

## Activity 3.1.2 Land Use and Development Regulations

### Introduction

Most locations within the United States fall within a municipality that regulates land use within its jurisdiction. Land Use regulations are designed to protect and promote the public health, safety, and general welfare. Typically they include Zoning Ordinances that control development by designating areas for specific types of use. These ordinances include laws that control a wide variety of development activities within each zoning area, including building construction, parking lot design, entrances and exits from property, water and sewer facilities, storm water runoff, and landscaping.

As part of local Land Use regulations, many municipalities have adopted the International Building Code to regulate the design and construction of non-residential buildings. Although some jurisdictions within a state may not use the IBC, state or local regulations will typically adopt the IBC by reference, meaning that the requirements of the IBC apply within the jurisdiction of that state or other government body.

Rules that control other aspects of development vary and are published by each municipality. It is important to identify the codes and regulations that apply to a project and become familiar with the requirements for development before beginning the design of a project.

### Equipment

- **Keystone Library Site Location Map**
- **Keystone Library Site Plan**
- **Keystone Library Renovation Preliminary Building plans** (Revit file)
- City of Noblesville, Indiana Code of Ordinances (found at <http://www.amlegal.com/library/>)
  - Section 154.04 Adoption of Rules by Reference
  - Section 159.105 Zoning Districts General Requirements
  - Section 159.107 Commercial Districts
  - Section 159.120 General Regulations
  - Appendix C
- International Building Code 2009
  - Section 302

- o Section 303
- o Section 503
- o Section 602
- o Section 1004
- o Section 1005
- o Section 1021
- **Noblesville Zoning Map**

## Procedure

In this activity you will research the local code of ordinances and building codes to obtain important information needed to redesign the Keystone building.

The Keystone Building is within the city of Noblesville, Indiana. The Noblesville Code of Ordinances applies to this project location.

1. Identify the *Building Code* that applies in Noblesville by reviewing **Section 154.04 Adoption of Rules by Reference** in the Noblesville Code of Ordinances.

Fire and Building Safety Standards

Indiana Building Code

Indiana Building Code Standards

Indiana Handicapped Accessibility Code

2. Visit the Indiana Association of Building Officials website at <http://www.iabo.com/> and follow the link to Current Codes. On which model code is the current **Indiana Building Code** based?

2006 International Building Code

3. Using the International Building Code, find the Use and Occupancy classification of the proposed new Keystone Building.

4. Using the International Building Code, describe each of the four types of construction. Based on the existing structure, under which of these types of construction could the Keystone Building fall? See section 503.1.

Types 1 & 2 construction are those types of construction in which the building elements listed in table 601 are of noncombustible materials, except as permitted in Section 603 and elsewhere in this code, Type 1 or 2 maybe 3.

5. Compare the allowable Building Heights and Areas (IBC 2009 Table 503) for the Keystone Library using different construction types. What is the least restrictive construction type that can be used for the Keystone Library? Is a fire-protective

layer required over the structural elements? Note: The letter A indicates that the structural members are protected by a fire-rated coating or cover (sheetrock, spray on, or another approved method). The letter B indicates that the structural members are not protected by an additional fire-rated coating or cover.

5A

6. What materials do you propose to use for the new interior walls and floor for the Keystone Building? Justify your answer.

Fire treated wood, because of availability and cost, but could prevent fires.

7. Use the IBC to determine the Occupant Load (IBC 2009 Section 1004) for the Keystone Building assuming a second floor is added per the **Keystone Library Renovation Preliminary Building plans** (see Revit file). For now, conservatively assume that the second floor is entirely stacks and that the first floor is entirely reading rooms. In addition, because there is currently no plan to include an outside stairway to the roof, assume that the occupants of the green roof must exit through the 2<sup>nd</sup> floor. The building inspector has determined, based on the planned use of the green roof as additional reading area, that the occupant load for the green roof may be based on the requirements for reading rooms.

First = 178. Second = 45. Roof = 90.

8. The occupant load is used to determine the minimum egress width for the building. Use the IBC to determine the required total egress width (IBC 2009 Section 1005) for the Keystone Building including the second floor.

The total width of *means of egress* in inches shall not be less than the total *occupant load* served by the *means of egress* multiplied by 0.3 inch per occupant for stairways and by 0.2 inch per occupant for other egress components. From the second floor it is 40.5 in. From the first floor it is 62.6 in.

9. What is the minimum number of exits required for the Occupant Load (IBC 2009 Section 1021)?

2 per level.

10. Read IBC 2009 Section 1021.2. Is it permissible to have only a single exit from the ground floor? From the second floor? Justify your answers.

The answers to the following questions should be researched in the Noblesville Code of Ordinances and the Noblesville Zoning Map.

No, but there will be more doors than needed to satisfy other codes.

11. In which zoning designation does the Keystone building property lie? (Refer to the Keystone Library Site Location Map to help locate the site on the zoning map.)

#### Planned Business

12. Describe the purpose of this zoning designation. Document your answer with a section number from the code.

Zoning allows you to know where to put essential parts of the building. Without zoning the building could have been put on a unsafe area that could bring risk to the pedestrians.

13. What is the minimum lot size within this designation? Does the Keystone Property meet this requirement? Document your answer with a section number of the code.

The minimum size is 2000 sqft. And the parking lot does meet this because it is bigger.

14. What is the maximum building height according to the Noblesville ordinance?  
35 ft or 3 stories.

15. Read Section 159.120 of the Noblesville Code of Ordinances. Record any information that is important to the redevelopment of the Keystone building.

Agriculture shall be a permitted use in all districts pursuant to 159.120

Residential Care Homes shall be a permitted use in all residential districts and shall be regulated by 159.124.

Bed and Breakfast Establishments shall be a conditional use in all residential districts, the Downtown District, and the General Business District. Where permitted, bed and breakfast establishments shall be regulated by 159.125.

16. Is the Use proposed in Keystone Building Project permitted on this property?  
Document your answer.

Yes a library is allowed per appendix C

17. When developing a property, when is landscaping and screening required?  
Whenever it borders residential property.

## Conclusion

1. Why is it important to research building codes and local ordinances before beginning the design of a project?
  - You should do this so you know your building meets the codes and requirements. If you build it before they may have to tear it down.

2. Give some examples of how building codes protect people and property.
  - Having emergency exit doors promotes people's safety, and with more people will be able to escape quicker for a fire and there is more of a chance the building could be saved then.
  
3. How do local ordinances control development?
  - They can keep some businesses out or require you to abide by their regulations to build there.