

**Allowable Building Height Study for Santa Fe Capitol Main Campus**

**Evaluation of Site One and Site Two**

**Design-Build of the State of New Mexico Executive Office Building**

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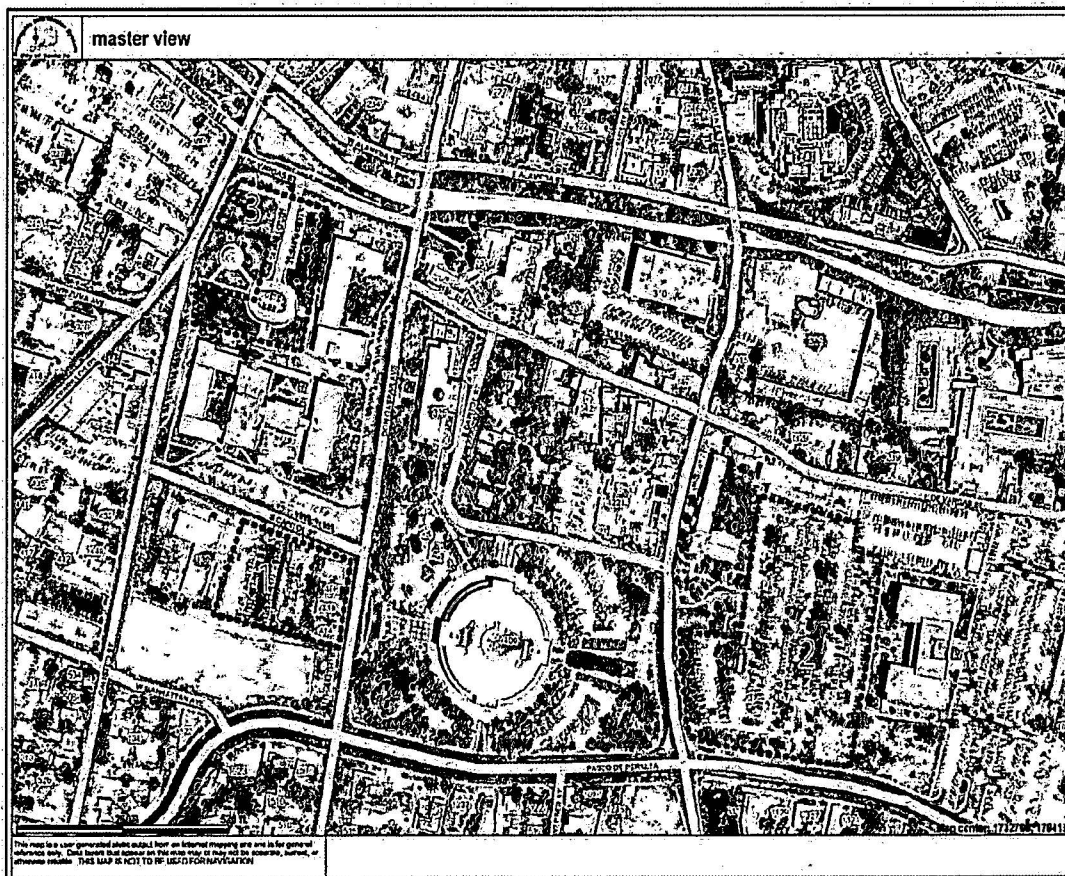
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Overall Santa Fe Building Heights 2011 Aerial

## A. Purpose of this Document

The purpose of this document is to provide data to support a maximum allowable building height dimension that would be permitted at two sites under consideration for the location of the new State of New Mexico Executive Office Building. The Executive Office Building is being planned and procured by the design-build project delivery method, and Wilson & Company, Inc. has been contracted to assist the State of New Mexico General Services Department, Property Control Division, in preparation of the design-build request for proposal (RFP).

Preparation of this design-build RFP includes site evaluations and recommendations, which serve to analyze and score three vacant parcels of land owned by the state that are possible locations for the new building. One parcel, referred to as Site Three, has been through the initial evaluations and has been eliminated from consideration because it is not large enough for a 56,000 square foot (sf) building, does not have adequate vehicle access, and the slope on the site would presumably cause an increase in the cost of construction. The other two sites, Site One and Site Two, are the subjects of this document. The three sites are shown below for reference.



The maximum allowable building height for each site has significance because a multi-story building is more energy efficient and better land use. Real estate around the Capitol is at a premium; the master plan for the area demonstrates additional development capacity for the campus, and the compact nature of infill projects will serve to maximize the available land use.

## **B. Executive Summary**

Evaluation of the proposed allowable building heights for Site One and Site Two has been determined by averaging the maximum height of existing state office buildings that occur along both sides of the frontage of each proposed site for 600 feet in each direction. This 600 foot dimension is measured from the center point of the land parcel. In addition, any state building that is behind the proposed site is also averaged into the allowable height dimension. This approach establishes the prevailing height of state office buildings in the two areas under consideration, Site One and Site Two, of the Main Capitol Campus. Auxiliary structures have been excluded from this evaluation, as the purpose is to provide guidelines for significant buildings, excluding any storage, maintenance, or residential building types.

### **Site One**

Site One is bounded on the north by South Capitol Street, on the east by four existing structures, on the west by the Ortiz Y Pino Building, and on the south by the State Parking Structure. The Bataan Building is across South Capitol Street to the north, within the 600 feet of frontage. The average of existing maximum building height for this site is compiled from the Bataan Building ( 104.30 feet above adjacent grade), the Ortiz y Pino Building ( 29.36 feet above adjacent grade), and the new state parking structure ( 39.01 feet above adjacent grade). The proposed maximum building height for this site is 57.56 feet above the average grade.

### **Site Two**

Site Two is bounded on the north by Lamy Building, on the east by the P.E.R.A. Building, on the west by the Old Santa Fe Trail, and on the south by Paseo De Peralta. The Capitol Building is across the Old Santa Fe Trail to the west, within the 600 feet of frontage. The average of existing maximum building height for this site is compiled from the Capitol Building ( 63.21 feet above adjacent grade), the Lamy Building (38.50 feet above adjacent grade), and the P.E.R.A Building (55.98 feet above adjacent grade). The proposed maximum building height for this site is 52.56 feet above the average grade.

## **C. Surveying and Mapping Methodology of area near Santa Fe Capitol**

On February 15<sup>th</sup>, 2011 high accuracy aerial photography was captured at a scale of 1:4000. The flight was comprised of two flight lines and a spot shot to capture the Capitol Building at nadir (directly below aerial camera to minimize building lean). Analytical aerial triangulation was performed incorporating 7 ground control points to generate an absolute solution to geo-reference the photography. Industry standard photogrammetric practices were performed to extract ground and building elevations to supplement rigorous survey height calculations. High resolution orthophotos were generated using

features extracted from the photography. This data meets ASPRS Class II requirements for 1 foot contour accuracy.

The surveying aspect dealt with establishing control based on NAD 83 New Mexico Central Zone for the horizontal coordinate system and NAVD 88 for the vertical datum. Local NGS monuments and Santa Fe County Control monuments were used and calibrated to our control on site. Once control was established we were able to establish a northing, easting and elevation on each of the 7 ground control points mentioned above using GPS RTK techniques. The coordinates of the 7 ground control points as mentioned above were used in the photogrammetric process.

By using both conventional surveying methods and photogrammetric methods we were able to create the image, elevations and heights of the building.

#### **D. Appendices**

The following 11 x 17 aerial shows the applicable frontage for the sites under consideration, and the maximum height of the buildings under consideration.

# Santa Fe Building Heights 2011

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**Legend**

- Alignment
- ▲ DELTA HEIGHT
- ▭ Parcels

