade and above floor levels of 20,500 square feet each for a maximum structure square footage of 102,500 square feet.
- At the fairly efficient ratio of 340 square feet per parking space, a parking structure that filled the entire buildable area of the site could potentially accommodate about 301 cars. Subtracting the existing 83 surface lot spaces, both paved and gravel, the net increase to Capitol Mall parking would be approximately 218 cars. With a half basement developed north of the alley sewer main, the structure number could increase to about 331 cars and the net increase in Capitol Mall parking could increase to about 248 cars.

## Analysis

The N. 3<sup>rd</sup> Street site, at 955 feet from the Statehouse (a distance roughly equivalent to three city blocks), is the farthest site from the Capitol Building and also the farthest from the majority of other Capitol Mall office buildings. As the maximum recommended walking distance for urban employees from parking structure to office is in the range of 500 to 800 feet, this site is less than ideal. Vehicle access, however, both to and from Front, Myrtle, and the Connector via the N. 5<sup>th</sup> and N. 6<sup>th</sup> one way couplet and W. State and W. Washington, is reasonably direct.

The site is the smallest of the four sites evaluated and would thus require more floor levels and height than allowed by City code to accommodate a 600 to 800 car structure. The site area could be increased significantly if the Alexander House building were relocated, but this would likely be a costly and politically controversial endeavor. A positive aspect of the site is that a relatively small number of cars are presently accommodated in existing, grade level parking lots.

The west flowing sewer main in the alley along the southern edge of the site must remain in service. A parking structure would either have to be configured over or north of the existing alignment, or the main would have to be rerouted north on N. 3<sup>rd</sup> and then west on W. Washington. This would be a costly and disruptive process.

## Recommendation

Primarily because of its excessive distance from the Capitol Building and its small size, the N. 3<sup>rd</sup> Street site is not recommended for further analysis or consideration.

## N. 3rd Street Site

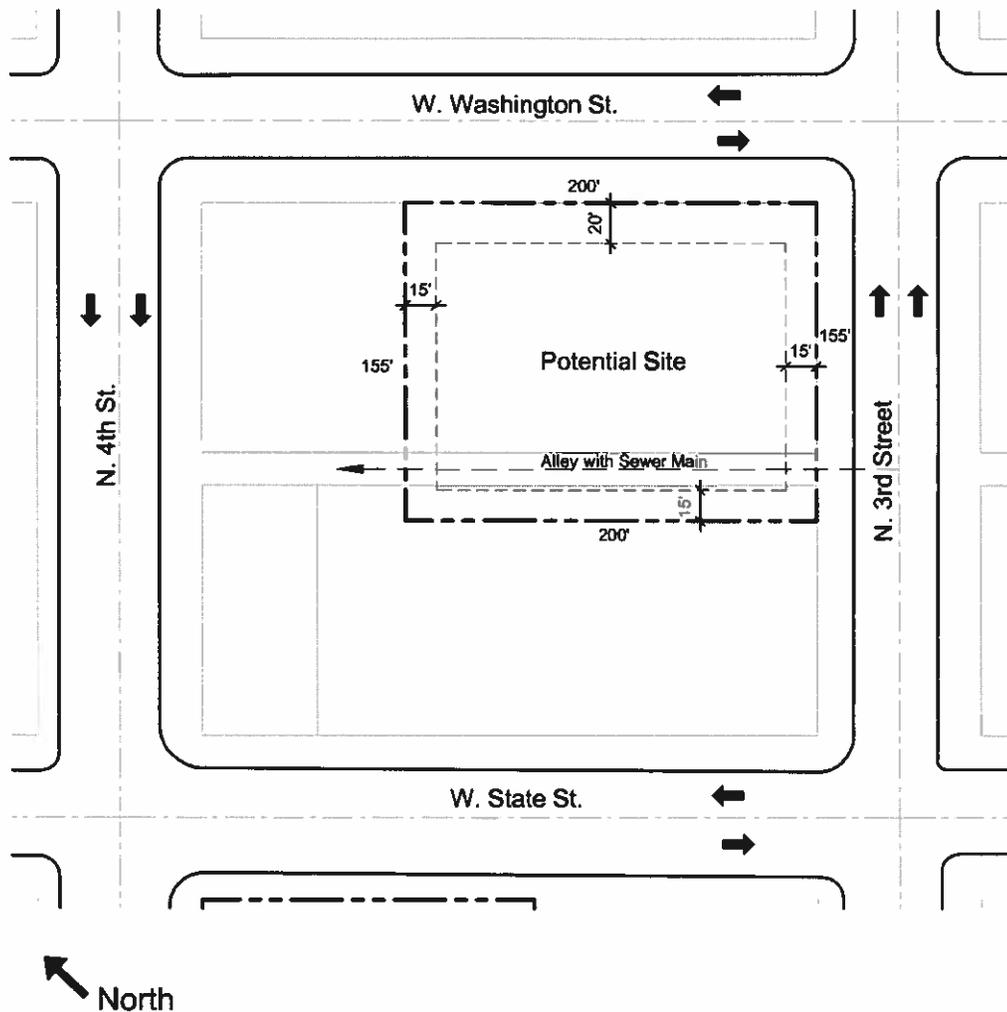
- East of Capitol Building
- 83 Existing Parking Spaces
- Predominantly Gravel with Some Paved Parking
- Small Site Far Removed From Capitol
- Site Constraints Include Existing Injection Well Building and Sewer Main in Alley



# N. 3rd Street Site

- Buildable Area: 20,500 s.f.
- Above Grade Parking Levels: 5
- Approximate Parking Capacity\* Without Basement: 301 Cars
- Approximate Parking Capacity\* With Half Basement: 331 Cars

\* For Comparison Purposes Only



# Part 1 - Site Evaluation

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## N. 4<sup>th</sup> Street Site

(Bounded by N. 4<sup>th</sup> St., W. State St., State Library Building, and W. Jefferson St.)

### Description

#### Size and Dimensions (including vacated alley)

- Site area is approximately 41,970 square feet.
- East / west dimension along W. State and W. Jefferson is 160 feet.
- North / south dimension along N. 4<sup>th</sup> and abutting State Library Building is 260 feet.

#### Existing Improvements

- Existing 28 space asphalt-paved parking lot along W. State St. property line.
- Mature landscaping including grass and large trees.
- West flowing City sewer main along W. State St. property line.
- 2" water service line from main in N. 4<sup>th</sup> St. and 2" water service line along State Library side of site.

#### Vehicle Access

- All adjacent streets are two lane roadways. N. 4<sup>th</sup> is one way southbound, W. Jefferson is one way westbound, and W. State is two way.
- The functional classification of N. 4<sup>th</sup> Street, W. State, and W. Jefferson is minor arterial. The functional classification of N. 3<sup>rd</sup> to the west is collector.

#### Proximity to Capitol

- Site is east of the Capitol Building
- Walking distance from the Capitol Building's main entrance to the closest corner of the site is 850 feet, and approximately 1,270 feet to the site's most remote corner.

#### City Zoning Requirements

- Residential Office (R-OD) Zoning with Design Review.
- Parking structures are an allowed use with Conditional Use approval.
- Minimum building setbacks are 10 feet front and side adjacent to street, and 5 feet interior sides and rear.
- Maximum building height is 35 feet.

# Part 1 - Site Evaluation

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## (N. 4<sup>th</sup> Street Site Continued)

### Buildable Volume and Approximate Parking Capacity (For Comparison Purposes Only)

- Within City required setbacks and height limitations, and assuming a ten foot floor to floor distance, the site could accommodate a maximum of (4) horizontal, at grade and above floor levels of 35,150 square feet each for a maximum structure square footage of 140,600 square feet.
- At the fairly efficient ratio of 340 square feet per parking space, a parking structure that filled the entire buildable area of the site could potentially accommodate about 414 cars. Subtracting the existing 28 surface lot spaces, the net increase to Capitol Mall parking would be approximately 386 cars. With a basement level, the structure capacity could increase to about 517 cars and the net increase in Capitol Mall parking could increase to about 489 cars.

### Analysis

The N. 4<sup>th</sup> Street site is nearly as far from the Capitol Building as the N. 3<sup>rd</sup> Street site, and like the N. 3<sup>rd</sup> Street site it exceeds the recommended walking distance range from parking structure to employee offices. Vehicle access, however, is good as the site is bounded on three sides by minor arterial roadways that provide direct access to and from the N. 5<sup>th</sup> and N. 6<sup>th</sup> one way couplet, and in turn to Myrtle, Front, and the Connector.

The site is similar in size to the N. 8<sup>th</sup> Street site but has the added advantage of being rectangular and not being encumbered by visual corridor and urban parkway setback requirements. On the down side, a structure on this site would basically be located in the front yard of the State Library Building. A parking structure on the site, therefore, would best be done in conjunction with a remodel or reconfiguration of the State Library Building and/or as part of a multi-use redevelopment of the block.

The site does have the advantage of almost no existing on-site parking which would mean the greatest net increase in Capitol Mall parking spaces for the fewest number of new parking structure spaces. It is also the only site that is not bisected or crossed by a City sewer main.

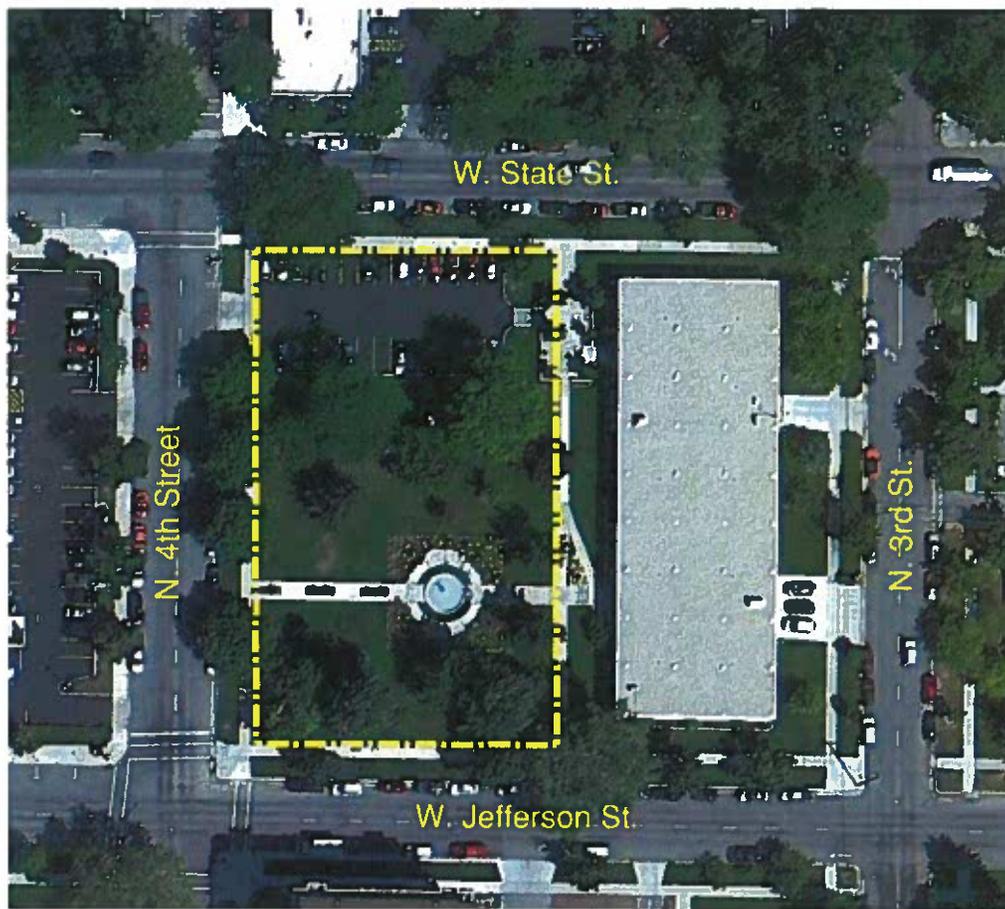
### Recommendation

Although the N. 4<sup>th</sup> Street site has a size and configuration conducive to a 500 vehicle parking structure, its distance from the Capitol Building and location immediately in front of the State Library Building make it a less than optimum choice for parking structure development at the present time.

## N. 4th Street Site

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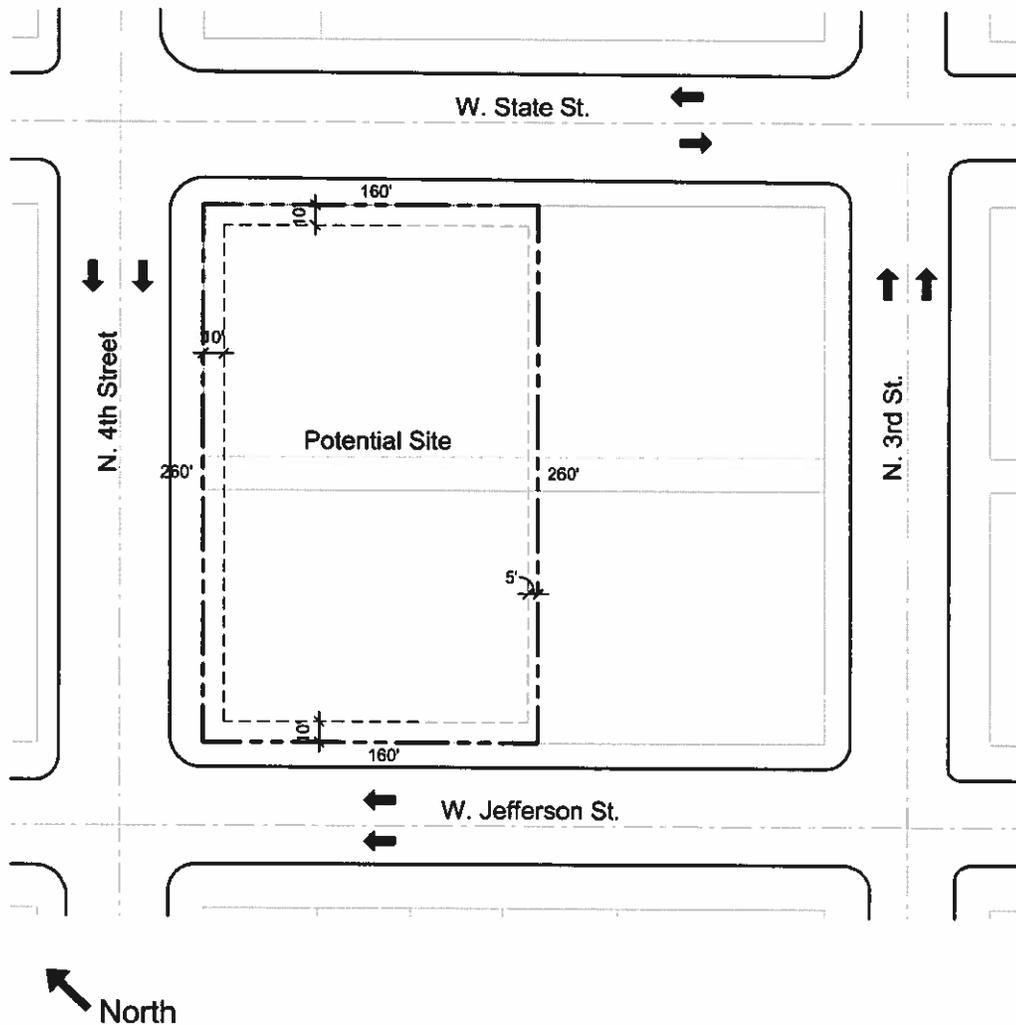
- East of Capitol Building
- 28 Existing Parking Spaces
- Mature Landscaping and Water Feature
- Far Removed From Capitol
- Site Constraint Includes Location in Front of State Library Building



# N. 4th Street Site

- Buildable Area: 35,150 s.f.
- Above Grade Parking Levels: 4
- Approximate Parking Capacity\* Without Basement: 414 Cars
- Approximate Parking Capacity\* With Basement: 517 Cars

\* For Comparison Purposes Only



## Part 1 - Site Evaluation Summary

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	W.Washington Street	N. 8 <sup>th</sup> Street	N. 3 <sup>rd</sup> Street	N. 4 <sup>th</sup> Street
Distance From Capitol Building	465 ft.	370 ft.	955 ft.	850 ft.
Existing Surface- Level Parking	154	101	83	28
Buildable Area	48,480 s.f.	29,670 s.f.	20,500 s.f.	35,150 s.f.
Above Grade Parking Levels	5	6	5	4
Approximate Parking Capacity Without Basement *	713 cars	524 cars	301 cars	414 cars
Approximate Parking Capacity With Basement *	856 cars	611 cars	331 cars	517 cars
Approximate Net Increase in Capitol Mall Parking Without Basement *	559 cars	423 cars	218 cars	386 cars
Approximate Net Increase in Capitol Mall Parking With Basement *	702 cars	510 cars	248 cars	489 cars

\* For Comparison Purposes Only.

## Part 2 – Garage Concepts and Capacity Analysis

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This part of the study looks at the W. Washington and N. 8<sup>th</sup> Street sites in greater detail. The objective is to determine maximum reasonable garage capacities for each site considering site specific constraints such as property configuration and dimension, zoning restrictions, street access, and existing on-site utilities. A specific garage concept is developed for each site that addresses these constraints and provides an objective basis for the parking capacities proposed as well as the cost projections in Part 3 of the study. The concepts proposed are not intended to represent perfect or optimum design solutions. It's possible that there are other garage configurations that may achieve similar or potentially higher parking counts.

### General Garage Concepts and Criteria

- A continuous parking-ramp circulation system with parking on both sides of a two-way drive aisle is employed on both sites. This “threaded helix” design is typically the most space efficient and cost effective parking structure circulation pattern for medium sized, “low turnover” garages. Parking ramp slopes are kept close to the recommended 5% maximum gradient, although the IBC allows a maximum parking ramp slope of up to 6.67%.
- Given the adjacent one-way street grids and required parking structure sizes, two separate ingress and egress locations are proposed for each site. Entrances are positioned away from intersections, away from stair and elevator discharge points, and such that left turns across oncoming traffic are avoided at garage entrances.
- A combination of City of Boise and industry recommended uniform stall sizes and aisle widths have been utilized as set forth below.

	Parking Industry “Low Turnover” Recommendations	Boise City Parking Garage Standards	W. Washington and N. 8 <sup>th</sup> Street Garage Concepts
<b>Standard 90° Stall</b>			
• Length	18'-0"	18'-0"	18'-0"
• Width	8'-6"	8'-0"	8'-6"
• 2 Way Aisle	24'-0"	22'-0"	24'-0" (minimum)
<b>Standard 60° Stall</b>			
• Length	18'-0"	18'-0"	18'-0"
• Width	8'-6"	8'-0"	8'-6"
• 1 Way Aisle	14'-6"	16'-0"	16'-0" (minimum)

One size fits all stalls are employed throughout both garage concepts, except some lengths are reduced to 15'-0" compact space size at interior aisle ends for improved turning clearances. Handicap space quantities are incorporated per Boise City Code.

- Alley vacation will be required at both sites. The ACHD process will involve a pre-application neighborhood meeting; petition indicating support or opposition signed by all adjoining property owners; preparation of legal description, easement documents, and appraisal; and Idaho Power Review (6 week minimum process). Upon receipt of materials and application, ACHD will conduct an on-site inspection, place the request on Technical Review Agenda, prepare staff report, and hold public hearing. This process takes approximately four months.

## Part 2 – Concept Analysis

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### W. Washington Street Site

#### Circulation and Ramping

After evaluating several structure configuration and circulation options for the “L” shaped W. Washington site, it became apparent that a combination of both flat and ramped parking decks should be employed to minimize cost and maximize parking capacity. The 260’ east / west dimension of the southern portion of the site is long enough for a single ramp, with an approximate 5% slope, to connect typical 10’ floor to floor parking decks. This will allow most cars to park on flat rather than inclined surfaces. Placing the ramp on the south side of the garage also provides the option of structure phasing, with the flat, northern parking decks coming later, and/or of keeping the structure lower along the residential W. Franklin streetscape. The use of flat parking decks reduces the travel distance on the main ramped loop thereby shortening travel time in and out of the structure. A height variance of 3 to 4 feet may be required for the stair towers.

#### Ingress and Egress

East / west oriented ramping on the south side of the structure precludes ingress and egress off W. Washington, and access from W. Franklin is undesirable due to the street’s residential character. An entrance and exit off N. 6<sup>th</sup>, however, provides convenient access to and from the N. 5<sup>th</sup> / N. 6<sup>th</sup> one-way couplet, and a secondary entrance and exit off N. 7<sup>th</sup> provides more direct access from eastbound State Street and a more direct departure route to North End neighborhoods.

#### Alley and Utilities

To maximize parking on this site the existing east / west alley must be vacated. Two double loaded, 90 degree parking bays do not fit between the alley and the building set-back along W. Washington. Per the City of Boise, both the east and west flowing sewer mains in the alley can be abandoned subject to providing service to 603 and 605 W. Franklin in easements around the northeast corner of the structure. The existing geo-thermal well which must remain is in an awkward location. Attempts to position it beneath a flat, second floor portion of the structure resulted in compromised structure circulation and other inefficiencies. The proposed concept, with the well positioned beneath the ramp connecting the garage’s ground level and second level, appears feasible but will require lowering the well head, equipment, and pressure tanks. Ramped access can be provided from the southeast corner of the structure and manholes must be provided in the ramp decks above.

#### Stall Size and Aisle width

One standard 8’-6” wide by 18’-0” long parking stall size is recommended and has been employed in the W. Washington garage concept, except that compact length stalls are utilized at some end of aisle locations. Two-way aisles with 90 degree parking are minimum 24’-0” wide, and one-way aisles with 60 degree parking are minimum 16’-0” wide. A 2’-0” wide interior and exterior column line space is shown on the concept plan beyond the limit of all parking spaces and drive aisles. Specific column locations are only shown in the northern, one-way drive portion of the structure since parking stalls here must be positioned between columns in order for three double loaded bays to fit in the space available.

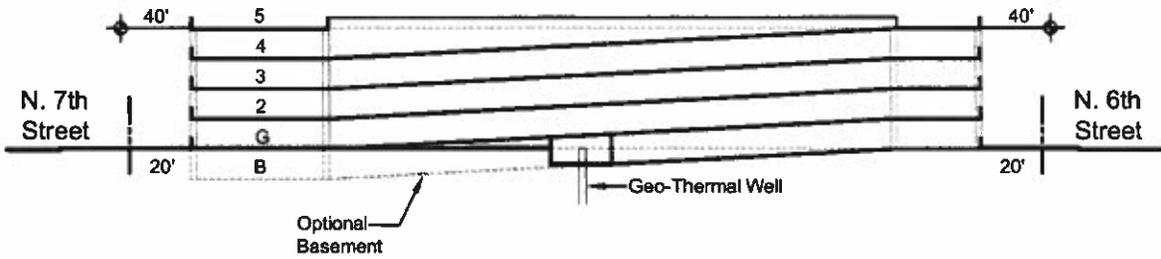
## Part 2 - Capacity Analysis

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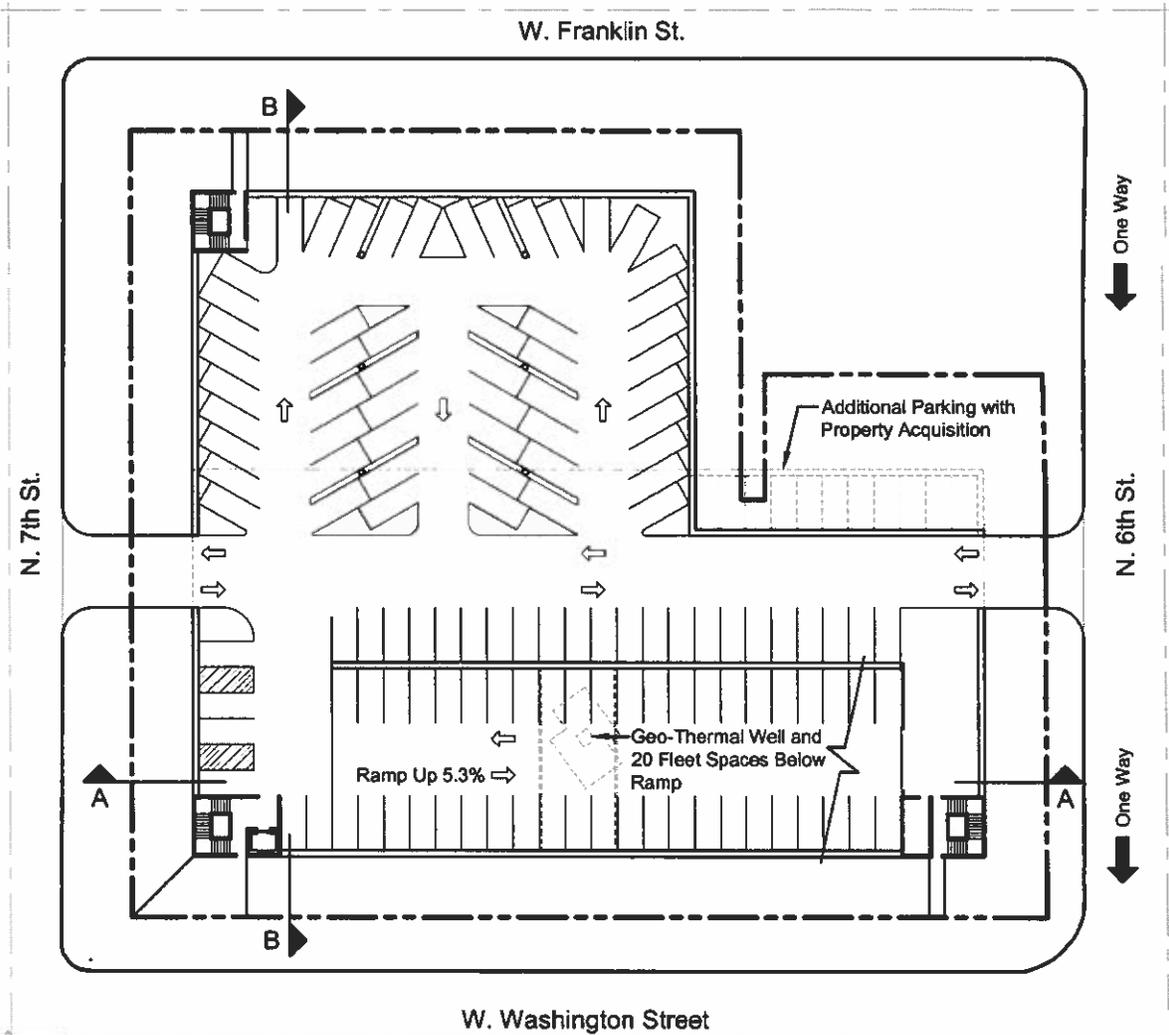
### W. Washington Street Site

	Total Spaces Without Property Acquisition Spaces, with Partial Levels 4 & 5, and Without Basement	Total Spaces With Property Acquisition Spaces Added Only	Total Spaces with Property Acquisition Spaces and Full Levels 4 & 5 Added Only	Total Spaces with Property Acquisition Spaces, Full Levels 4 & 5, and Basement Added
Basement	20 (Fleet)	20 (Fleet)	20 (Fleet)	111
Ground Level	125	136	136	136
Level 2	129	140	140	140
Level 3	129	140	140	140
Level 4	94	106	140	140
Level 5	<u>44</u>	<u>56</u>	<u>95</u>	<u>95</u>
Totals	541 (12 HC)	598 (12 HC)	671 (15 HC)	762 (15 HC)
Less Existing Parking	-[154]	-[154]	-[154]	-[154]
<b>Net Increase in Capitol Mall Parking</b>	<b>387</b>	<b>444</b>	<b>517</b>	<b>608</b>
Structure Gross Square Footage	198,462	207,962	238,322	271,326
Square Feet Per Parking Space	367	348	355	356

# W. Washington Street Site

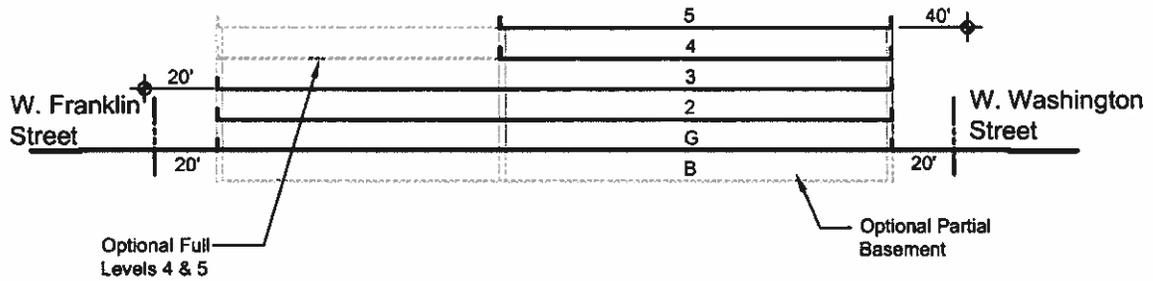


Section A

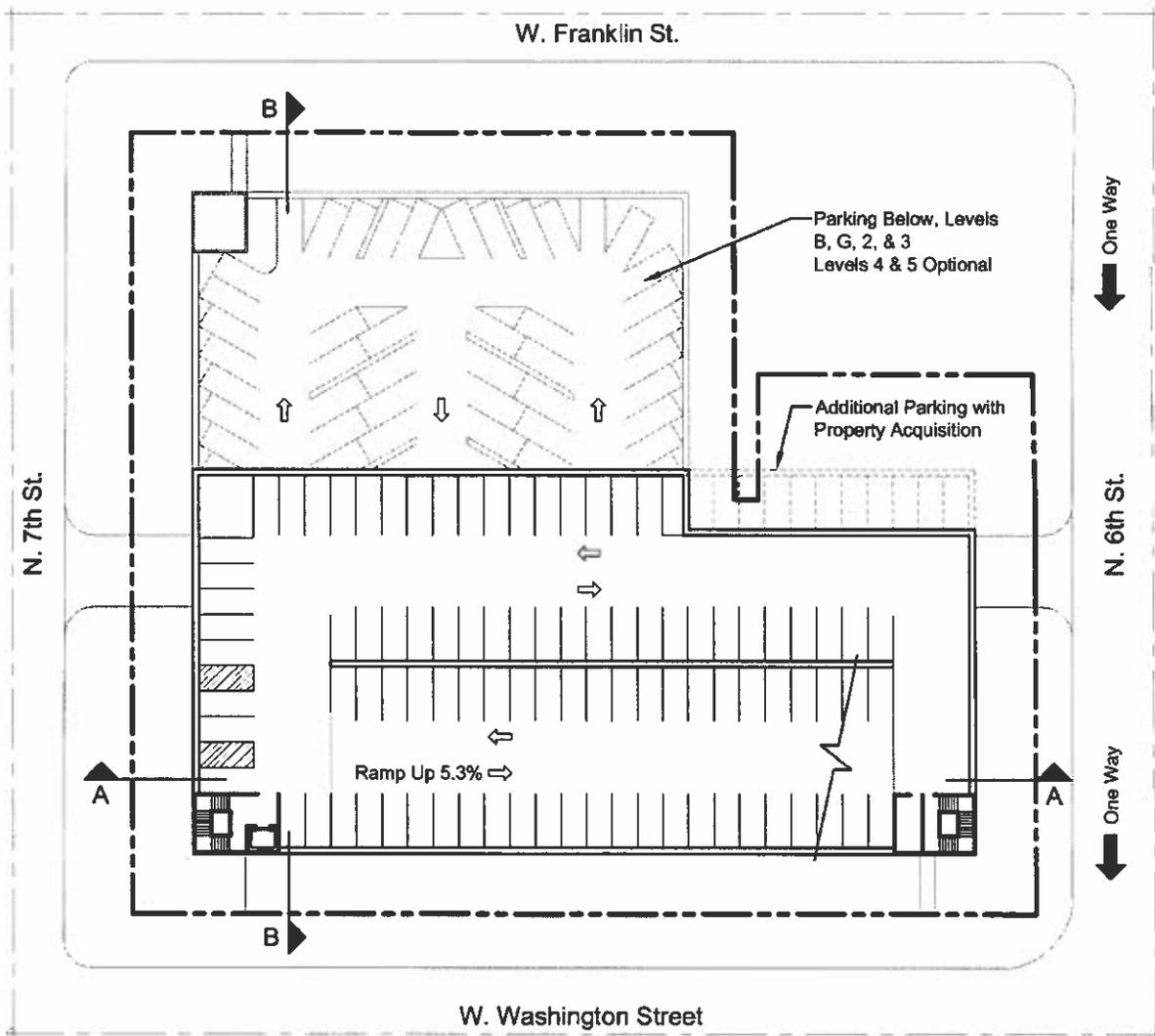


Ground Level Plan

# W. Washington Street Site

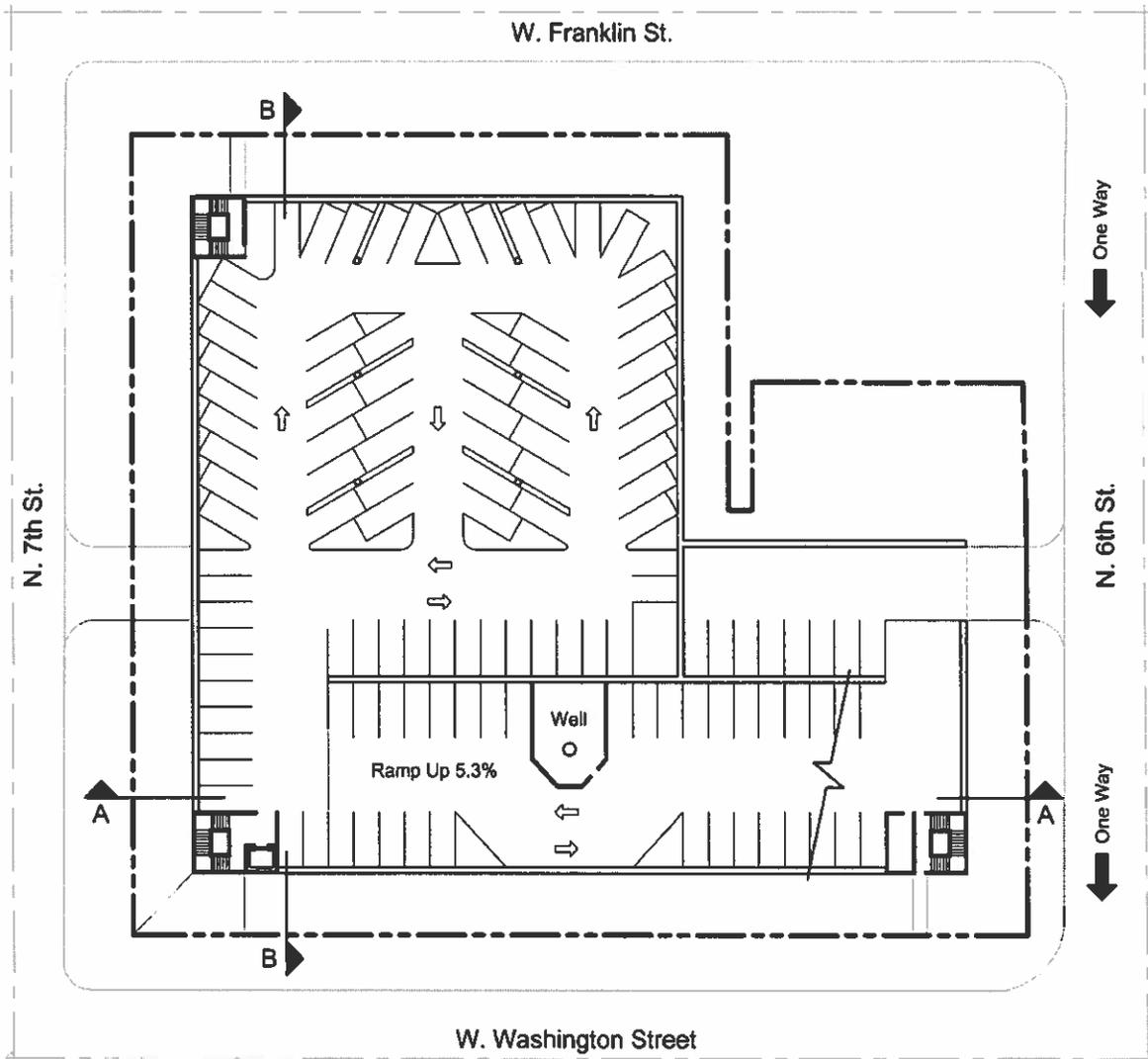


Section B



Level 4 Plan

# W. Washington Street Site



Basement Plan

## Part 2 - Concept Analysis

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### N. 8<sup>th</sup> Street Site

#### Circulation and Ramping

In order to maintain the Capitol dome view corridor along State Street, the primary axis of a parking garage on this site must run parallel to N. 8<sup>th</sup> Street with most of the parking located in the southern portion of the site. Between the view corridor setback and the W. Jefferson Street property line there is just enough distance for half of the ramping needed to connect a typical 10' floor to floor distance while also providing parking at each end, and just enough width for two side by side, double-loaded ramped bays.

Because the Boise City Zoning Ordinance requires some retail use and pedestrian amenity in the C-5 Zone, and because the Capitol dome view corridor's emphasis is upward rather than at ground level, a single level retail space is proposed at the northern end of the structure where multi-story construction is discouraged. Due to the garage's relatively small footprint, the maximum floor area ratio of 4 is not reached until the structure is 8 parking levels high. This is probably at least two levels higher than appropriate in such close proximity to the capitol and given the inconvenience of such a long threaded helix circulation pattern.

#### Ingress and Egress

The garage's main ingress and egress point must be off N. 8<sup>th</sup> Street at the base of the structure's ramping. This is about thirty feet north of the existing alley. Because N. 8<sup>th</sup> is one-way northbound and does not connect directly to the Myrtle and Front couplet, a secondary point of entrance and exit is warranted. A right-in-only entrance off W. State Street and left out exit through the block's alley are therefore proposed. These will provide ease of entrance for commuters approaching the garage from the west and for commuters at the end of the day wanting quick access to the Connector on southbound 9<sup>th</sup> Street.

#### Alley and Utilities

Although it is most likely that the sewer line bisecting the site in the existing alley will need to be retained, rerouting the line in one of two alignments appears feasible. If a basement level is not required, the sewer need only be moved about thirty feet to the north and run under the main ground-level drive aisle where permanent access is available from above. If a basement level is desired, the line could be moved north of the structure in an easement under the required urban parkway setback along W. State Street. The existing alley would need to be vacated in either case.

#### Stall size and Aisle Width

As was recommended and employed in the W. Washington Street garage concept, standard 8'-6" wide by 18'-0" long parking stalls are incorporated in the N. 8<sup>th</sup> Street garage concept as well, except at interior aisle ends where compact lengths afford improved turning clearances. Also similar to the W. Washington concept, a dedicated 2'-0" wide column line space is shown outside the limits of all parking spaces and aisles.

## Part 2 - Capacity Analysis

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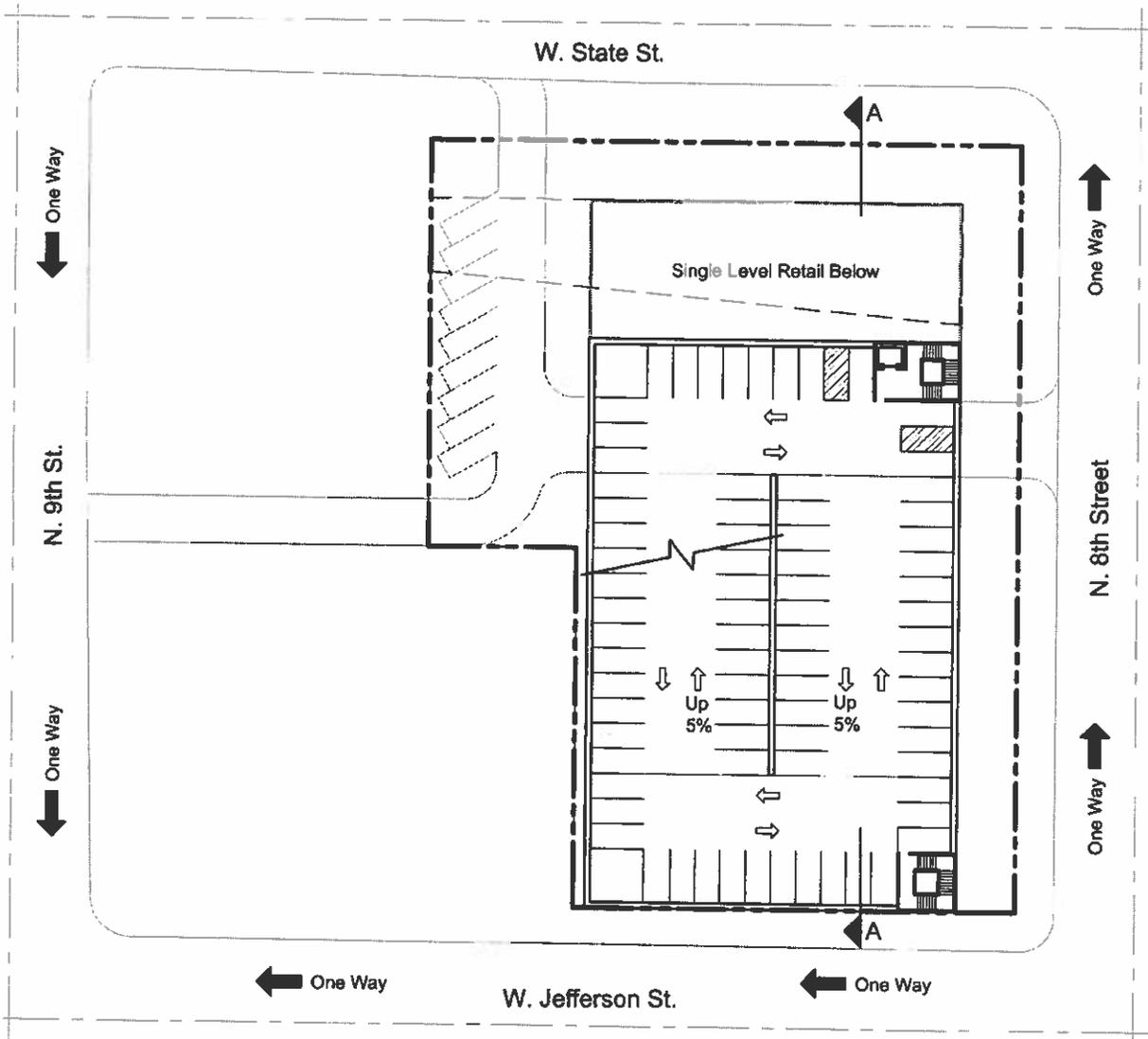
### N. 8<sup>th</sup> Street Site

	Total Spaces Without Levels 7 & 8 and Without Basement	Total Spaces With Level 7 Added Only	Total Spaces with Levels 7 & 8 Added Only	Total Spaces with Levels 7 & 8 and Basement Added
Basement	0	0	0	95
Ground Level	76	76	76	69
Level 2	76	76	76	76
Level 3	78	78	76	76
Level 4	78	78	78	78
Level 5	78	78	78	78
Level 6	9	78	78	78
Level 7	0	9	78	78
Level 8	<u>0</u>	<u>0</u>	<u>9</u>	<u>9</u>
Totals	395 (9 HC)	473 (9 HC)	549 (12 HC)	637 (13 HC)
Less Existing Parking	-[92] *	-[92] *	-[92] *	-[92] *
<b>Net Increase in Capitol Mall Parking</b>	<b>303</b>	<b>381</b>	<b>457</b>	<b>545</b>
Structure Gross Square Feet Without Retail	127,323	151,641	175,959	206,199
Structure Gross Square Feet With Retail	133,245	157,563	181,881	212,121
Square Feet Per Parking Space Without Retail	322	321	321	324
Square Feet Per Parking Space With Retail	337	333	331	333

\*Note: This number reflects the 101 existing spaces less 9 new non-garage spaces.



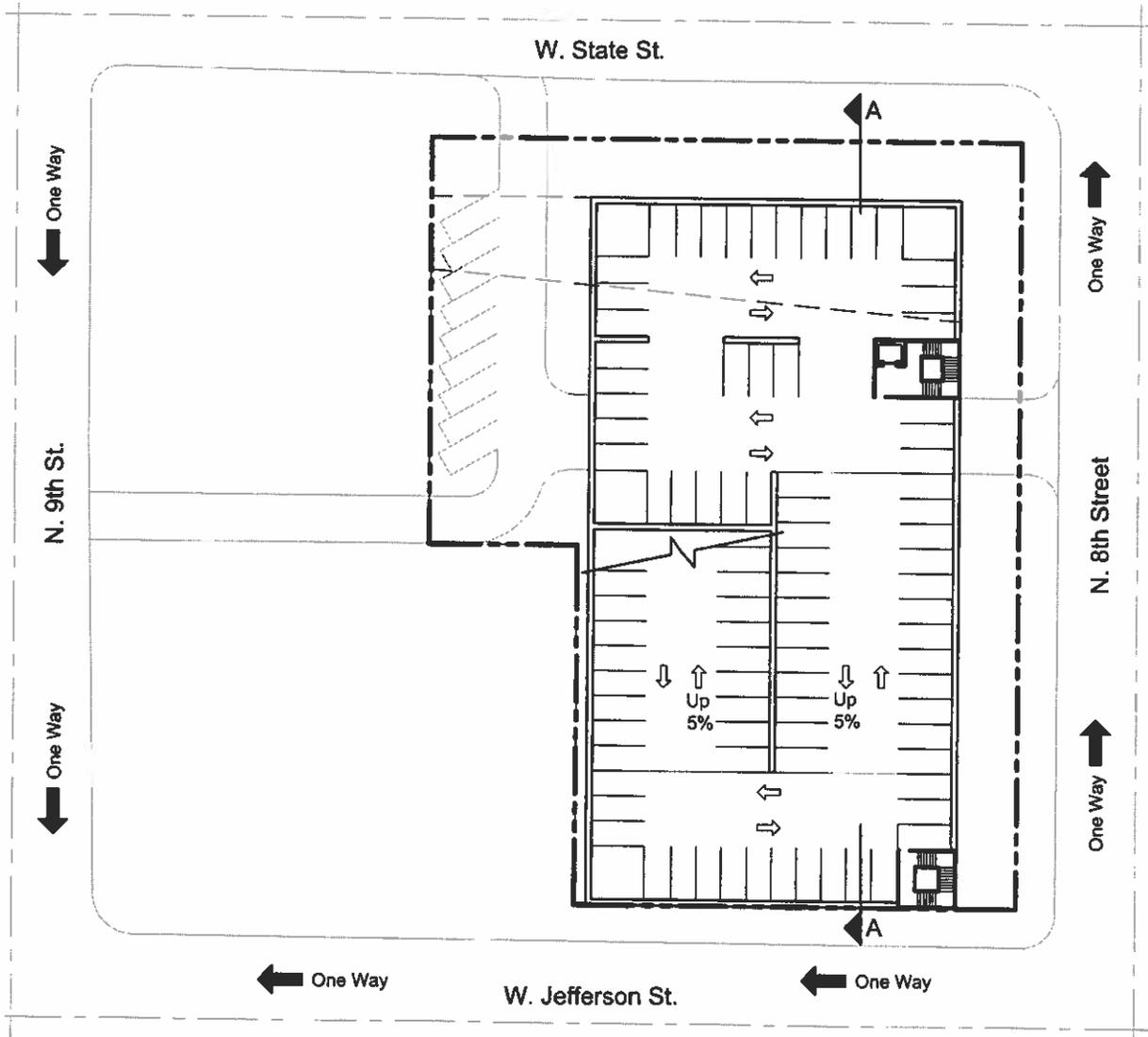
# N. 8th Street Site



North

Level 3 Plan

# N. 8th Street Site



North

Basement Plan

## Part 3 - Cost Projections

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### General

Data used in projecting costs for the several sites and building configurations has been gathered from several sources, including:

- Historic cost data from recent Boise parking structure projects.
- Means Building Construction Cost Data, 2011.
- Fixr Cost Estimating referencing Means Cost Work.
- Carl Walker Industry Insights, "Parking Structure Cost Outlook for 2012."

Assumptions for the project costs presented below include:

- Structures will generally be of precast or cast in place concrete construction.
- Structures will have open sides.
- Structures will fall generally into a "median" cost category.
- Structures will be designed for a relatively efficient "square feet per stall" ratio.

Costs presented below are projected construction costs. A multiplier of 1.2 is used to determine project costs.

### Historic Data

#### BSU Lincoln Parking Structure

##### Phase 1

\$10,165,000; 726 stalls, 230,814 sq.ft.

\$14,000 per stall; \$44.05 per sq.ft.

##### Phase 2 (apparent anomaly – deleted from projections)

\$6,141,132; 699 stalls, 217,793 sq.ft.

\$8,790 per stall; \$28.20 per sq.ft.

#### Boise Plaza Parking Structure

\$11,000,000 (approx.); 946 stalls, 282,987 sq. ft.

\$11,630 per stall; \$39.00 per sq. ft.

## Part 3 - Cost Projections

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### Means Building Construction Cost Data, 2011

Median cost \$18,300 per stall; \$50.50 per sq.ft.  
modified per Means location factor of .878.

\$16,070 per stall; \$44.30 per sq.ft.

### Fixr Cost Estimating

Idaho median costs at 64% of Means average.

\$11,712 per stall; \$32.32 per sq.ft.

### Carl Walker Industry Insights

Using Nashville(88% of average) as base for Boise.

\$15,023 per stall; \$44.72 per sq.ft.

### Basic Projected Construction and Project Costs

Based on the averages of above data, the following basic projected costs are recommended for evaluation of garages on each site.

#### Construction Cost

**\$13,700 per stall; \$41.00 per sq.ft.**

#### Project Cost (1.2 x Construction Cost)

**\$16,440 per stall; \$49.00 per sq.ft.**

#### Basement Project Costs

**\$24,660 per stall; \$75.60 per sq. ft.**

#### Retail Space Project Costs (shell and core only)

**\$150.00 per sq.ft.**

## Part 3 - Cost Projections

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### W. Washington Street Site

#### Total Projected Project Costs, Construction and Soft Costs

##### 5 Full Levels Without Basement

671 stalls at \$16,440 = \$11,031,240

238,322 sq.ft. at \$49.00 = \$11,677,778

##### Reconfigure Geothermal Well

Total \$150,000

##### Add for Basement

111 stalls at \$24,660 = \$2,737,260

33,004 sq. ft. at \$75.60 = \$2,495,100

Note: Projected costs do not include cost of alley vacation land purchase.

## Part 3 - Cost Projections

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### N. 8<sup>th</sup> Street Site

#### Total Projected Project Costs, Construction and Soft Costs

##### 8 Levels Without Basement

549 stalls at \$16,440 = \$9,025,560

175,959 sq.ft. at \$49.00 = \$8,621,991

##### Add for Basement

95 stalls at \$24,660 = \$2,342,700

30,240 sq. ft. at \$75.60 = \$2,286,144

##### Add for Retail

5,922 sq. ft. at \$150.00 = \$888,300

Note: Projected costs do not include cost of alley vacation land purchase.

# Parking and Public Access

## Analysis

- Capitol Mall parking consists of the State Parking Garage, approximately 24 surface parking lots, and curbside parking marked and metered by the City. Of the State's roughly 1,600 off-street parking spaces, approximately two thirds are in surface lots and the remaining one third are in the State Parking Garage. The number of Capitol Mall FTEs and other personnel per off-street parking space is approximately 1.47, and the amount of useable Capitol Mall floor area per off-street parking space is approximately 458 square feet. When compared with typical private sector office development, this ratio of floor area to number of parking spaces is quite high, and suggests the need for additional off-street Capitol Mall parking.
- Although a small number of off-street visitor spaces are provided, Capitol Mall relies heavily on metered curbside spaces for short-term visitor parking. Most but not all Capitol Mall buildings have an adequate number of accessible parking spaces within a reasonable distance of at least one building entrance. The Statehouse, 954 Jefferson Building, and Capitol Park Plaza are notable exceptions. Curbside short-term pick-up and drop-off areas for cars, buses, and vanpool vans are generally lacking throughout the Mall. Although Capitol Mall is served by several City bus routes, only one bus shelter exists within the core area.

## Recommendations

- Provide additional off street parking to better meet current demand as well as provide for projected facility expansions.
- Provide new off street employee parking in multi-story or basement parking garages in lieu of developing numerous additional surface lots.
- Develop a new centrally located, multi-story parking facility on the north side of Washington Street between 6th and 7th Streets to meet current and short term needs.
- Plan to develop parking facilities in conjunction with future office development at the east and west ends of the Capitol Mall District to meet long term needs.
- Provide small, off street surface lots at new office facilities for visitor and handicap parking as well as drop off and pick up needs.
- Develop turn-outs on east and west sides of the Capitol Block with curbside pick up, drop off, and short term visitor parking.
- Provide screened loading/service areas at all new Capitol Mall facilities and in conjunction with major building remodels.
- Develop additional bus shelters and bus stop amenities at major intersections throughout Capitol Mall.



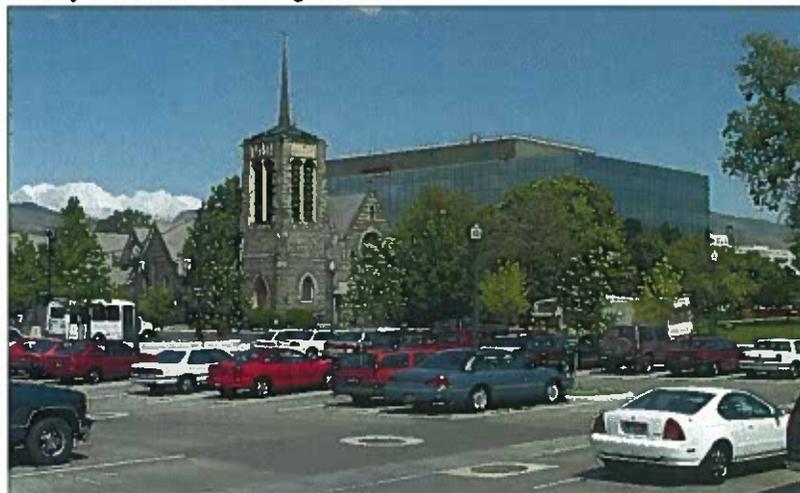
State Parking Garage

P1



County Courthouse Parking Lot

P2



8th Street Parking Lot

P3

